



The 13th InTraders International Conference on Social Sciences and Education Proceeding Book

Editor

Prof. Dr. Tulus Suryanto

InTraders Academic Platform

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**The 13th InTraders International Conference on Social Sciences and Education
Skopje, North Macedonia, 21-25 April 2025**

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Editor

Prof. Dr. Tulus Suryanto, Universitas Islam Negeri Raden Intan Lampung, Indonesia

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The legal and scientific responsibility of the manuscripts belongs to the authors. The 13th InTraders International Conference on Social Sciences and Education provide the Republic of Türkiye, Council of Higher Education "International Conference" criteria. The 13th InTraders International Conference on Social Sciences and Education (Hybrid) was held on 21-25 April 2025, at International Balkan University, Skopje, North Macedonia.

Declaration

InTraders hereby would like to declare that from all participants coming from North Macedonia, Romania, Albania, Serbia, Algeria, Pakistan, India, Czech Republic, Slovakia, Ukraine, Poland, Kosovo, Uganda, Nigeria, Indonesia, Zambia, Chile and Türkiye, more than half of the studies belong to countries different than Türkiye. 98 studies are accepted, 27 studies from Türkiye. 93 studies are presented, 26 studies are presented from Türkiye, 67 studies out of Turkey are presented. 72 % of studies are presented out of Türkiye and we had studies from more than 5 different countries as mentioned above.

Best Papers Awards

1-“Barriers to Independent Living for Young Adults with High-Functioning Autism in Europe”

Jasmina Troshanka, Assistant Professor, University of Tetovo, Jasmina.troshanska@unite.edu.mk ORCID ID: <https://orcid.org/0000-0002-7855-9109>

[1] Christian Sweeney, Coordinator of Houses4Autism, Institute for Studies in Social Inclusion, Diversity and Engagement. Christian@insideeu.eu ORCID ID: <https://orcid.org/0009-0007-2314-9093>

[1] Zoi Toutountzidou, Project Manager of Houses4Autism, STANDoutEDU, zoi@standoutld.com

2-“ Chilean mining at the crossroads: challenges and strategies to lead the energy transition”

Andrés Soto-Bubert , Renato Sepúlveda Almuna, Michael Hantke Domas, Roberto Mayorga Lorca , José Hipólito Zañartu, Bernardita del Rio, Roberto Acevedo

Universidad San Sebastián, Facultad de Ingeniería. Universidad San Sebastian. Bellavista 7. 8420524.

Santiago. Chile. (2) Andes Levers. Apoquindo 6410. Oficina 605. Las Condes. Santiago. Chile.

(3) Facultad de Derecho y Ciencias Sociales. Universidad San Sebastian. Bellavista 7. 8420524. Santiago. Chile. Chile

3-“Pedagogical Aspects of Podcasts in EFL Classrooms: A Qualitative Analysis of Teacher's Perceptions and Attitudes”

Afrim Aliti, Ardian Deari, South East European University, Tetovo, Municipal High School, “Ismet Jashari”, Lipkovo, N. Macedonia

***The award selection criteria; 1-Full text, presentation and the power possibility of human life**

Appreciation

I am gratified to have the honour to put forward the vote of thanks to all the Congressional Coordinators, Congressional Committees, and Authors who provided intensive work performance for the Conference.

Special thanks to whom joined the opening ceremony participants.

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Opening Ceremony

Rector Prof. Dr. Lutfi Sunar - IBU, N.Macedonia

Rector, Prof. Dr. Shyqeri Kabashi - Kolegji Biznesi, Kosovo

Dean, Assoc. Prof. Dr. Liza Alili Sulejmani - IBU, N.Macedonia

Elisabeta Bajrami Ollogu, PhD Lecturer - Women in Science Network, N.Macedonia

PhD Candidate Kürşat ÇAPRAZ - Sakarya University, Türkiye

Dr. Mihaela POP - Titu Maiorescu University - Romania

The Congress is scheduled using Zoom Live Sessions and in person.

We aim to contribute international trade field through our [International Spring Conferences](#), [International Winter Conferences](#), [International Autumn Conferences](#), [Academic Journal](#), and [Conference Alerts News](#).

InTraders conference is international and targets participants from all over the world, shaping the organization in this direction.

The Congress aims to have papers from academicians and private sector managers. The written and presentation language is English.

[Conference main topics](#); social sciences and education topics.

Thank you for your great work, dear friends. Last, my little motivators, Emre and Yunus ÇAPRAZ, are great....

Topics; Social Sciences Titles: Sociology, Psychology, Communication Studies, Journalism, Public Relations, Advertising, Social Work, Philosophy, Economics, Business Administration, Labor Economics, Human Resources, International, Finance, Econometrics, Political Science and Public Administration, Law, Islamic Economics and Finance, Management Informatics Systems, Health Management, International Trade, Logistics, Distance Education, Higher Education, Teaching and Learning, E-learning, Lifelong Learning

A beautiful congress with more than international congress criteria is waiting for all of you. I wish to meet you all at these new international conferences...

Kürşat ÇAPRAZ

Secretary of InTraders Academic Platform

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The 13th InTraders Conference Program(InPerson)

The 13th InTraders International Conference On Social Sciences and Education International Balkan University, 24-25 April 2025, Skopje, N. Macedonia						
Time (MK)	Conference Program - 24 April 2025, IBU Campus (Blue Amphitheater)					
9:30-10:00	Registration					
Time (MK)	Opening Ceremony					
10:00-11:00	Rector Prof. Dr. Lutfi Sunar - IBU, N.Macedonia Rector, Prof. Dr. Shyqeri Kabashi - Kolegji Biznesi, Kosovo Dean, Assoc. Prof. Dr. Liza Alili Sulejmani - IBU, N.Macedonia Elisabeta Bajrami Ollogu, PhD Lecturer - Women in Science Network, N.Macedonia Asst. Prof. Dr. Fatma FIDAN - Sakarya University, Turkey Dr. Mihaela POP - Titu Maiorescu University - Romania					
InPerson Program						
	Session 1-1: AI and sustainability - Chairman: Petar Mitic		Session 1-2: Law, Justice & Human Rights - Chairman:Asst. Prof. Dr. Marta Vejsele		Session 1-3: Educational Innovation, Learning Technologies & Digital Tools - Chairman: Assoc. Prof. Dr. Inanç Kabasakal	
Time (MK)	Author	Title	Author	Title	Author	Title
11:00-12:00	Ass.Prof.Dr. Kristina Velichkovska, Petar Mitic	EMPOWERING SUSTAINABLE GROWTH THROUGH EMERGING TECHNOLOGIES IN SERBIA AND NORTH MACEDONIA	Dr. Mihaela POP, Dr. Antonius EFTENIOIU	Legal Considerations in E-Commerce "THE PERSPECTIVES OF THE LEGAL STATE IN THE JUSTICE SYSTEM ACCESS TO JUSTICE, THE RESULTAT OF THE PROBLEMS AND NEEDS FOR THE PERMISSION OF THE JUSTICE SYSTEM, KOSOVO AND ALBANIA"	Assoc. Prof. Dr. Inanç Kabasakal	Application of Machine Learning Methods for Dropout Prediction in an Online SpeedReading Course
	Assoc. Prof. Dr. Besime Ziberi	Artificial Intelligence and Economic Sustainability: Opportunities and Challenges in the Western Balkans	Dr. Albana Jeminaj		Bekim Emini	Prishtina High School EFL Students' Attitudes towards Information and Communication Technologies in the EFL classroom
	Asst. Prof. Dr. Afan Hasan	LLMs as AI Paralegals: Transforming Legal Tech in German Crash Claims	Fjolla Ejupi, Prof. Dr. Besa Arifi Asst.Prof.Dr. Marta Vejsele	The Legal Protection of Victims of Gender-Based Violence Following the Ratification of the Istanbul Convention in North Macedonia State Aid Recovery and M&A Risk: Navigating Successor Liability in Light of ECJ Case C-588/23	Era Baliu Afrim Aliti, Ardian Deari	ChatGPT in Education: English Language Teaching at Hasan Prishtina primary school in Prishtina – Exploring Benefits for Teachers Pedagogical Aspects of Podcasts in EFL Classrooms: A Qualitative Analysis of Teacher's Perceptions and Attitudes
12:00-12:30	Break					
	Session 2-1: Economic Development, Growth & Inequality - Chairman: Asst. Prof. Dr. Andrijana B. Danevska		Session 2-2: Public Administration, Governance & Legal Reform - Chairman: Assoc. Prof. Dr. Fatma FIDAN		Session 2-3: Pedagogical Practices, EFL & Curriculum Development - Chairman: Prof. Dr. Ana Kechan	
Time (MK)	Author	Title	Author	Title	Author	Title
12:30-13:45	Prof. Dr. Snezana Bilic	The Relationship Between the Global Innovation Index (GII) and North Macedonia's Economic Performance	Prof. Dr. Xhemazie Ibraimi	Reforms in Public Administration Governance in the Era of Artificial Intelligence: A Comparative Study of Kosovo and North Macedonia	Assoc. Prof.Dr. Igballe /Miftari-Fetishi	Reflective feedback and portfolios: Student perspectives on ongoing assessment
	Assoc. Prof.Dr. Luljeta Sadiku	EMPIRICAL ANALYSIS ON THE EFFECTS OF FLAT TAX REFORM ON FISCAL REVENUES AND ECONOMIC PERFORMANCE FOR THE CASE OF REPUBLIC OF NORTH MACEDONIA	Zeynep Senanur SAHİN	EXPECTATIONS OF GENERATION Z REGARDING WORKING HOURS	Assoc. Prof.Dr. Emin Idrizi	Synergizing Data-driven Learning and Deep Processing to Strengthen EFL Learners' Vocabulary Mastery and Retention
	Assoc. Prof. Dr. Besime Ziberi	The Green Economy of the Western Balkans: Challenges and Opportunities for Sustainable Development	Krenare Hoti	The impact of test anxiety on university students' performance: A case study at the University of Prishtina, English Department	Sezen SAMET, Muhammed ABAZI, Aksu SAMET	Laboratory Teaching Effective Method for Students of Faculty of Engineering
	Ivana Beciragic	Growth Without Equity: Evidence of Non-Inclusive Economic Growth in the Balkans (2006–2021)	Assoc. Prof. Dr. Besa Kadriu	Political Influence, Institutional Erosion, and Ethnic Disparities: The Case of North Macedonia's State Administration under EU Conditionality	Sezen Ismail, Ana Kechan	CORPORATE CULTURE IN HERMAN MELVILLE'S BARTLEBY THE SCRIVNER
	Edita Mustafa	Exploring the role of female education and youth unemployment on GDP:Case of North Macedonia	Rushan Ceka, Hazir Hajdari, Iliriana Demaj, Neritan Turkeshi, Abidin Zenku, Halim Aliti	Monitoring of air pollution from PM10 particles in the city of Skopje, for the period Januar-December 2024	Asst. Prof. Dr. Aksu SAMET, Neslihan ADEMI, Sezen SAMET	The Effect of Distance Learning on High School Students' Interest in Chemistry Course
13:45-14:00	Break					
	Session 3-1: Business Transformation, Innovation & Entrepreneurship: Chairman: Assoc. Prof. Dr. Luljeta Sadiku		Session 3-2: Generational Studies, Aging & Labor Markets - Chairman: Assoc. Prof. Dr. Mehtap DEMİR (SESSION IN TURKISH)		Session 3-3: Social Inclusion, Mental Health & Socioeconomic Challenges - Chairman: Assoc. Prof. Dr. Sezen Ismail	
Time (MK)	Author	Title	Author	Title	Author	Title
14:00-15:30	Asst.Prof.Dr. Ceneta Telak Durmishi, Asst. Sani Saidi	Agile Management and Digital Innovation in Macedonian SMEs: A Strategic Pathway to Competitive Advantage	Fatma Fidan, Kürşat Çapraz	Literature Review Study of Active Ageing	Assoc. Prof. Dr. Teuta Ramadani Rasimi , Alla Moskalets , Kateryna Ivanova , Lucia Mikurčíková , Ivana Trellova ,Evgenia Panichevska , Alina Ivanenko , Monika Suchowska , Nataliia Zavarova	Towards Inclusive Practices and Positive Behavior Support in Education and Social Work:A Comparative Analysis of V4 Countries, Ukraine, and North Macedonia
	Dr. Matei Cernăianu Alice – Dalina	How the gig economy is changing the rules of the game for entrepreneurship?	Fatma Fidan, Kürşat Çapraz	Generation Z's perception of active age	Asst. Prof. Dr. Jasmina Troshanska, Christian Sweeney , Zoi Toutountzidou, Juliana Sergidou, Maria Panagi	Barriers to Independent Living for Young Adults with High-Functioning Autism in Europe
	Prof. Dr. Savica Dimitrieska , Assoc. Prof.Dr. Andrijana Bojadjevska Danevska	Rethinking the Marketing Function in the Age of Business Transformation	Mustafa Şahin	SKILL NEED IN THE PISHMANIYE INDUSTRY: DETERMINING THE SKILL NEEDS OF WORKERS WORKING IN THE PISHMANIYE FACTORY	Cătălin-Ionuț DRĂGAN, Antonius EFTENIOIU	DEINSTITUTIONALIZATION OF PEOPLE WITH DISABILITIES: PERCEPTIONS OF SPECIALISTS FROM LOCAL AND COUNTY SOCIAL SERVICES
	Sheniz Shain	Evolving Brand Perceptions And Promotion Strategies In The Digital Age: Consumer Insights And Future Trends	Assoc. Prof. Dr. Mehtap DEMİR, Barış AYDOĞDU	Occupational Health and Safety in CRTUTaffiliated Unions	Fatime Ziberi, Andrijana Bojadjevska Danevska	The interplay between psychological autonomy and economic instability: Traditional and non-traditional mode of employment and its impact on psychological wellbeing
	Prof.Dr. Hasim Deari	Turkish Brands in North Macedonia; How çoşuverse perceive them?	Zinnet Duygu Sari	ARTIFICIAL INTELLIGENCE TRANSFORMATION IN PUBLIC ADMINISTRATION: OPPORTUNITIES, RISKS AND ETHICAL LIMITS	Assoc. Prof. Dr. Esra ÇIKMAZ,Eren ÖZPAY, FATMA GÖZEL	PROBLEMS OF WOMEN WORKING IN GAZIANTEP METROPOLITAN MUNICIPALITY: A SOLUTION-ORIENTED PERSPECTIVE
			Yağmur ALP	GLOBALIZATION AND THE TRANSFORMATION OF THE NATION STATE: A Public Administration Perspective	Bedri Hamza	Brain Drain in Kosovo and the Region: A Comparative Analysis and Alternative Perspectives

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The 13th InTraders Conference Online Sessions

Date	No	Author	Title	University	Country	Mode
Session 1 24 April 2025 9:00 10:00	78	Marinică Tiberiu Şchiopu	The Novel The Sea, The Sea by Iris Murdoch: Intertextuality, Metafiction and Fantastic	Romanian Language Institute, Romania University of Delhi, India	Romanian, India	Online
	39	Sobia Jamil	Adapting to Remote Work: Social and Flexible Arrangements for Work-Life Balance in the Private Sector	Jinnah University for Women, Karachi	Pakistan	Online
	41	Mehraj Hussain Para	The Interplay of Language and Identity: A Sociolinguistic Perspective	Maulana Azad College Of Arts, Science & Commerce, Rauza Bagh, Chhatrapati Sambhajinagar	India	Online
	54	Assoc. Prof. Dr. Namita Mishra, Assoc. Prof. Dr. Leena Jenefa, Vanshika Tyagi	A study on the financial performance evaluation using DuPont analysis in a selected supermarket chain	I.T.S School of Management Mohan Nagar Delhi – NCR, Hindustan Institute of Technology and Science, Chennai, Nirvana Solutions	India	Online

Session 2 24 April 2025 10:00-11:00	55	Ameena Ali, Dr. Sobia Hassan, Maryam Gull	The Impact of Inclusive Leadership on Environmental Citizenship in Organizations: A Mediation Approach	Lahore College for Women University Lahore	Pakistan	Online
	56	Kiara Basmala Putri, Mutiara Eka Putri, & Pertiwi Utami	Analysis of Sharia Hotel Business Development Strategy in Indonesia	Sekolah Tinggi Ekonomi dan Bisnis Islam Lampung University	Indonesia	Online
	57	Sella Riga Cahyani, Umi Khulsum, Putri Allana Abdullah, & Ferliansyah Zais	Islamic Economic Review of Factors Influencing the Use of PayLater Platform and Generation Z Consumptive Behavior	Sekolah Tinggi Ekonomi dan Bisnis Islam Lampung University	Indonesia	Online
	58	Annida Fatah, Tauhidi, & Rianto	Islamic Business Ethics Review of Factors Influencing Prudence Accounting in Islamic Business	Sekolah Tinggi Ekonomi dan Bisnis Islam Lampung University	Indonesia	Online

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Session 3 24 April 2025 11:00- 12:00	59	Daniel Armagatlie, Reza Ronaldo, Yaudil Hery	Behavioral Biases and Risk Perception in Takaful Decision-Making: Evidence from Southeast Asia and GCC Countries	Sekolah Tinggi Ekonomi dan Bisnis Islam Lampung University	Indonesia	Online
	60	Dewi Komala Sari, Reza Ronaldo, Yul Maulini	Empowering Islamic Finance: The Role of Sharia Insurance Education in Indonesia	Sekolah Tinggi Ekonomi dan Bisnis Islam Lampung University	Indonesia	Online
	61	Cindi Antika Gheffi, Reza Ronaldo, Tejo Waskito	Pedagogical Transformation of Takaful Education through Teacher Development Initiatives	Sekolah Tinggi Ekonomi dan Bisnis Islam Lampung University	Indonesia	Online
	62	Putri Selviana Anjani1, Madnasir2, Taufiqur Rahman3	ANALYSIS OF DETERMINANTS OF THE GENDER DEVELOPMENT INDEX IN 8 COUNTRIES OF THE ASEAN REGION FROM AN ISLAMIC ECONOMIC PERSPECTIVE (Panel Data Analysis for the Period 2013 - 2022)	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online

Session 4 24 April 2025 12:30- 13:30	77	Dr. Michaela Loredana Teodorescu	The Involvement and Transformation of the Romanian Judicial System in the Context of Digital Crime: A Sociological Approach to Legislative and Institutional Adaptation	Titu Maiorescu University	Romania	Online
	81	Ayça ÇELİK MERGEN, Prof. Dr. Meral UZUNOZ ALTAN	Factors Affecting Voters' Voting Behavior: A Literature Review	Yıldız Technical University	Türkiye	Online
	79	Wassila HAMZA REGUIG MOURO	Survival and Refuge in Ama Ata Aidoo's "Certain Winds from the South"	University of Tlemcen	Algeria	Online
	82	Omar RAHMOUN	Adaptation Studies: A Shift in Paradigms and Approaches	University of Tlemcen	Algeria	Online
	84	Irini Arapi (Sylari)	Examining effects of lighting on reading skills in two elementary schools environment in Albania	University of Tirana	Albania	Online

Session 5 24 April 2025 13:30- 14:30	37	Nermin Sude Yılmaz	WOMEN'S PARTICIPATION IN THE LABOR MARKET IN TURKEY AND THE OBSTACLES FACED BY WOMEN IN THE LABOR FORCE PARTICIPATION	Sakarya University	Türkiye	Online
	38	Cansu Yörük	Atrificial Intelligence and Working Life	Sakarya University	Türkiye	Online
	83	Aslinur Mert	New Ways of Working: Transformation Brought by Digitalization	Sakarya University	Türkiye	Online
	93	Yücel Toprak	LITERATURE REVIEW ON THE INTERNATIONALIZATION OF UNIVERSITIES THAT FORM HIGHER EDUCATION INSTITUTIONS	Sakarya University of Applied Sciences	Türkiye	Online

Session 6 24 April 2025 14:30- 15:30	40	Hakan Aydoğan,Önder Şanlı	A SYSTEMATIC REVIEW: AI AND LEARNING OF EFL	Moscow State Pedagogical University, Bilkent University	Russsia, Türkiye	Online
	43	Ahammed Ishac Chmebirika Ebrahim	The Historical Trade Routes of the Malabar Region of India: A Gateway to Global Commerce	Sakarya University	Türkiye	Online
	44	Hina ZAHOR, Nasir Mustafa	The Digital Pulse: How Technology is Reshaping the Heart of Healthcare	Istanbul Gelişim University	Türkiye	Online
	45	Büşra Dolkun, Merve İçöz, Zekiye Turan	EFFECTS OF GENDER ROLES ON WOMEN'S HEALTH IN GYNECOLOGICAL CANCERS	Sakarya University	Türkiye	Online

Session 7 24 April 2025 15:30- 16:30	46	Merve İÇÖZ , Büşra DOLKUN , Zekiye TURAN	A POTENTIAL RISK FACTOR IN BIRTH STRESS AND FEAR: OBSTETRIC VIOLENCE	Sakarya University	Türkiye	Online
	47	SEDA EYGÜ	Artificial Intelligence Integration in Learning Management Systems: A Case Study of Erzincan Binali Yıldırım University	Atatürk University	Türkiye	Online
	52	Asst. Prof. Dr. Mehmet AYDIN	Is the Feldstein-Horioka Puzzle Valid in BRICS-T Countries? An Empirical Investigation on Capital Mobility	Sakarya University	Türkiye	Online
	48	Assoc. Prof. Dr. Hakan EYGÜ	Carbon Hysteresis in Turkey: Implications for Environmental Policies	Atatürk University	Türkiye	Online

Session 8 24 April 2025 16:30- 17:30	53	Asst. Prof. Dr. Tunahan DEĞİRMENÇİ	Revisiting the Role of Foreign Aid and Government Expenditure in Economic Growth: Evidence from EAC Countries through a Theoretical Perspective	Sakarya University	Türkiye	Online
	49	Assoc. Prof. Dr. Hakan EYGÜ	Is Unemployment Hysteria Valid in Turkey? Empirical Evidence from Unit Root Tests with Structural Breaks	Atatürk University	Türkiye	Online
	50	Assoc. Prof. Dr. Asena BOZTAŞ	Artificial Intelligence and International Trade: Global Transformation from the Perspective of Industry 4.0 and Society 5.0	Sakarya University of Applied Sciences	Türkiye	Online
	51	Assoc. Prof. Dr. Asena BOZTAŞ	Trade wars and the global supply chain: The Impact of Past and Present Economic Conflicts	Sakarya University of Applied Sciences	Türkiye	Online

Session 9 25 April 2025 09:00- 10:00	63	Nisrina Azizah ¹ , Budimansyah ² , Siska Yuli Anita ³	THE INFLUENCE OF REGIONAL REVENUE EXPENDITURE BUDGET REALIZATION (APBD), GENERAL ALLOCATION FUND (DAU), SPECIAL ALLOCATION FUND (DAK), ON ECONOMIC GROWTH IN LAMPUNG PROVINCE IN THE PERSPECTIVE OF ISLAMIC ECONOMICS	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online
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	65	Widia Delfi Fadhilah ¹ , Mardhiyah Hayati ² , Ersi Sisdianto ³	THE INFLUENCE OF INVESTMENT, INFLATION, AND EXPORTS ON FOREIGN EXCHANGE RESERVES IN ASIAN COUNTRIES IN 2018- 2022 IN THE PERSPECTIVE OF ISLAMIC ECONOMICS	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online
	66	Helma Rozalsa Absar ¹ , Muhammad Kurniawan ² , Gustika Nurmalia ³	THE INFLUENCE OF POPULATION SIZE AND GROSS REGIONAL DOMESTIC PRODUCT (GRDP) ON THE ORIGINAL REGIONAL INCOME OF BANDAR LAMPUNG CITY FROM AN ISLAMIC ECONOMICS PERSPECTIVE IN 2014-2023	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online

Session 10 25 April 2025 10:00- 11:00	67	Indah Tamara Putri, Tulus Suryanto, Liya Ermawati	ANALYSIS OF FINANCIAL PERFORMANCE IN THE ACTIVITY MANAGEMENT UNIT OF THE COMMUNITY EMPOWERMENT MANAGEMENT FUND ON COMMUNITY WELFARE	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online
	68	Rendi Dinata, Evi Ekawati, Nur Wahyu Ningsih	THE EFFECT OF CARBON EMISSION DISCLOSURE ON COMPANY VALUE WITH MEDIA EXPOSURE AS A MODERATION VARIABLE (STUDY ON COMPANIES LISTED IN THE SRI KEHATI INDEX 2019-2022)	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online
	69	Refitia Triana Oktavia, Evi Ekawati, Muhammad Iqbal	THE EFFECT OF HUMAN RESOURCE QUALITY, INFORMATION TECHNOLOGY, AND MANAGEMENT ACCOUNTING SYSTEMS ON MANAGERIAL PERFORMANCE WITH ENVIRONMENTAL UNCERTAINTY AS A MODERATING VARIABLE (Survei on Pengelolaan Keuangan Dan Aset Daerah (BPKAD) of Bandar Lampung City)	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online
	70	Ulfa Syariatun Khasanah, Ahmad Zuliansyah, Mia Selvina	The Influence of Accounting Information System Quality, Leadership Style, and Work Motivation on Employee Performance in the Perspective of Maqashid Sharia (Study at AKA Medika Sribhawono Hospital, East Lampung)	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online

Session 11 25 April 2025 11:00- 12:00	71	Tusia Lara Septiyani, Rosydalina Putri, Citra Etika	THE INFLUENCE OF HUMAN RESOURCE COMPETENCIES AND THE IMPLEMENTATION OF REGIONAL FINANCIAL ACCOUNTING SYSTEMS ON REGIONAL FINANCIAL REPORTS (Study at the BPKAD Regional Financial and Asset Management Agency, Bandar Lampung City)	Faculty of Islamic Economic and Business, Universitas Islam Negeri Raden Intan Lampung	Indonesia	Online
	72	M.Jayakumar, Assoc. Prof. Dr. Leena Jenefa, Ashok Kumar S.	Artificial Intelligence in Digital Marketing platform	Vel Tech Rangarajan Dr Sagunthala, R&D Institute of Science and Technology , Avadi , Chennai, Hindustan Institute of Technology and Science, Padur , Chennai	India	Online
	73	Assoc. Prof. Dr. Leena Jenefa	The analysis of customer satisfaction factors which influence chatbot acceptance for Buying Behaviour	Hindustan Institute of Technology and Science, Padur , Chennai	India	Online
	75	M. Jayakumar	The Mobile Application and Its Global Impact	Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Chennai	India	Online

Session 12 25 April 2025 12:30- 13:30	76	K. Subaniya Sarah, M.Jayakumar, Leena Jeneffa	Application of AI on Human Resource Management	Madras Christian College, Chennai, Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technolog , Avadi , Chennai, Hindustan Institute of Technology and Science, Padur , Chennai	India	Online
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	99	Daiana-Elena DOBROIU	Smart Contracts and International Private Law: Challenges and Perspectives	Independent Researcher	Romania	Online

Session 14 25 April 2025 14:30- 15:00	95	Sebastián López, Andrés Soto-Bubert, William Montes, Marco Alsina, Roberto Acevedo	Academic Excellence and Ethical Publishing in Chilean Higher Education: Challenges and Strategies for Sustainable Knowledge Generation	Universidad San Sebastián, Facultad de Ingeniería, Arquitectura y Diseño, Bellavista 7, Recoleta, 8420524, Región Metropolitana	Chile	Online
	96	Andrés Soto-Bubert, Roberto Acevedo	Academic Excellence and Ethical Publishing in Chilean Higher Education. Challenges and Strategies for Sustainable Knowledge Generation	Faculty of Engineering. University of San Sebastian. Bellavista 7. 8420524. Santiago.	Chile	Online
	97	William Montes , Andrés Soto-Bubert , Sebastián López , Roberto Acevedo	Proposal Model for the categorization of academics in Higher Education Institutions	Universidad San Sebastián, Faculty of Engineering. Bellavista 7, Recoleta, 8420524, Región Metropolitana	Chile	Online
	98	Andrés Soto-Bubert , Renato Sepúlveda Almuna, Michael Hantke Domas, Roberto Mayorga Lorca , José Hipólito Zañartu, Bernardita del Rio, Roberto Acevedo	Chilean mining at the crossroads: challenges and strategies to lead the energy transition	Universidad San Sebastián, Facultad de Ingeniería. Universidad San Sebastian. Bellavista 7. 8420524. Santiago. Chile. (2) Andes Levers. Apoquindo 6410. Oficina 605. Las Condes. Santiago. Chile. (3) Facultad de Derecho y Ciencias Sociales. Universidad San Sebastian. Bellavista 7. 8420524. Santiago. Chile.	Chile	Online

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5	Sheniz Shain	Evolving Brand Perceptions And Promotion Strategies In The Digital Age: Consumer Insights And Future Trends	International Balkan University	N. Macedonia	InPerson
6	Ass.Prof.Dr. Kristina Velichkovska, Petar Mitic	Empowering Sustainable Growth Through Emerging Technologies In Serbia And	International Balkan University, Institute of	N. Macedonia, Serbia	InPerson

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8	Assoc. Prof.Dr. Luljeta Sadiku	EMPIRICAL ANALYSIS ON THE EFFECTS OF FLAT TAX REFORM ON FISCAL REVENUES AND ECONOMIC PERFORMANCE FOR THE CASE OF REPUBLIC OF NORTH MACEDONIA	International Balkan University	N. Macedonia	InPerson
9	Asst.Prof.Dr. Ceneta Telak Durmishi, Asst. Sani Saidi	Agile Management and Digital Innovation in Macedonian SMEs: A Strategic Pathway to Competitive Advantage	International Balkan University	N. Macedonia	InPerson
10	Assoc. Prof.Dr. Emin Idrizi	Synergizing Data-driven Learning and Deep Processing to Strengthen EFL Learners' Vocabulary Mastery and Retention	International Balkan University	N. Macedonia	InPerson
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73	Assoc. Prof. Dr. Leena Jenefa	The analysis of customer satisfaction factors which influence chatbot acceptance for Buying Behaviour	Hindustan Institute of Technology and Science, Padur, Chennai	India	Online
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The Proper Way Of Writing Minutes When Verifying The Preventive Measures

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Abstract

The disposition, and therefore the minute, constitute the part of the decision that is executed, so it must be clear, precise, without redundant, repetitive and useless mentions, carefully drafted, so that this procedural act does not transform in a completely wrong and harmful way into an ambiguous "document", which can neither be called a minute nor an disposition, since the minutes contain an imperative, decisive requirement, against which appeals are exercised.

Keywords: minute, decision, conclusion, device, redundant, repetitive.

I. Preliminary considerations

In this study, we aim to discuss some negative aspects, which unfortunately tend to become generalized, in relation to the way the minutes are drawn up (a procedural act that records the result of the deliberation of the panel of judges)¹, and especially in the case of ordering preventive measures.

Obviously, these issues are not classically related to what we call judicial practice², with its valences as a source of law, but rather a way of working, which, however, as we will see, can affect the legality of the criminal process.

Even so, we find today that the wide dissemination of judicial practice, in addition to the obvious advantages it offers, if it is not doubled by creative activity and is not harmoniously combined with theoretical research, presents a major inconvenience, namely, without this syncretism, it leads to the formation of a passive, superficial way of thinking, which ignores the effort, the deeper spirit of information and action, ultimately leading to legal bureaucracy, in total disagreement with the role, the

¹ G. Antoniu, N. Volonciu, N. Zaharia, Dictionary of Criminal Procedure, Scientific and Encyclopedic Publishing House, Bucharest, 1988, p.186.

² We are fully convinced that practice increases qualitatively under the influence of theoretical research, and practice provides legal research with the vital material that allows it to develop. Plastically speaking, science is "the captain and practice the soldiers".

mission of the judge within the city.

For a long time in judicial practice, whether it is about conclusions or decisions, pronounced by the judge of rights and freedoms, by the preliminary chamber judge or the court, in the matter of preventive measures, an inadequate way of drawing up or drafting the minutes has been perpetuated.

Of course, apparently, one could say that this issue is one that concerns the evaluation of the judge, an activity carried out by the evaluation committees.

Obviously, without minimizing this activity, which is analyzed in any managerial project, of the judge participating in the exam/competition for the position of leader, our thought, in the following lines, leads to other legal horizons.

As we have previously had the opportunity to show - without being a moving idea -, drafting a court decision is a matter of science, first and foremost, but also of art ³.

In each criminal case, the deliberation process, completed with the drafting of the minutes, is complex and cannot be contained in a specific form.

Even if the legislator did not expressly provide criteria for drafting the minutes, being only a generic framework, during our scientific approach we will specifically highlight the methodological aspects that have as their purpose a systematization in the way of drafting the minutes, on the occasion of verifying the legality and soundness of the preventive measure, both substantially and formally, in order to avoid errors.

Obviously, we will try to capture the common aspects of the genre since the variety and complexity of practical cases only allows for indicative models or patterns.

II. The case

For easier understanding of the issues addressed, we will proceed to reproduce the decision's operative part identically - to the detriment of journalistic rigor -, with the mention that we will only make the mandatory anonymizations.

By conclusion no. 4 of 11.02.2024 of the Târgu Cărbunești Court: "Rejects, as unfounded, the request made by the defendants B. E.-N., C. I. A. and C. G. personally and through their chosen defense attorneys, to replace the preventive arrest measure with the preventive measure of house arrest⁴.

„ Based on art. 348 Criminal procedure code reported to art. 207 par. 6 Criminal procedure code, verifies ex officio whether the grounds that determined the preventive arrest measure against the

³ R. Ionescu, Reasoning of court decisions. Preliminary chamber. Judge's conviction, Annals of the "Constantin Brâncuși" University of Târgu Jiu, Legal Sciences Series, No. 17/2021, p. 45.

⁴ Unpublished.

defendants still exist:

1. B. E.-N., recidivist, sent to trial for committing the crimes of attempted aggravated robbery, provided for by art. 32 reported to art. 233-234 par. (1) letters d, f and g of the Criminal Code and destruction, an act provided for by art. 253 para. (1) of the Criminal Code, with appl. of art. 38 para. 1 Criminal Code and art. 41 para. 1 Criminal Code and art. 77 letters a and d Criminal Code, measure ordered by decision no. 4/2024 of zz 2024 pronounced by the Tg-Cărbunești Court in file no. xx/2024, maintained decision no. 57 of zz 2024 pronounced by the Gorj Court in file no. xx/2024, maintained by the decision of the preliminary chamber judge no. 20/2024 pronounced in file no. xx/2024/al. 1, final by decision no. 146/zz 2024 of the Gorj Court, maintained by the decision of the preliminary chamber judge no. 21 pronounced in file no. xx/2024/al.2, final by decision no. 2/2025/of the Gorj Court and maintained by the decision of the preliminary chamber judge no. 2/zz/2025 pronounced in file no. xx/2024/al.3, final by decision no. 11/2025 of the Gorj Court;

2. C. I. A., without criminal record, sent to trial for committing the crimes of attempted aggravated robbery, provided for by art. 32, in conjunction with art. 233-234 paragraph (1) letters d, f and g of the Criminal Code and destruction, an act provided for by art. 253 paragraph (1) of the Criminal Code, with application to art. 38 paragraph 1 of the Criminal Code and art. 77 letters a and d of the Criminal Code, measure ordered by conclusion no. 4/2024 of zz 2024 pronounced by the Tg-Cărbunești Court in file no. xx/2024, upheld conclusion no. 57 of zz 2024 pronounced by the Gorj Court in file no. xx/2024, upheld by the conclusion of the preliminary chamber judge no. 20/2024 pronounced in file no. xx/2024/al.1, final by decision no. 146/zz 2024 of the Gorj Court, maintained by decision of the preliminary chamber judge no. 21 pronounced in file no. xx/2024/al .2, final by decision no. 2/2025/of the Gorj Court and maintained by decision of the preliminary chamber judge no. 2/zz/2025 pronounced in file no. xx72024/al.3, final by decision no. 11/2025 of the Gorj Court;

3. C. G., without criminal record, sent to trial for committing the crimes of attempted aggravated robbery, provided for by art. 32, in conjunction with art. 233-234 paragraph (1) letters d, f and g of the Criminal Code and destruction, an act provided for by art. 253 paragraph (1) of the Criminal Code, with application to art. 38 paragraph 1 of the Criminal Code and art. 77 letters a and d of the Criminal Code, measure ordered by decision no. 4/2024 of zz 2024 pronounced by the Tg-Cărbunești Court in file no. xx/2024, upheld decision no. 57 of zz 2024 pronounced by the Gorj Court in file no. xx/2024, upheld by the decision of the preliminary chamber judge no. 20/2024 pronounced in file no. xx/2024/al.1, final by decision no. 146/zz 2024 of the Gorj Court, maintained by decision of the preliminary chamber judge no. 21 pronounced in file no. xx/2024/al .2, final by decision no. 2/2025/of the Gorj Court and maintained by decision of the preliminary chamber judge no. 2/zz/2025 pronounced in file no. xx/2024/al.3, final by

decision no. 11/2025 of the Gorj Court.

Pursuant to the provisions of art.348 in relation to art.207 paragraph 4 in conjunction with art.202 of the Code of Criminal Procedure, it finds that the grounds that determined the taking of the preventive arrest measure against the defendants B. E.-N., C. I. A. and C. G. are maintained.

Maintains the preventive arrest measure taken against the defendants B. E.-N., C. I. A., C. G. until a new verification, but no later than 30 days. The next verification of the legality and soundness of the preventive arrest measure cannot take place later than 12.03.2025.

Enforceable”.

III. Reception and commentary on the issues addressed

The way the minutes are drafted (identical to the operative part of the conclusion) raises several issues regarding the manner in which they are drawn up in the event of an ex officio review of the measure of preventive detention during the preliminary chamber procedure.

At the risk of appearing verbose, we will highlight several aspects related to the legal nature and character of the minutes, their function and effects according to the will of the legislator, as transposed into legal provisions.

As a preliminary note, we recall that from an etymological point of view, the concept of minute has its origins in the French language in the term "minute", signifying the original form in which an act was rendered, its draft⁵.

The current Code of Criminal Procedure provides an express provision regarding the minutes in art. 400. The content of this provision states that "Except for cases in which the provisions of art. 406 paragraph (1) are applicable, the result of the deliberation of the court or, as the case may be, of the judge, regardless of the judicial function he exercises, shall be recorded in a minute, which must have the content provided for the operative part of the decision. The minute shall be signed by the members of the panel of judges. The minute shall be drawn up in two original copies, one of which shall be attached to the case file, and the other shall be submitted, for preservation, to the court's minutes file. From the interpretation of this legal text, the conclusion emerges according to which, when deliberations are made and orders/decisions are made in relation to preventive measures, the drawing up of the minute is mandatory.

⁵ I. Surdescu, R. A. Popa, Minute - act of deliberation in criminal proceedings, All Beck Publishing House, Bucharest, 2000, p. 6.

Moreover, we must mention that until the amendment made to the text under discussion, by Law no. 130/2021⁶, paragraph 2 of Article 400 of the Code of Criminal Procedure provided that the preparation of the minutes is mandatory in cases where preventive measures are ordered. We note that by Decision no. 233/2021 of the Constitutional Court⁷ the provisions of paragraph 1 of the aforementioned article were declared unconstitutional.

The provisions of art. 400, making no distinction in relation to the type of decision to be rendered following the deliberation, apply both when the court pronounces by sentence or decision, and when it pronounces by conclusion.

At the same time, the applicability of the provisions of art. 400 being not limited to the situation when the court resolves the case on the merits, it follows that whenever the judge or the court deliberates and pronounces on a measure, and therefore on a preventive measure, by a decision, including by a conclusion, the result of this deliberation is recorded in a minute, in the latter case, these have the character of decisions in *procedendo* or *litis ordinatorii*, as well as decisions (conclusions) ordering, for example, the postponement of the case, the resolution of exceptions, requests, etc. and, therefore, "they do not say the law" (which do not decide on the basis and object of the criminal or civil action, our note - R. I.).

It must be said that in the past, both at the doctrinal and especially praetorian level, there were two guidelines regarding the obligation to draw up minutes when deliberating on preventive measures.

Thus, some courts ruled that, in these cases, the failure to draw up a minute does not invalidate the decision ordering preventive measures.

Other courts, on the contrary, ruled that decisions issued on preventive measures must be preceded by the drawing up of a minute, under penalty of absolute nullity.

The dispute was settled through the intervention of the Supreme Court, which, by Decision No. XVII of November 21, 2005⁸ (United Sections, RIL) admitted the appeal in the interest of the law declared by the Prosecutor General of the Republic and ruled that in application of the provisions of Art. 309 of the Code of Criminal Procedure, in cases where the judge or court rules by decision on preventive measures, it is mandatory to draw up a minute, under penalty of absolute nullity.

The minutes bind the court and constitute a guarantee that when drafting the decision, nothing will be omitted, added or changed regarding the solution and, therefore, especially in the case of decisions that

⁶ Published in the Official Gazette of Romania, Part I, no. 493 of May 12, 2021.

⁷ Published in the Official Gazette of Romania, Part I, no. 508 of May 17, 2021.

⁸ Published in the Official Gazette of Romania, Part I, no. 119 of February 8, 2006.

can be separately appealed, such as most of the decisions by which the judge or the court decides on preventive measures, it is required that the result of the deliberation be recorded in a minute.

We also note that in the absence of the minutes, judicial control over the result of the deliberation could not be carried out, nor the way in which the provisions relating to the composition of the panel of judges were respected, provisions provided under the sanction of absolute nullity, according to art. 281 of the Code of Criminal Procedure.

The legislator, by expressly stipulating the provision that represents the minutes, determined its content with a high degree of generality by referring to another procedural norm that regulates the content of the operative part of the decision, namely art. 404 of the Code of Criminal Procedure.

Even if the provisions of art. 404 of the Code of Criminal Procedure are specific, however, they have a general character, and they will be supplemented with the legal provisions specific to the legal institution applied.

We can conclude that the criminal procedural rules regarding the minutes and the disposition, between which there is an identity relationship and which include general provisions, are supplemented with the special provisions required by the criminal rules and procedures applied in specific cases, such as the case of preventive measures.

Although theorists have been less concerned with deepening the possibility of systematization regarding the minutes, of finding some criteria for drawing them up, judicial practice shows us that there must be an ordering in the methodological approach regarding the minutes.

As far as we are concerned, a criterion of methodological approach regarding the minutes is that determined by the distinct nature of the resolution of requests, or ex officio verifications prior to the merits of the criminal case brought to trial, namely: verification of the legality and soundness of the preventive measure and requests for replacement/revocation/termination of the preventive measure in the three phases of the criminal trial. In each criminal case, in relation to these classifications, the deliberation process, finalized with the drafting of the minutes is a complex one, and cannot be contained in a certain form, the variety and complexity of practical cases only allows for indicative models or patterns.

However, practical activity requires the use of concise language, clearly expressed in relation to the required provision, the invoked norm and the avoidance of ambiguities, equivocations, redundant mentions and repetitive elements, since the minutes being identical to the operative part of the decision could be incomprehensible, difficult or impossible to execute.

Without going into theoretical details on the legal institutions regarding preventive measures and

the phases of the trial, it is, however, necessary to recall that these are a consequence of the specific features of criminal procedural legal relations, in particular the fact that they are legal relations of power that arise over and outside the agreement of the parties' will.

Regarding the verification of the legality and soundness of preventive measures, we mention that in the preliminary chamber procedure, art. 207 paragraph (6) reported to art. 348 of the Code of Criminal Procedure provides that, throughout the preliminary chamber procedure, the preliminary chamber judge, ex officio, periodically verifies, but not later than 30 days, whether the grounds that determined the taking of the preventive arrest measure and the house arrest measure still exist. At the same time, according to art. 208 paragraph (4) reported to art. 362 of the Code of Criminal Procedure, throughout the trial, the court, ex officio, by decision, periodically verifies, but not later than 60 days, whether the grounds that determined the maintenance of the preventive arrest measure and the measure of house arrest ordered against the defendant still exist. We note that these latter provisions represent the application, within the framework of infra constitutional legislation, of the constitutional guarantees regarding individual freedom, since, according to art. 23 paragraph (6) of the Constitution, during the trial phase the court is obliged, under the terms of the law, to periodically verify, and not later than 60 days, the legality and soundness of the preventive arrest and to order, immediately, the release of the defendant, if the grounds that determined the preventive arrest have ceased or if the court finds that there are no new grounds that justify the maintenance of the deprivation of liberty.

Returning in medias res, we note the more than defective way of drafting the minutes by including redundant, extraneous, unnecessary mentions of the device, and even more so of the minutes. These verbose, unclear mentions pose problems in the execution of the minutes ⁹.

First of all, it is noted that the petition for the investiture of the preliminary chamber judge is the ex officio verification of the legality and soundness of the preventive measure as indicated in the beginning of the decision, namely "The ex officio verification of the legality and soundness of the preventive arrest measure is pending according to the provision of art. 207 of the Code of Criminal Procedure, with regard to the defendants (...)".

That this is the case is proven by the mention at the end of the preamble (which is redundant, our note -R.I.), namely: "The preliminary chamber judge remains in his ruling on the verification of the legality and soundness of the preventive arrest measure ordered against the defendants B. E.-N. C. I. A. and C. G., by making the solution available to the parties and the prosecutor through the court registry."

In the same way, the considerations of the conclusion begin with the mention "Deliberating on the

⁹ We wonder what the minutes would look like if 20 defendants were sent to trial in the case, each accused of 10 crimes, and what the register of preventive measures during the preliminary hearing would look like if it were filled out in handwriting.

legality and validity of the preventive arrest measure ordered against the defendants B. E.-N. C. I. A. and C. G., notes the following".

Going further, observing the documents of the case, it is found that there is no joint request of the defendants to replace the preventive arrest measure and none formulated separately that would contain this petition.

The circumstance according to which, during the debates, the defendants' defense attorneys requested both the revocation of the preventive arrest measure and, in a subsidiary thesis, its replacement, cannot acquire the value of a request for replacement or revocation of the preventive measure, especially since only the defendant B. E.-N. has the "last word"¹⁰, requested the replacement of the preventive arrest measure with the measure of house arrest with the mention that his future wife is about to give birth and would like to recognize the child, not the other two defendants (as results from the practice of the decision).

All of this together but also separately, sediments our conclusion that the preliminary chamber judge was not invested with a request to replace the preventive measure under the conditions of art. 242 of the Code of Criminal Procedure.

As things stand, the solution in the minutes "Rejects, as unfounded, the request made by the defendants B. E.-N. C. I. A. and C. G., personally and through their chosen defense attorneys, to replace the preventive arrest measure with the preventive measure of house arrest" has no factual coverage and does not even respect the conclusions of the lawyers regarding the request to revoke the preventive measure, and if we were to talk about the considerations of the decision, we would be faced with a real obiter dicta¹¹.

Moreover, the considerations of the decision analyze the alleged request to replace preventive arrest with house arrest, without any reference to this aspect. Furthermore, the reasoning mainly considers the alleged request for replacement, the first instance judge ruling that "For these reasons, the preliminary chamber judge will reject, as unfounded, the request made by the defendants B. E.-N. C. I. A. and C. G. to replace the preventive arrest measure with the preventive measure of house arrest.

¹⁰ In relation to this formula used inappropriately in these procedures, see Remus Ionescu "Some considerations regarding the sanction that occurs when the court has omitted to grant the floor to the defendant present, in the procedure provided for by art. 208 of the Criminal Procedure Code.", International Conference, Education and Creativity for a Knowledge-Based Society, XVIIIth edition, November 21-23, 2024.

¹¹ Obiter dictum, usually used in the plural obiter dicta, is a Latin expression meaning an incidental remark, i.e. an incidental remark, an observation from a judgment made in preparation for the decision and which is not essential in making it. This part of the considerations is introduced for illustration, analogy or argument. Obiter dicta is not binding on the judge of a subsequent case and is represented by observations and opinions on the normative text, the values protected by it and its principles, matters that in some way go beyond those necessary for making decisions.

Based on the provisions of art. 207 paragraph 6 of the Criminal Procedure Code, verifying ex officio whether the grounds that determined the preventive arrest measure of the defendants B. E.-N., C. I. A. and C. G. still exist or whether new grounds have emerged to justify this measure, taking into account the aforementioned, based on the provisions of art. 348 in relation to art. 207 paragraph 6 in conjunction with art. 202 of the Criminal Procedure Code, finds that the grounds that determined the preventive arrest measure against defendants B. E.-N. C. I. A. and C. G".

In other words, the rejection of a non-existent request is mainly motivated, and the main petition, consisting of verifying the legality and soundness of the preventive arrest measure ordered against the defendants, is motivated by a "referral proposal" respectively: "considering the aforementioned, pursuant to the provisions of art. 348 in conjunction with art. 207 paragraph 6 in conjunction with art. 202 of the Code of Criminal Procedure, it is found that the grounds that determined the taking of the preventive arrest measure against the defendants are maintained".

Although the drafting of the conclusion is not the subject of our analysis, we find that in reality it is unmotivated with regard to the subject of the judgment with which the preliminary chamber judge of the first instance court was invested. Even so, the analysis and motivation of a replacement request in accordance with the provisions of art. 242 of the Code of Criminal Procedure. cannot be of a general nature, when the defendants invoke elements of a personal/family nature¹².

Unfortunately, this practice is becoming more and more common¹³, despite the instructions given by the superior court judge¹⁴, according to which the first instance judge should not rule on these requests, the revocation or replacement of the preventive measure being different institutions from that of the ex officio verification of the preventive measure, the Code of Criminal Procedure providing for distinct requirements/procedures and deadlines.

Any request of the defendant formulated during the debates can be analyzed as a matter of defense, but not as a distinct request. Equally harmful is the practice according to which within the same procedure of ex officio verification of the preventive arrest measure its legality and validity are ascertained and within the same minute/decision the request formulated by the defendant regarding the revocation of the preventive measure, either it or the judicial control is admitted¹⁵.

We believe that maintaining the preventive measure of judicial control, on the same day, by the same minute as admitting the request to revoke this measure, clearly constitutes a logical-legal nonsense,

¹² Moreover, assessments and motivations of a common/general nature, when there are several defendants in the case, are not allowed in any procedure that has as its object the verification of the preventive measure.

¹³ Novaci Court, Criminal Case No. 28/23.04.2024, unpublished.

¹⁴ Trib. Gorj, Pen. Dec. no. 45/29.04.2024, unpublished.

¹⁵ Tîrgu Cărbuneşti Court, Criminal Case No. 6/20.05.2024, unpublished.

since maintaining a preventive measure presupposes its necessity, while revoking it denotes the opposite.¹⁶.

Secondly, the minutes include aspects that must be found in practice¹⁷ decisions such as "pursuant to art. 348 of the Code of Criminal Procedure in relation to art. 207 paragraph 6 of the Code of Criminal Procedure, it verifies ex officio whether the grounds that determined the taking of the preventive arrest measure against the defendants still exist", or aspects related to the considerations of the decision such as: "pursuant to the provisions of art. 348 in relation to art. 207 paragraph 4 in conjunction with art. 202 of the Code of Criminal Procedure, it finds that the grounds that determined the taking of the preventive arrest measure against the defendants B. E.-N., C. I. A. and C. G. remain.

Maintains the preventive arrest measure taken against the defendants B. E.-N., C. I. A., C. G. until a new verification, but no later than 30 days. The next verification of the legality and soundness of the preventive arrest measure cannot take place later than 12.03.2025".

Redundant and repetitive are also the mentions regarding the crimes for which the defendants are being investigated, namely: "sent to trial for committing the crimes of attempted aggravated robbery, provided for by art. 32, in conjunction with art. 233-234, paragraph (1) letters d, f and g of the Criminal Code and destruction, an act provided for by art. 253, paragraph (1) of the Criminal Code, with application to art. 38, paragraph 1 of the Criminal Code and art. 41, paragraph 1 of the Criminal Code and art. 77, letters a and d of the Criminal Code, measure ordered by decision no. y/2024 of zz 2024 pronounced by the Tg-Cărbunești Court in file no. xx/2024, upholding decision no. yy of zz 2024 pronounced by the Gorj Court in file no. xx/2024, maintained by the preliminary chamber judge's conclusion no. yy/2024 pronounced in file no. xx/2024/al.1, final by the conclusion no. yy/zz 2024 of the Gorj Tribunal, maintained by the conclusion of the preliminary chamber judge's conclusion no. yy pronounced in file no. xx/2024/al .2, final by the conclusion no. yy/2025/of the Gorj Tribunal and maintained by the conclusion of the preliminary chamber judge's conclusion no. yy/zz/2025 pronounced

¹⁶ Trib. Gorj, Dec. Pen no. 229/28.05.2024, unpublished.

¹⁷ Regarding the content of the court decision, according to art. 401 of the Code of Criminal Procedure "The decision by which the criminal court resolves the merits of the case must contain an introductory part, an exposition and the operative part. The regulation of the content of the introductory part, of the exposition (considerations) of the judgment *stricto sensu* pronounced in criminal matters is found in the content of the criminal procedural norms of art. 402. Thus, according to the provisions of art. 402 of the Code of Criminal Procedure, the introductory part of the judgment (the practice) must include the following mentions: day, month, year and name of the court, the statement whether the hearing was public or not, the names and surnames of the judges, prosecutor and clerk, the names and surnames of the parties, lawyers and other persons participating in the trial and who were present at the trial, as well as of those who were absent, with an indication of their procedural capacity and with a mention regarding the completion of the procedure, the act for which the defendant was sent to trial and the legal texts in which the act was framed, the means of evidence that were submitted to the contractor's debate, requests of any nature formulated by the prosecutor, the injured person, the parties and the other participants in the trial, the conclusions of the prosecutor, the injured person and the parties, the measures taken during the hearing.

in file no. xx/2024/al .3, final by the conclusion no. yy/2025 of the Gorj Tribunal”.

These remarks regarding the sequence of decisions rendered in the case have their place in the considerations of the conclusion, and in no way in the operative part of a decision, whatever it may be.

In the same register of ignorance of the institutions of criminal procedural law is also the mention at the end of the decision according to which it is enforceable. Without going into details of a legal nature, it is a legal truism that both solutions are not enforceable at the date of the pronouncement in the first degree of jurisdiction, they acquire this enforceable character after their definitive stay, and it is not possible to put the sign of equality between the solution of taking the preventive measure with that of verifying it *ex officio*.

We ask ourselves what would have happened if the request for replacement or revocation of the preventive measure had been admitted, and according to the minutes the release of the defendants had been ordered and subsequently the appeal of the contestation had been declared, after the expiry of the preventive measure¹⁸.

IV. Conclusions

Avoiding errors in judicial activity, be it in the field addressed, presupposes, on the part of those called to dispense justice, a vast general and specialized culture (even judicial culture¹⁹) and a legal technique so solid that it is able to resolve the most complex and varied cases promptly, based on pre-existing training.

As we have already had the opportunity to show²⁰ The court decision represents for the judge his calling card, the keystone of his activity. The truth of such a statement appears all the more obvious when we place it precisely in the field of the relationship between research and judicial practice.

All this entitles us to state that the operative part and the minutes constitute the part of the decision that is executed, therefore it must be clear, precise, without mentions unknown to criminal procedural law, so as not to transform this procedural act into an ambiguous "document", or difficult to understand and implement.

¹⁸ See in this regard R. Ionescu, Implications of failure to comply with the 5-day deadline provided for in art. 160 of the Criminal Procedure Code on the occasion of the *ex officio* verification, in the council chamber, of the legality and validity of the preventive arrest, according to art. 3001 of the Criminal Procedure Code, *Revista Dreptul* no. 8/2013, pp. 215 et seq.

¹⁹ As a component of legal culture, judicial culture acquires particular importance in a period in which justice and the rule of law are assumed and affirmed as the main values of society.

²⁰ See in this R. Ionescu, The technique of drafting court decisions and their content, *Journal of Legal Sciences*, no. 31, University of Craiova, Faculty of Law "Nicolae Titulescu", pp. 208 et seq.

It is the duty of the higher courts to adopt in such cases a less concessionary, suppletive tone, because, often, as we have shown, due to the defective way of drawing up the minutes, the motivation of the conclusion does not exist, in relation to the petit of the case.

On the other hand, the arbitrary risk of the judicial review court may arise when the reasoning exists, but is considered inadequate, sibilant, in these cases, the judges of the review court may supplement the reasoning of the first instance, with specific explanations, with the risk that the solution of sending for retrial may be transformed in this situation from a remedy into a genuine violation (disguised relief of the judicial review court from pronouncing a final solution) of the purpose of the criminal trial, more precisely with the consequence of releasing defendants accused of serious acts.

What is to be done?

Reality forces us to look at things in the face, as they are, to analyze them and to draw the conclusions that are required in relation to these realities.

We believe that the solution is given by reinforcing the judge's responsibility in his activity of drafting the judicial decision, including the minutes and its operative part.

Another simple solution, praised by many but followed by few, consists in the way of organizing and carrying out professional training at the level of each court, in this sense its management having an overwhelming role in the training of young judges or clerks. Its influence, of the training initiated, "at the grassroots level", does not appear obvious, immediate, but later.

The lines above do not pretend to constitute a guide to a "legal clinic", but rather to invite reflection and reflection, to synergy of all those involved in the understanding and application of the legal norm.

We hope that this article will help our young colleagues to more easily and efficiently navigate the winding (sometimes thorny) path involved in the work of judgment, even in the case of preventive measures, with its countless legal constructions and structures, some of which are apparently archetypal, with its complex laboratory/ingot factory, in which the precious metal does not appear from the first attempt, in the form of pure ingots, but must be refined from a lot of impure material.

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Pedagogical Aspects of Podcasts in EFL Classrooms: A Qualitative Analysis of Teachers' Perceptions and Attitudes

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Abstract

The integration of Information and Communication Technology (ICT) tools within educational environments has gained significant attention in recent decades. In particular, English as a Foreign Language (EFL) classrooms have recognized the importance of leveraging digital learning and teaching tools for their potential to enhance interactivity and learning outcomes. Among these tools, podcasts have proven highly effective in facilitating advanced language acquisition by improving listening comprehension and speaking skills and promoting autonomous learning. However, despite these advantages, the integration of podcasts into formal educational settings is notably inconsistent, specifically in developing regions like North Macedonia. Even though the country's National ICT Strategy aims at improving digital skills and digitizing the infrastructure, effective integration of digital learning tools like podcasts is crucial to realizing these objectives. This paper critically examines the role of podcasts in formal settings of EFL instruction by exploring the perceptions and attitudes of teachers towards their effectiveness. Accordingly, a qualitative approach is employed, combining credible secondary research with data from publicly available podcasts/interviews with experts. Using thematic analysis, the study identifies that podcasts enable teachers to provide authentic language exposure and foster autonomous learning, leading to improved language learning outcomes as compared to traditional methods. While their inconsistent adoption is largely due to technological constraints, insufficient teachers' training and inadequate curricular support, this study highlights that teachers view podcasts as highly adaptable and easy to integrate, even in resource-constrained settings, making them an effective tool for EFL context. Consequently, this research contributes to the existing literature on digital pedagogy, offering specific recommendations for integrating podcast-based learning into North Macedonia's educational system, and thus, supporting the successful implementation of its National ICT Strategy.

Keywords: EFL classrooms, Podcasts, Podcasts-based Learning, Language learning, Teacher

Introduction

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The advancements in information and communication technologies (ICT) have significantly transformed language teaching, specifically the integration of digital tools in English as a Foreign Language (EFL). The use of podcasts is referred to as the most promising tool among others for its contribution to enhancing language acquisition as it effectively promotes the learners' listening comprehension, speaking fluency, and autonomy (Hasan & Hoon, 2013; Khoiriyah et al., 2024). Additionally, podcasts as a teaching tool offer authentic, real-time exposure to language learning, and are reported to foster deeper engagement with learning materials, specifically, when integrated within the formal instructions (Chaves-Yuste & de-la Peña, 2023). However, podcasts' integration into formal settings of education still remains inconsistent, mainly in developing regions like North Macedonia.

The country's Education Strategy 2018–2025 emphasizes the need for ICT integration and the development of digital competencies (MoES, 2018). In addition, recent efforts have been made to update the National ICT Strategy (Reed, 2024). Nevertheless, research indicates that the overall implementation of ICT in schools remains limited, largely due to infrastructural deficiencies, a lack of curricular alignment, and insufficient teacher training (OECD, 2024; Redecker & Punie, 2017; UNESCO, 2023). While the integration of podcasts into formal EFL teaching has received little attention, their clear pedagogical value informs that this tool could play a crucial role in supporting the nation's digital education goals and fostering more effective language learning experiences.

Accordingly, this paper critically explores the use of podcasts as a tool for EFL classrooms with a focus on how podcasts could be effectively integrated into North Macedonia's educational ecosystem and support its National ICT Strategy. In doing so, a qualitative analysis of teachers' perspectives and attitudes is carried out to evaluate the pedagogical potential of podcasting in language classrooms and also identify the context-specific challenges. Thereby, this paper aims to contribute to the academic discourse on digital pedagogy and offer actionable insights into using podcasts as the digital tool for North Macedonia's educational and national development goals.

Research Objectives

The following are the objectives of this study:

- To explore the perceptions and attitudes of EFL teachers towards the pedagogical potential of podcasts in enhancing learners' listening comprehension, speaking fluency, and learning autonomy.

- To identify the key infrastructural, technological, and institutional barriers affecting the integration of podcasts into the formal education system, particularly in North Macedonia.
- To present how podcast-based language instruction can support national ICT strategies and contribute to digital transformation in North Macedonia's education system.

Research Questions

Based on the research objectives, the study aims to explore the following questions:

RQ1: How the pedagogical value of podcasts is perceived by EFL educators in enhancing language learning experiences, particularly the development of speaking, listening, and learner autonomy?

RQ2: What are the challenges EFL educators face in integrating podcasts into formal EFL settings, particularly within the technological and institutional context of developing regions like North Macedonia?

RQ3: How can the use of podcasts in EFL classrooms support the goals of national ICT strategies and contribute to the digital development goals of North Macedonia?

Literature Review

The integration of podcasts into EFL instructions has gained much attention for their unique potential to create a learner-centered, flexible environment, which is crucial for language learning. As this study focuses on teacher perceptions and attitudes towards using podcasts in their EFL classrooms for making context-specific recommendations to North Macedonia, it is essential to explore the potential of this digital tool along with the limitations of its effective integration. In particular, this would support the nation's approach to institutionalization of its digital infrastructure and ICT strategies.

A growing body of literature supports the pedagogical implications of podcasts as a digital tool for improving the linguistic competence of EFL learners. The research of Wang (2024) conducted an experimental study among Taiwanese freshmen. The results of using podcasts along with a collaborative learning environment informed significant improvement in the speaking fluency of learners and their confidence in speaking a foreign or second language. The study by Suseno (2024), focusing on Indonesian learners, adds to the discussion by emphasizing the need for culturally diverse content of podcast material to further improve the linguistic competence of learners, particularly concerning the core aspects of accent variation, pronunciation and appropriateness of word choices, which often differ significantly across contexts.

Likewise, Suseno (2023) demonstrated the pedagogical potential of podcasts in improving grammatical control and pronunciation accuracy among EFL learners who were actively engaged in both listening to

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podcast content and interacting with its transcript at the same time. Using this approach in EFL classrooms, the language learners were able to identify grammatical structures while repeatedly practicing the pronunciation of those words. This led to improving both their linguistic knowledge and awareness and their speaking fluency. The meta-analysis by Hasan & Hoon (2013) reinforces these findings by demonstrating that podcasts' use provides learners with a context-rich, authentic exposure to language learning, which the traditional textbook approach significantly lacks.

In addition to contributing to various aspects of linguistic competence, podcasts in EFL classrooms offer another significant benefit of autonomous learning, i.e., it enables language learners to take ownership of their learning journey. The qualitative study of Rosyidah et al. (2021) documented the students' reported experiences and opinions regarding the use of podcasts in facilitating self-directed learning. The students highly valued the flexible nature of podcasts as it enabled them to pace their learning journey on their own, where they could revisit difficult content as many times as needed. This, in turn, contributed to reducing their anxiety towards language learning, which is often associated with traditional classroom-based practices of speaking and learning.

The findings of Khoiriyah et al. (2024) also underscore that podcasts enhance learners' autonomy by promoting independent, self-regulated engagement with learning material. In turn, this learning autonomy leads to a reduced reliance on traditional, teacher-centered instruction models of EFL learning. Vaishnav (2024) highlighted it as a paradigm shift in digital learning models, noting that podcast-based learning fosters learner independence along with reflective and critical thinking, which are the key competencies in global education frameworks. In particular, these attributes are effectively aligned with contemporary demands for personalized, technology-integrated learning environments.

Furthermore, podcasts are also credited for promoting cognitive engagement along with deepening emotional involvement in the learning process. The findings of Laiya et al. (2022) report that high school learners perceive podcast-mediated language learning as an enjoyable experience because of its highly relevant real-world context. This in turn enhances their motivation towards learning a foreign language. Chaves-Yuste & Peña (2023) added to this discussion by highlighting that podcasts uniquely humanize the language learning experience through the incorporation of socially relevant narratives in content. Accordingly, this approach not only enhances their language comprehension but also promotes empathy and intercultural awareness.

However, despite being proven to offer multiple pedagogical advantages, podcasts' systemic adoption is still limited across many education systems globally, particularly in developing regions where institutional barriers and infrastructural limitations prevail. The study of Pasaribu et al. (2023) highlighted that while teachers affirmed the value of podcasts in EFL classrooms, their effective integration within

the education system was often limited by a lack of structured curricular models and the needed training to efficiently use such digital tools in the classrooms.

In the same context, the systematic review of Setiawan & Wahyuni (2024) also noted the infrastructural issues, institutional barriers, and inadequate digital competence of teachers as the key constraints of effective podcast integration in language classrooms. The findings of Deda (2023), focused on the European context, report that many pre-service teachers despite having a strong willingness to use podcasts in EFL classrooms, feel uncertain about their effective implementation as they lack the needed digital competencies. This highlights the need for more explicit training sessions along with curricular integration of podcasts into the existing teacher education programs. Consequently, the role of the teacher is seen as both a facilitator and limiter of podcast integration in EFL settings. The literature synthesis of Tymoshchuk (2023) noted that effective integration of podcasts in EFL settings heavily relies on teachers' perceived pedagogical potential of podcasts, along with their digital competence and previous experience with ICT tools.

Despite growing interest in the integration of podcasts in EFL settings, the adoption across many national education systems remains uneven, particularly affected by the misalignment between policies, curriculum, and teacher competence. The researchers, Hasan & Hoon (2013), in their early review of podcasts' integration in language learning, highlighted the critical role of technological alignment and teacher engagement in the successful implementation of this innovation. Similarly, most recent studies, like Khoiriyah et al. (2024), continue to stress the importance of aligning the technological infrastructure of institutions with learners' needs and curricular goals for the effective utilization of digital learning tools like podcasts.

This informs the ongoing need for making national ICT strategies in line with the country's educational infrastructure. For instance, North Macedonia's ICT strategies do place a strong emphasis on the nation's digital transformation but the classroom-level integration of ICT tools significantly remains unaddressed (MoES, 2018; OECD, 2024). This disconnect is obvious from the country's 105th rank out of 133 economies for ICT skills in the education system, as reported in the 2024 Network Readiness Index (Portulans Institute, 2024), while the 77th rank for network readiness also adds to the context. This in turn highlights North Macedonia's limited progress in equipping schools, learners, and educators with the needed digital competencies.

Methodology

This paper adopted a qualitative interpretivist approach to exploring how teachers perceive the role of podcasts in EFL instructional settings. Interpretivism focuses on understanding the individuals' subjective

experiences of a social phenomenon within their specific contexts (Creswell& Poth, 2016), which makes this research approach appropriate for examining the perceived pedagogical value and contextual barriers to podcast integration, particularly within North Macedonia's evolving digital landscape.

Data Sources and Data Collection

The main data source for this investigation was the secondary qualitative material, publicly available online as YouTube video sessions (interviews/podcast episodes) featuring experts' experiences and opinions on the use of podcasts in EFL settings. These experts included EFL educators, an academic director, an educational technologist, an EdTech consultant, and teacher trainers (see Table 1). These videos were purposely selected based on their relevance to the core themes of this paper and the practical applicability of their insights. Additionally, the professional credibility of the presenters was also considered in relation to the objectives of this study. Accordingly, credible platforms like Gallery Teachers, American English, TTELT, and EB Academics were selected, as these are the widely recognized, dedicated platforms for EFL professional development and educational technology integration. Furthermore, a timeline of 10 years (2015-2025) was applied to ensure that the selected videos reflect contemporary perspectives and practices in digital language teaching.

Table 1 - Table 1–Main data sources

Presenter(s)	Role	Focus
Anna Ayrapetyan (2024)	University professor (Armenia)	Integrating student-created podcasts to promote speaking beyond the classroom
EB Academics (2023)	Middle school ELA educators (U.S.)	Using podcasts to meet speaking and listening standards
Gabriel Clark (2021)	Academic Director, EFL content creator	Transforming ESL and non-ESL podcasts into classroom activities
Jeff Kuhn (2016)	Educational technologist	Finding and adapting podcast content for English learners
Joe Dale (2022)	EdTech consultant, MFL specialist	Advocacy and strategies for podcast use in language teaching
Aileen Hale & Jennifer Gonzales (2021)	Language teacher trainers	Enhancing listening, speaking, reading, and writing through podcast integration

Having selected the six sources (Table 1), *Tactiq.io*, the real-time AI transcriber tool was used, followed by manual review and corrections to ensure the accuracy of the main data source. The refined transcripts were saved as the narrative dataset, which allowed insights into the presenters' professional experiences, challenges, and reflections on the use of podcasts in language teaching. This approach is consistent with qualitative research which uses expert commentary or professional insights as meaningful sources for data collection (Bowen, 2009; Flick, 2018).

In addition to this real-world, authentic, practitioner-centered discourse on the use of podcasts in EFL settings, existing literature, including peer-reviewed academic sources and policy documents, was also reviewed to enhance the contextual clarity of the analysis. Accordingly, a total of 13 easily accessible, peer-reviewed sources published between 2013 to 2024 were selected from credible databases including Google Scholar, DOAJ (Directory of Open Access Journals), EBSCOhost, ProQuest, and ERIC. A combination of Boolean operators (AND/OR) with targeted keywords was used to find the relevant studies. These terms included 'autonomous language learning', 'podcasts in EFL', 'podcasts-based learning', 'digital competence', 'teacher perception', 'digital pedagogy', 'language learning', 'EFL classrooms', and others. Hence, the most relevant, open-access studies were selected.

Besides, policy reports and institutional publications were also used for contextualizing both the digital readiness of North Macedonia and its national ICT strategies, as well as the broader international policy priorities for digital education. These sources particularly facilitated framing the systemic issues of educators' digital competence, infrastructural gaps, and curricular alignment. These documents included the 2018-2025 MoES Education Strategy (2018), the digital transformation overview of Western Balkans

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(OECD, 2024), the 2024 Network Readiness Index (Portulans Institute, 2024), the European Framework for the Digital Competence of Educators (Redecker & Punie, 2017), the drafting of national ICT strategy (Reed, 2024), and the UNESCO Global Education Monitoring Report (2023).

Data Analysis

The data analysis followed the six-phase thematic analysis framework of Braun & Clarke (2006). This involved familiarizing with the data at first, followed by generating initial codes through an inductive process of focused, repeated readings of the transcripts. During this process, the statements relevant to the study objectives were labelled with shortcodes like flexibility, self-paced, authentic exposure, etc.). This manual coding ensured themes emerged organically rather than influenced by some existing categories, along with keeping the themes open to refinement and adding interpretive depth (Flick, 2018). This led to the development of broader themes based on similar and recurring patterns like self-paced learning, flexibility, etc., made the broader theme of ‘learner autonomy’.

Lastly, since all the data sources were open-access and publicly available, no formal ethical approval was required. Besides, the transcripts were verified for accuracy, without altering content. Furthermore, none of the findings were manipulated but interpreted in line with the established research practices.

Findings

This section presents key findings from the thematic analysis of the six podcast-based videos, highlighting how educators and practitioners conceptualize the use of podcasts for English language learning. Four major themes emerged, reflecting shared insights into the use of podcasts in EFL classrooms.

Authentic Language Exposure

Educators emphasized that podcasts offer learners access to real-life, contemporary language across global contexts, in contrast to traditional classroom materials. Hale & Gonzales noted,

Podcasts have real-life language... we really want our learners to be speaking communicatively outside the classroom (Hale & Gonzales, 2021, 00:02:44)

Likewise, Clark shared a similar perspective saying,

Podcasts... are more natural, less stilted... students can sort of get into them on their own terms (Clark, 2021, 00:01:14).

Besides, exposure to multiple accents and authentic pronunciation is also reported as a core strength of using podcasts for EFL settings, particularly for younger learners. Hale & Gonzales (2021) mentioned the limitations of traditional classroom-based language learning saying that,

So much of the language that our young English language learners hear is adult language... instead of hearing kid-appropriate language (Hale & Gonzales, 2021, 00:03:49).

Another instance informs the similar limitation of traditional language learning settings which fail to integrate broader exposure to different varieties of English or *World Englishes* in language learning experiences. Hale & Gonzales (2021) highlighted:

He had practiced so much with American or British English... but when he was hired by a person of Southeast Asian descent... he didn't have his complete understanding (Hale & Gonzales, 2021, 00:11:40).

Accordingly, podcasts in EFL settings effectively mitigate such challenges, as Hale & Gonzales (2021) noted:

Listen to a podcast from the Australian perspective, or the Irish perspective... find the Englishes of the world and have students listen to the same topic (Hale & Gonzales, 2021, 00:11:26)

You can also hear a wide range of speakers from different age levels, different genders and different places around the world (Hale & Gonzales, 2021, 00:03:39).

Furthermore, podcasts also promote listening fluency among learners along with supporting the acquisition of pronunciation and intonation in a natural setting. Hale & Gonzales (2021) noted:

They hear the intonation, the inflexions... even sarcasm or humor, things that are harder to teach (Hale & Gonzales, 2021, 00:05:24)

Learner Autonomy

Experts heavily emphasized the potential of podcasts in promoting independent learning, both in listening and in student-created content. In particular, EFL settings having podcasts enable the learners to gain confidence, develop speaking skills, and take ownership of their work. Dale (2022) reported:

They were able to make their own choices over the content... they got that idea around ownership of their scripts and their work which was fantastic (Dale, 2022, 00:01:28).

I was on Twitter at the time... getting tweets from people saying they were in different parts of the UK and had listened to our podcast... I then passed on that feedback to the students... you could see the students were as pleased as punch (Dale, 2022, 00:04:51).

Hale & Gonzales (2021) suggested promoting language learning into daily routines by encouraging learners to “*participate in housework while listening to a podcast (00:18:08)*. This informs the autonomy of learners to prioritize learning even outside the classroom. Ayrapetyan (2024) presented her own EFL context to highlight how podcasting is a practical tool for out-of-classroom language practice:

So I recommend those teachers who really have that issue, who understand that their students struggle with speaking, podcasting can be one of the methods to tackle this issue (Ayrapetyan, 2024, 00:05:48).

Number one priority in this project was to get... students to speak more English outside of class, a challenge that many teachers struggle with (Ayrapetyan, 2024, 00:06:36)

You can ask your students to first write the script... then proofread it, change it... add some cool words, new words like C1 C2 level words... and I would recommend working with peers (Ayrapetyan, 2024, 00:22:39)

Teacher-Driven Integration

Experts’ opinions (perceptions/attitudes towards the use of podcasts for EFL learning) highlight that podcasting was most effective when integrated intentionally into structured classroom routines as pre-, during-, and post-listening tasks. Hale & Gonzales (2021) suggested:

Set the stage... have your students do a pre-writing or small group activity... then listen... then write a summary or have a debate (Hale & Gonzales, 2021, 00:20:44).

EB Academics’ teachers’ trainer mentioned:

Come up with five to ten questions that students can answer as they listen... this requires students to pay close attention... Write the standards (speaking and listening standards) on the board as objectives... encourage students to use relevant evidence from their notes and annotated transcript (EB Academics, 2023, 00:03:48).

Kuhn (2016) and Dale (2022) also suggested approaches to enhance the pedagogical benefits of podcasting in EFL settings. Kuhn (2016) noted:

Activities in the classroom, like listening comprehension or cloze exercises... or perhaps translation... or debates or discussions on opinions (Kuhn, 2016, 00:06:20).

Dale emphasized the advantage of the iterative nature of podcast creation mentioning,

The recording-editing process really helped them with their pronunciation... hearing the same target language again and again (Dale, 2022, 00:03:06).

Infrastructural and Technological Enablers

While infrastructural and technological challenges are often reported as barriers to the effective integration of digital tools in developing contexts, EFL educators' observations on the ease of use, access, and even creation of podcasts, inform that, despite such barriers, podcasts can still be effectively integrated in resource-constrained environments. Hale & Gonzales (2021) mentioned:

Students can listen when it's convenient... doesn't have to be within a certain time frame... You could text comprehension questions... WhatsApp with your students... have students post an audio message back to you to summarize (Hale & Gonzales, 2021, 00:17:39).

Podcasts are free... they're accessible 24/7 both for listening and for assigning as teachers for homework (Hale & Gonzales, 2021, 00:24:44).

Kuhn (2016) highlighted how even the low speed of the internet is not a concern for using podcasts for language learning, saying:

They're offered under a Creative Commons license... we can edit and change many podcasts for the classroom... they are easy to download if you have like a slow internet connection or you're downloading them over a cellular signal (Kuhn, 2016, 00:01:51).

Besides, creating podcasts is also easy rather than requiring core technical competence. Dale (2022) mentioned:

They'll learn step by step how you can produce a podcast completely for free using Anchor.fm... record, edit, and host for free... a real purpose for their speaking work (Dale, 2022, 00:07:14).

Ayrapetyan's (2024) opinion adds to this discussion by highlighting how teachers can easily create the needed podcasts, saying,

You don't need to have all the skills yourself... you just really need two platforms; a mic and Audacity, and the know-how (Ayrapetyan, 2024, 00:26:13).

Hence, these experts' perspectives on the ease and effectiveness of podcasts' integration into EFL classrooms underscore their potential to support language learning objectives across diverse educational systems.

Discussion

Having reviewed the literature and conducted the thematic analysis of the selected videos (interviews/podcasts), it is established that podcasts have a significant pedagogical potential for EFL classrooms. In particular, the use of podcasts for EFL instructions yields effective outcomes of language development such as enhanced listening comprehension and speaking fluency. Hasan & Hoon (2013), Suseno (2023) and Wang (2024) highlighted the benefits of improved speaking fluency, accurate pronunciation, and use of contextual vocabulary in EFL settings where podcasts are meaningfully integrated. Similarly, the EFL experts' perspectives also closely align with the potential of podcasts in offering authentic, contemporary exposure to language learning across diverse global contexts of Worldly Englishes. This is supported by the findings of Chaves-Yuste & Peña (2023) and Suseno (2024) who demonstrated the effectiveness of using podcasts for providing culturally relevant and socially resonant language content.

Consequently, the major outcome of using podcasts in EFL settings is learner autonomy, which is a notable theme across both empirical findings and experts' perspectives. Ayrapetyan's (2024) recognition of podcasts' effectiveness in encouraging learners to speak and practice outside the classroom resonates with the findings of Rosyidah et al. (2021), Khoiriyah et al. (2024), and Vaishnav (2024). Altogether, the benefits of self-paced or self-regulated, reflective learning along with active engagement of learners in the process are widely supported, as podcasts offer flexible learning environments that allow the learners to take control or ownership of their own journey. This prospect is particularly commendable when considered within the context of the evolving pedagogical demands of the contemporary education systems.

Furthermore, the study findings and experts' perspectives underscore the role of teachers in the successful integration of podcasts into formal EFL settings. Dale's (2022) suggestions of using scripts, and editing the existing freely available podcasts, along with collaborative peer work resonate with Kuhn's (2016), EB Academics' (2023), and also Tymoshchuk's (2023) emphasis on structuring the podcast activities as a key part of instructional strategy. Hence, it is recognized that podcasts would not replace the existing instructional programs, but would complement the learning experience if integrated with thoughtful scaffolding (Pasaribu et al., 2023).

While offering a number of pedagogical benefits, the literature often reports certain infrastructural and technological barriers that affect the podcasts' effective adoption across the nation's education system, and this study's findings add context to this discussion. Findings from EFL educators and experts' interviews/podcast sessions inform that using podcasts in EFL settings is easier even in resource-constrained environments since the key prospects of accessing the podcasts, editing the podcasts, and sharing them are possible within low-bandwidth settings (Hale & Gonzales, 2021; Kuhn, 2016). It can be

established that there prevail more policy-driven or institutional barriers rather than technological barriers in the effective integration of podcasts across the education system, particularly in developing regions, like North Macedonia. This is strongly supported by the findings of Deda (2023) and Setiawan & Wahyuni (2024), who identified curriculum integration and teachers' training or digital competence as the key constraints to effective podcasts' integration in EFL classrooms.

Making the case specific to North Macedonia, a clear disconnect is observable between national policy goals and institutional realities with regard to the adoption of ICT tools in educational settings. While the national ICT strategies strongly emphasize digital advancement (OECD, 2024; MoES, 2018), the country's 105th position out of the 133 nations in ICT skills integration within the education system (Portulans Institute, 2024) suggests the limited institutional uptake of these ICT strategies. Additionally, the country's 77th rank in the Network Readiness Index also adds to this context, highlighting the limited digital competence among the population, which in turn, informs the existence of challenges in digital tools' integration in classrooms.

Lastly, it is noted that the study presents valuable insights into the use of podcasts in EFL settings based on the synthesis of qualitative secondary findings (literature and experts' perspectives). However, no direct classroom observations or in-person interviews with EFL educators or experts were conducted. Besides, both the literature findings and the experts' voices are not situated in the context of North Macedonia. Therefore, both limitations would eventually serve as the future research direction to incorporate teachers' perspectives from North Macedonia's classrooms to expand on these findings.

Conclusion & Recommendations

This paper investigated the pedagogical potential of podcasts in EFL classrooms, particularly focusing the linguistic competence among non-native speakers. Analyzing the qualitative findings from existing literature and experts' perspectives and opinions, the study examined the effectiveness of podcasts in achieving the key objectives of EFL learning. Accordingly, it is recognized that podcasts offer authentic language exposure, promote learners' autonomy, and serve as flexible, easily accessible tools even in resource-constrained settings of language learning, such as North Macedonia.

In particular, the findings of this study present podcast integration in EFL classrooms as a strategic, affordable and adaptable approach for efficiently meeting both the contemporary expectations of language learning and the broader goals of the nation's ICT strategies. This would enhance the foreign language education in North Macedonia and also support the achievement of national digital transformation goals. However, there is a need for effectively aligning teachers' training, curricular

support, and infrastructural priorities to best utilize the pedagogical potential of podcast-based language learning.

Therefore, a set of recommendations is presented below to inform the integration of ICT tools, specifically podcast-based learning, within North Macedonia's EFL educational context:

Incorporate podcast teaching into teacher training programs

The teacher training institutions in North Macedonia should incorporate dedicated modules on digital literacy and podcast integration within their existing programs since EFL educators need technical competence and the relevant teaching strategies for effectively using podcasts to support speaking fluency, listening comprehension, and learner autonomy (Deda, 2023; Tymoshchuk, 2023). In this regard, the use of basic tools like *Audacity* and a microphone would be sufficient to ensure the EFL teachers' technological readiness for producing useful podcast content (Ayrapetyan, 2024).

Integrate podcast-based activities into the national EFL curriculum

The national EFL curriculum needs a major update to include podcast-based activities, like pre-listening guide, comprehension questions as the guide during listening activities, and post-listening tasks of writing, speaking or creating podcasts as assessments (EB Academics, 2023; Hale & Gonzales, 2021). This will ensure that podcasting becomes a supplementary tool within existing formal instructional settings.

Promote easy access and effective adoption through low-tech, free solutions

Considering the lower network readiness of the population and ICT alignment within the education system, schools can prioritize open-access tools requiring minimal bandwidth to use and download podcasts. For instance, podcasts with Creative Commons licenses and platforms like Anchor.fm, will enable both teachers and learners to flexibly use and create content using mobile networks or even staying offline (Dale, 2022; Kuhn, 2016).

Encourage student-created podcasts

As learning and speaking a foreign language requires motivation and confidence, encouraging students to record and upload their own podcasts will significantly develop the needed motivation and confidence (Dale, 2022). Besides, this will also instill commitment, collaborative learning, and effective communication, which are crucial skills for navigating the dynamics of the global education system (Ayrapetyan, 2024).

Align national ICT strategies with the digital transformation of the education system

North Macedonia's national ICT policies and its Education Strategy 2018-2025 must ensure classroom-level implementation of ICT solutions, like podcasts in particular, through targeted teacher support and enhanced access to technological tools for achieving meaningful digital transformation in the education system (OECD, 2024; MoES, 2018).

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Carbon Hysteresis in Turkey: Implications for Environmental Policies

Hakan EYGU²³

Abstract

This study aims to examine whether the carbon hysteresis hypothesis is valid in Turkey. As a significant global carbon emitter, Turkey has been developing policies to reduce carbon emissions and enhance environmental sustainability. In this context, the study analyzes the long-term behavior of carbon emissions and the presence of hysteresis using annual data from 1999 to 2023. The presence of carbon hysteresis was first examined using ADF and PP unit root tests to determine whether the series was stationary. The findings indicate that carbon emissions are not stationary at the level but become stationary after taking the first difference. This suggests that the carbon hysteresis hypothesis may be valid. However, since conventional unit root tests do not account for structural breaks, Lee and Strazicich (2013) single-break and Lee and Strazicich (2003) two-break unit root tests were applied to provide a more accurate analysis of the long-term dynamics of the series. The results reveal that the carbon emissions series exhibited structural breaks in 2005 and 2019. These breaks are associated with changes in Turkey's environmental regulations, global economic fluctuations, and shifts in environmental policies. According to the analysis, when structural breaks are considered, the carbon emissions series contains a unit root, confirming that the carbon hysteresis hypothesis is valid for Turkey. This finding indicates that shocks to carbon emissions have long-term persistent effects and that emissions do not naturally return to lower levels.

Keywords: Environmental pollution, Carbon hysteresis, Time Series, Unit Root with Structural Break

JEL Code: C4, C22, Q15

1. Introduction

With the acceleration of industrialization and the growing global demand for energy, carbon emissions have become one of the most significant threats to environmental sustainability. The complex relationship between carbon emissions and economic growth further underscores the importance of carefully designed environmental policies. The carbon hysteresis hypothesis provides a framework for examining whether changes in carbon emissions are permanent and whether past shocks have long-term effects. In this context, the question of whether increases or decreases in carbon emissions return to

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equilibrium on their own is of great importance for evaluating the effectiveness of environmental policies.

Turkey has experienced a significant increase in carbon emissions alongside its processes of industrialization and urbanization. However, changes in environmental regulations, transformations in energy policies, and efforts to comply with international climate agreements are among the key factors shaping Turkey's strategies for managing carbon emissions. Therefore, examining the long-term dynamics of Turkey's carbon emissions constitutes an important step toward ensuring the sustainability of its environmental policies.

This study aims to analyze the long-term behavior of carbon emissions in Turkey by testing for the presence of hysteresis effects. Using carbon emission data spanning the period from 1999 to 2023, the study applies unit root tests that account for both traditional and structural breaks. Since ignoring structural breaks may hinder a proper understanding of carbon dynamics, the analysis employs the Lee and Strazicich (2013) unit root test with a single structural break and the Lee and Strazicich (2003) test with two structural breaks. The results obtained from these tests provide important insights into whether the carbon hysteresis hypothesis holds true for Turkey, offering significant implications for environmental policy.

2. Literature Review

A review of the literature reveals the presence of several studies on carbon hysteresis. These studies approach the topic through various sub-dimensions and offer relevant suggestions.

2.1. Carbon Hysteresis and Environmental Sustainability

In the literature, carbon hysteresis and environmental sustainability are addressed as an important conceptual framework in the fight against climate change. Given that this study investigates the long-term behavior and hysteresis effect of Turkey's carbon emissions over the period 1999–2023, the discussions in the literature are directly relevant to our findings. Due to the nature of carbon-emitting facilities, they play a critical role in addressing climate change, highlighting the necessity of both reducing carbon emissions and enhancing carbon sequestration. The fact that one of the most evident causes of global warming is the uncontrolled use of fossil fuels and the release of carbon-based greenhouse gases during this process provides a foundational perspective for the development of sustainability strategies (Oral, 2020). This aligns with the findings of our study, which indicate that carbon emissions in Turkey contain a unit root and that shocks have permanent effects; the evidence that emissions do not revert to lower levels on their own underscores the urgency of implementing effective sustainability strategies.

Sustainability reporting encompasses the necessity for businesses to reduce energy consumption and adopt environmentally conscious production processes. The primary aim is to minimize environmental damage, particularly by focusing on reducing the use of non-renewable or toxic materials during production (Tanrıverdi, 2023). Within this context, strategies such as carbon markets and the clean

development mechanism—both of which are embedded in the principles of sustainable development—are implemented to control greenhouse gas emissions (Oral, 2020; Can, 2018). The structural breaks identified in our study in 2005 and 2019 are associated with shifts in Turkey’s environmental regulations and policies. Therefore, the market-based approaches highlighted in the literature provide a complementary framework for interpreting the impact of policy changes on emission dynamics during these breakpoints.

The management of carbon emissions spans a wide range, beginning with ecosystem management plans. It is understood that forest management and carbon sequestration can only be effectively integrated through data and insights provided by scientific research (Başkent, 2022). Proper planning and preservation of carbon dynamics require not only efforts to protect ecosystems but also the assessment of both positive and negative human impacts on these ecosystems (Sarıyıldız and Tanı, 2024). The preservation of forest areas emerges as a critical element in the fight against climate change, and in this regard, aligning with international protocols is of vital importance (Erdönmez et al., 2024; *Climate Change and Forests*, 2024). These findings are closely related to the results of our study, which support the validity of the carbon hysteresis hypothesis and indicate that emissions have long-term permanent effects. They underscore that ecosystem-based solutions necessitate active intervention rather than relying on the natural decline of emissions over time.

In various industries—such as sustainable airport practices—the development of energy efficiency strategies aimed at reducing the carbon footprint enhances the effectiveness of these initiatives (Çayalan and Rodoplu, 2025). Carbon taxes and emissions trading systems are among the key tools used to manage greenhouse gas emissions through market-based approaches (Özdemir and Köse, 2024; Şahin and Çiftçi, 2021). In Turkey, alongside the emissions trading system, the implementation of a carbon tax is also being considered, and several studies have been conducted on this subject (Özdemir and Köse, 2024). These instruments offer a practical foundation for interpreting the environmental policy shifts associated with the structural breaks identified in 2005 and 2019 in our study, and they may inform the future design of Turkey’s carbon reduction policies.

In conclusion, the impact of carbon hysteresis on ecosystems is being better understood within the framework of environmental sustainability principles, leading to the development of new approaches. Reducing carbon emissions and enhancing carbon sequestration necessitate both a transformation in individual decision-making processes and a reshaping of national policies. This, in turn, will contribute to strengthening global efforts to combat climate change (Sarıyıldız and Tanı, 2024; Uyduranoğlu, 2023). The findings of our study highlight the presence of carbon hysteresis in Turkey, emphasizing the need for policymakers to develop permanent and effective solutions. These discussions in the literature further reinforce the significance of our findings within the context of environmental sustainability.

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2.2. Development of Environmental Policy in Turkey

The development of environmental policies in Turkey has been shaped by many factors in the historical and social context. The increase in environmental problems since the 1970s has led to the crystallization of Turkey's environmental policies. Rapid industrialization and urbanization during this period deepened environmental problems (Yılmaz and Yılmaz, 2017; Çelikyay, 2021). When we examine the long-term behavior of carbon emissions between 1999 and 2023 in our study, the role of industrialization and urbanization in the increase in emissions during this period is clearly evident. In particular, migration from rural to urban areas has increased pressures on environmental use and has been an important factor in raising environmental awareness (Çelikyay, 2021). This is consistent with our findings that carbon emissions have a unit root and shocks have persistent effects, suggesting that emissions require active policy interventions rather than spontaneous reductions.

The establishment of the Turkish Environment Agency has helped environmental policies to become more systematized within an institutional framework. The agency has been subjected to various criticisms by opposition parties as it undertook the task of developing and implementing policies in the field of environmental protection. Most of the criticisms focus on the independence and effectiveness of the agency (Yazar et al., 2023; Yalçın, 2024). Since the structural breaks in 2005 and 2019 identified in our study are associated with transformations in environmental regulations, the agency's capacity to implement policies and financial powers in these periods play a critical role. In particular, the agency's financial powers and its capacity to respond to environmental problems highlight the need for reforms to improve its effectiveness (Yalçın, 2024). This is linked to our findings that the carbon hysteresis hypothesis holds for Turkey and that emissions carry long-lasting effects, emphasizing that the agency's policies need to develop more effective strategies to counter these persistent shocks.

Studies on the applicability of environmental policies underline the inadequacy of environmental management policies. Turkey's geographical location in relation to Europe and the effects of environmental problems reveal the need to raise environmental awareness among local people (Yılmaz and Yılmaz, 2017; Çoban and Özkan, 2022). In our study, we show that carbon emissions are non-stationary and contain unit roots with structural breaks, which supports the need to strengthen environmental awareness to increase the applicability of these policies. In this context, the role of environmental education and raising awareness of environmental problems is seen as an important part of sustainable development (Mercan, 2023). Improving the quality of education and raising public awareness is critical to the effective implementation of environmental policies. The urgency of these awareness and education efforts becomes even more evident as our findings reveal that emissions are not returning to low levels naturally.

The increase in environmental pollution in recent years necessitates the development of policies in

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line with Turkey's sustainable development goals. Studies examining the effects of factors such as energy consumption, trade deficits and foreign direct investments on the environment reveal that Turkey is at increasing risk of becoming a pollution haven (Çoban and Özkan, 2022; Pehlivanoglu and Solmaz, 2021). These factors can be associated with the emission dynamics observed at the 2005 and 2019 breakpoints in our study; increases in economic growth and energy consumption can be considered as a reflection of permanent shocks in emissions. In particular, ignoring environmental factors in pursuit of economic growth targets may lead to greater environmental problems in the long run. This is a finding that reinforces the validity of the carbon hysteresis hypothesis and the need for proactive policies to reduce emissions.

The impact of international standards and agreements on the development of environmental policies in Turkey is undeniable. Within the framework of the European Union harmonization processes, environmental policies are shaped within a broader framework and an inclusive approach is adopted, including local governments (Çelikyay, 2021; Aydın and Çamur, 2017). By integrating local governments into environmental policies, environmental problems can be managed more effectively (Sencer, 2009). The link between the structural breaks identified in our study and environmental regulations highlights the role of these international standards and local governments in the long-term management of emissions. For example, policy shifts in 2005 and 2019 affected the dynamics of carbon emissions, and the importance of international cooperation during these periods stands out.

In conclusion, the development of Turkey's environmental policies is a multidimensional and dynamic process. Policymakers' sensitivity to environmental problems, environmental awareness and education are critical elements for sustainable development goals. Increasing the effectiveness of existing policies will be possible through harmonization with international standards and public awareness. Since the findings of our study show that the hysteresis of carbon emissions suggests that environmental policies in Turkey need to develop more effective and long-term solutions to persistent shocks, the policy development process discussed in this section supports the need for an urgent and comprehensive approach to curb emissions.

2.3. Unit Root Tests and Structural Breaks

The unit root tests and structural break analyses discussed in the literature are directly related to the methods employed in this study to examine the stationarity and hysteresis effect of Turkey's carbon emissions during the 1999–2023 period. Unit root tests are statistical methods used in time series analysis to determine whether a variable is stationary. The presence of structural breaks is a critical factor that can influence the reliability of these tests. Therefore, it is essential to consider the linearity of the series and any potential structural breaks when applying such tests. For instance, Bozgeyik and Aydın conducted unit root tests on real effective exchange rate data in developing countries and emphasized the impact of

structural changes on the linearity of the series and its breakpoints (Bozgeyik and Aydın, 2019). Similarly, in their study on OECD countries, Yalçınkaya and Kaya (2017) investigated the stationarity of unemployment rates and stressed the importance of accounting for cross-sectional dependence. In this context, applying tests that incorporate structural breaks enhances the reliability of the results (Gövdeli, 2018). In line with this necessity, our study utilizes the ADF and PP tests along with the Lee and Strazicich (2013) unit root test with a single break and the Lee and Strazicich (2003) test with two breaks. These tests reveal that carbon emissions are non-stationary and contain unit roots in the presence of structural breaks.

Among the methods used for structural break analysis, tests such as Zivot and Andrews (1992) stand out. These tests help identify the timing of breaks within a time series, thereby enabling unit root tests to yield more robust results. In Gövdeli's research, the stationarity of series was examined using not only traditional unit root tests but also the Zivot and Andrews test (Gövdeli, 2018). Additionally, in his study on female youth unemployment, Kutlu (2023) demonstrated the existence of a hysteresis effect using the Fourier ADF test, which allowed the impact of structural breaks to be observed more clearly. In this context, the importance of employing advanced statistical tests—particularly those that account for structural breaks—becomes increasingly evident (Ulucak, 2021). In our study, the identification of structural breaks in 2005 and 2019, and their confirmation through the Lee and Strazicich tests, supports the notion that these advanced methods play a crucial role in understanding the long-term dynamics of carbon emissions.

Unemployment hysteria is a frequently addressed issue in Turkey and is usually analyzed through qualitative analysis of factors and unit root tests. Yılancı Yılancı (2009) and Dedeoğlu Dedeoğlu (2021) emphasize in their studies that the existence of the hysteria effect in unemployment rates should not be ignored. Moreover, it has been observed that ignoring the effect of seasonal factors may lead to incorrect results in the analysis (Soytaş, 2015). Therefore, unit root tests and structural break analyses should be used in a complementary manner as elements that increase validity. These discussions are in line with our approach in this study, which emphasizes the inadequacy of conventional tests and the necessity of structural break tests when testing the carbon hysteresis hypothesis.

Finally, studies on carbon emissions in Turkey are among the applications of these methods. When testing the stationarity of carbon emissions, taking structural breaks into account increases the reliability of such time series analyses (Topalli, 2021). The results of tests with structural breaks shed light on economic and environmental policies and provide important data for decision-makers (Alp & Seven, 2019; Polat & Ergün, 2023). Therefore, the impact of unit root tests not only on economic variables but also on environmental factors should be carefully analyzed. Since the findings of our study show that carbon emissions in Turkey have a unit root with structural breaks in 2005 and 2019 and the

hysteresis hypothesis is valid, these methodological approaches in the literature support the need for environmental policies to develop more effective strategies against persistent shocks.

3. Method

3.1. Model and dataset

This study investigates the long-term dynamics of carbon emissions in Turkey and the validity of the carbon hysteresis hypothesis using data for the period 1999–2023, obtained from the World Bank (2023). We also used CO₂ emissions per capita (in metric tons) to represent environmental pollution.

3.2. Findings

The analyses were conducted using traditional ADF and PP unit root tests, as well as the Lee and Strazicich (LS) (2013) unit root test with a single break and the LS (2003) unit root test with two breaks, which account for structural breaks. The findings reveal the stationarity characteristics, structural breakpoints, and hysteresis effect of carbon emissions; these results provide significant implications for Turkey's environmental policies.

3.2.1. Traditional Unit Root Tests

Unit root tests statistically examine whether the series return to their long-term mean. If the series is affected by an unusual event (i.e., a shock), and it returns to its previous average in the long run, then the series is stationary and resistant to external influences. To test the carbon hysteresis hypothesis, the stationarity of the series was analyzed using structural break unit root tests. Hypotheses were formulated to determine whether the series is stationary using the ADF and PP unit root tests. The hypotheses are formulated as follows:

H₀: The series is non-stationary (The series contains a unit root)

H₁: The series is stationary (The series does not contain a unit root)

the results of the unit root analysis are presented in Table 1.

Table 1. Results of ADF and PP Tests

CO ₂			
ADF	Level	t-stat	-0.791
		p-value	0.802
	1st	t-stat	-4.665
		p-value	0.001***
PP	Level	t-stat	-0.670
		p-value	0.834
	1st	t-stat	-4.933
		p-value	0.001***

***, *, * indicate $p < 0.01$, $p < 0.05$, $p < 0.10$ significance levels respectively. All variables are tested with a constant model.

According to the results of the ADF and PP tests presented in Table 1, it was found that the variables are non-stationary, but become stationary at the first difference ($p < 0.01$), indicating that all variables are I(1). The ADF test results show that the t-statistic for the level data was -0.791 ($p = 0.802$),

and the null hypothesis (the series contains a unit root) could not be rejected. However, when the first difference was taken, the t-statistic became -4.665 ($p = 0.001$), and the series became stationary. The PP test yielded a similar outcome: For the level data, the t-statistic was -0.670 ($p = 0.834$), rejecting the stationarity hypothesis, while for the first difference, the t-statistic was -4.933 ($p < 0.001$), confirming stationarity. These findings indicate that carbon emissions follow an I(1) process, meaning they contain a unit root and that shocks may have permanent effects. This can be considered as preliminary evidence for the carbon hysteresis hypothesis.

3.2.1. Unit Root Tests with Structural Breaks

Then, in order to determine whether the stationarity of the series is realized in a certain year, a unit root test with structural break is performed and the results are given in Table 2.

Table 2. Results of LS (2013) and LS (2003) Tests

		LS (2013)		LS (2003)	
		Model A	Model C	Model A	Model C
CO ₂	TB ₁	2019	2005	2005	2005
	TB ₂	-	-	2019	2013
	λ_1	0.913	0.304	0.304	0.304
	λ_2	-	-	0.913	0.652
	LM ₁	-3.071***	-4.263***	-3.523***	-5.646

The LS (2013) single-break and LS (2003) double-break unit root tests are used. ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively. The critical values are taken from the works of Lee and Strazicich (2013) and Lee and Strazicich (2003). TB₁ refers to the first break point, representing the time of the first structural break in the series. TB₂ refers to the second break point, representing the times of two breaks in cases where multiple breaks are detected in the series over time. λ_1 and λ_2 ($\lambda = TB/T$) are proportional values that indicate the positions of the first and second breakpoints.

Since traditional tests do not account for structural breaks, the LS (2013) and LS (2003) tests were applied to more accurately analyze the long-term dynamics of the series. The results presented in Table 2 include the structural breakpoints and test statistics. The LS (2013) single-break test identified a break in 2019 in Model A, with the LM statistic calculated as -3.071; this value was below the critical value at the 5% significance level, rejecting the stationarity hypothesis. In Model C, a break was detected in 2005, and the LM statistic was -4.263 ($p < 0.05$), which was found to be significant at the 5% level. The LS (2003) double-break test identified breaks in 2005 and 2019 (LM = -3.523) in Model A, and in 2005 and 2013 (LM = -5.646) in Model C; however, in both models, the stationarity hypothesis was rejected. These results support the existence of unit roots in carbon emissions along with structural breaks and validate the presence of hysteresis effects.

The results in Table 1 and Table 2 clearly indicate that carbon emissions are non-stationary and contain a unit root when structural breaks are considered. The ADF and PP tests show that emissions become stationary at the first difference, indicating an I(1) process, while the LS tests have supported this

finding with structural breaks. In particular, the breakpoints identified in 2005 and 2019 can be linked to changes in Turkey's environmental regulations (e.g., energy policies or efforts to comply with international agreements) and global economic fluctuations. These breaks represent significant turning points in the long-term trajectory of emissions and confirm the permanent effects of shocks. Overall, the analyses show that the carbon hysteresis hypothesis is valid for Turkey. The lack of tendency for emissions to revert to lower levels spontaneously emphasizes the need for proactive policies for environmental sustainability. The structural breaks in 2005 and 2019 reflect the impact of policies on emission dynamics, suggesting that regulations during these periods were insufficient to respond to permanent shocks. These findings indicate that Turkey's strategies for reducing carbon emissions should focus on long-term and structural changes.

CONCLUSION

This study analyzed carbon emissions data from Turkey for the period 1999-2023 to test the validity of the carbon hysteresis hypothesis and, in this context, provided important implications for environmental policies. The ADF and PP unit root tests indicated that carbon emissions were non-stationary in level data but became stationary at the first difference, signalling an I(1) process. Due to the traditional tests' failure to account for structural breaks, Lee and Strazicich (2013) single-break and Lee and Strazicich (2003) double-break unit root tests were applied, revealing the presence of structural breaks in 2005 and 2019 and confirming the series contains a unit root. These findings clearly demonstrate that the carbon hysteresis hypothesis is valid for Turkey and that shocks to emissions have lasting effects in the long term. The lack of tendency for emissions to revert to lower levels spontaneously highlights the need for the development of active and effective policies for Turkey to achieve its environmental sustainability goals.

The structural breakpoints identified in the study have been linked to transformations in Turkey's environmental regulations and global economic fluctuations. Specifically, 2005 is associated with changes in energy policies and the European Union accession process, while 2019 aligns with global climate commitments and economic conditions. These breaks have created significant turning points in the long-term trend of emissions, showing that existing policies have not adequately responded to these shocks. The findings are consistent with the discussions in the literature on carbon hysteresis and environmental sustainability; not only market-based instruments (such as carbon taxes or emissions trading systems) but also ecosystem-based solutions (such as forest management and increasing carbon sequestration) are required for reducing emissions.

These results provide practical recommendations for the design of environmental policies in Turkey. First, considering the lasting effects of carbon emissions, strategies should focus on long-term

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structural changes rather than short-term solutions. Second, the breakpoints in 2005 and 2019 highlight the importance of the timing of policies and international cooperation in influencing emission dynamics, thus Turkey's alignment with global climate agreements and the integration of local governments into these processes should be strengthened. Third, increasing environmental awareness and developing societal consciousness through education will enhance the applicability and effectiveness of policies. Lastly, tools such as carbon markets and clean development mechanisms can play a supportive role in controlling emissions; however, the effectiveness of these tools should be assessed within a framework that takes structural breaks into account.

In conclusion, the validity of the carbon hysteresis hypothesis in Turkey underscores the urgency and scope of environmental sustainability policies. Instead of waiting for emissions to decrease naturally, policymakers must develop proactive and multidimensional solutions to address permanent shocks. This study provides a scientific basis for Turkey's fight against climate change and suggests new directions for future research, such as sectoral analysis of carbon emissions or analysis with longer-term data. In this regard, environmental policies should prioritize not only economic growth but also the protection of ecosystems and societal well-being, as this will be a crucial step towards achieving a sustainable future for Turkey.

DISCUSSION

This study tested the validity of the carbon hysteresis hypothesis using carbon emission data from 1999 to 2023 in Turkey. The findings reveal that emissions contain a unit root and that shocks, in conjunction with structural breaks, have lasting effects. The I(1) process, supported by ADF and PP tests, and the 2005 and 2019 structural breaks confirmed by the Lee and Strazicich (2013, 2003) tests, demonstrate that carbon hysteresis is valid for Turkey. These results align with studies examining the long-term dynamics of carbon emissions in the literature and reinforce the necessity of environmental sustainability policies.

In the literature, the management of carbon emissions and environmental sustainability is considered a fundamental framework in the fight against climate change (Oral, 2020; Sarıyıldız and Tanı, 2024). The findings of our study support Oral's (2020) view that uncontrolled use of fossil fuels increases carbon-based greenhouse gas emissions and highlights the urgency of sustainability strategies. Our conclusion that emissions do not spontaneously revert to lower levels indicates that these strategies require active intervention rather than passive waiting. Furthermore, the structural breaks observed in 2005 and 2019 are linked to transformations in Turkey's environmental regulations; this aligns with Çelikyay's (2021) argument that environmental policies in Turkey are shaped through development plans and that efforts to comply with international standards have been effective. However, our findings also reveal that these policies have not sufficiently responded to the permanent shocks in emissions.

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The importance of structural break unit root tests is frequently emphasized in the literature (Gövdeli, 2018; Topallı, 2021). The use of Lee and Strazicich (2013, 2003) tests in our study has overcome the limitations of traditional ADF and PP tests that disregard structural breaks, providing more reliable results. This is consistent with the findings of Bozgeyik and Aydın (2019), who argued that structural breaks should be considered in time series analysis. Specifically, the 2005 and 2019 breaks reflect the role of economic and political factors in emission dynamics, as noted in Polat and Ergün's (2023) study, which examined the effects of environmental regulations and economic growth on air pollution. However, the exact connection between the breakpoints and specific policies or events could not be definitively determined due to the scope of the dataset used in our study; this can be considered a limitation for future research.

Our findings can also be related to market-based and ecosystem-based solution proposals in the literature. Özdemir and Köse (2024) and Şahin and Çiftçi (2021) highlight that carbon taxes and emission trading systems are effective tools for controlling greenhouse gas emissions, while our study emphasizes the necessity of applying these tools considering structural breaks. Similarly, Başkent (2022) and Erkönmez et al. (2024) argue that forest management and carbon sequestration are critical in combating climate change; our findings, which show that emissions create lasting effects, support the importance of such ecosystem-based solutions. However, the shortcomings in the capacity of the Turkish Environmental Agency to implement policies (Yazar et al., 2023; Yalçın, 2024) may limit the effectiveness of these solutions, which suggests that our findings offer a practical warning for policymakers.

The strengths of our study lie in its use of both traditional and structural break unit root tests, providing a comprehensive analysis of Turkey's long-term carbon emission dynamics. However, the dataset covering the period from 1999 to 2023 may have overlooked longer-term trends, which can be related to Soytaş's (2015) warning about the importance of seasonal factors and long-term data in analyses. Additionally, the sectoral distribution or regional differences in carbon emissions were outside the scope of our study; this is similar to the types of studies suggested by Ulucak (2021) and Kutlu (2023), who focused on hysteresis effects in specific contexts.

In conclusion, the validity of the carbon hysteresis hypothesis in Turkey demonstrates that environmental policies should not only focus on emission reductions but also develop long-term and multidimensional strategies to address permanent shocks. The discussions in the literature (Çoban & Özkan, 2022; Uyduranoğlu, 2023) emphasize the necessity of establishing a balance between economic growth and environmental sustainability, while our study highlights the critical role of proactive policies in achieving this balance. Future research could examine the causes of the identified breakpoints in more detail and expand these findings through sectoral analyses.

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Is Unemployment Hysteresis Valid in Turkey? Empirical Evidence from Unit Root Tests with Structural Breaks

Hakan EYGÜ²⁴

Abstract

The primary objective of this study is to assess the validity of the unemployment hysteresis hypothesis in Turkey and provide empirical evidence. Annual data on the unemployment rate for individuals aged 15 and over in Turkey from 1999 to 2023 are utilized. If the unemployment hysteresis hypothesis holds, a shock affecting the series is expected to have a lasting impact in the long run. To investigate the stationarity of the series, structural break unit root tests have been applied. The widely used Lagrange Multiplier (LM) type single-break test by Lee and Strazicich (2013) and the two-break test by Lee and Strazicich (2003) are employed. The identified break dates correspond to the 2001 and 2008 financial crises, which significantly disrupted Turkey's macroeconomic stability. The test results indicate that the unemployment series is stationary, with shocks having no permanent impact. Consequently, over the examined period, unemployment hysteresis is found to be invalid in Turkey, and economic shocks are shown to have only temporary effects on unemployment rates.

Keywords: Unemployment, Unemployment hysteresis, Time series, Unit root with structural break

JEL Code: C4, C5, C22

1. Introduction

Unemployment in developing economies such as Turkey stands out as a fundamental issue that not only serves as an economic indicator but also directly impacts social and political stability. The effects of economic shocks on unemployment rates, the resilience and flexibility of labour markets, and their capacity to return to long-term equilibrium have become significant areas of debate at both academic and political levels. In this context, the hypothesis of hysteresis in unemployment presents an important theoretical framework that questions whether economic shocks lead to permanent deviations in unemployment rates. The hypothesis suggests that, particularly during periods of economic stagnation, unemployment rates may remain persistently above their natural equilibrium level, providing a critical perspective on understanding labour market responses to shocks. Given that the Turkish economy has been tested by large-scale shocks such as the 2001 and 2008 financial crises, testing the validity of this hypothesis is of great importance in terms of both understanding historical dynamics and generating results that can guide future policies.

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This study aims to empirically assess the validity of the unemployment hysteresis hypothesis in Turkey. Using annual unemployment data from the World Bank covering the period 1999-2023, the effects of economic shocks on unemployment rates are analyzed through structural break unit root tests. The study focuses on examining the long-term response of the Turkish labour market to such shocks, particularly considering key turning points such as the 2001 and 2008 financial crises and the 2020 COVID-19 pandemic. While studies in the literature on unemployment hysteresis typically rely on traditional unit root tests, this paper introduces a methodological innovation by employing Lagrange Multiplier (LM) type tests that account for structural breaks (Lee & Strazicich, 2003; 2013). This approach aims to more clearly reveal whether the dynamics of unemployment in Turkey are influenced by merely cyclical fluctuations or by permanent structural changes. The article will first summarize the theoretical and empirical framework in the literature, then present the data and findings to assess evidence of unemployment hysteresis in Turkey, and finally, discuss the implications of the findings in relation to the existing literature. This study aims to make a significant contribution to understanding the flexibility of the Turkish labour market and the effectiveness of economic policies.

2. Literature

There are studies on unemployment hysteresis in the literature. While analyzing these studies, the subject was analyzed in different sub-sections and suggestions were made.

2.1. The Theoretical Foundations of the Unemployment Hysteresis Hypothesis

The unemployment hysteresis hypothesis provides an important theoretical lens for understanding whether the effects of economic shocks on unemployment rates are temporary or permanent. In this context, it has served as a fundamental starting point in our study, analyzing Turkey's unemployment data for the period 1999-2023. The unemployment hysteresis hypothesis presents a key theoretical framework for investigating the long-term effects of unemployment rates during periods of economic stagnation. This hypothesis suggests that unemployment rates tend to remain above the natural rate of unemployment, particularly following economic shocks. In the case of Turkey, the analysis of the unemployment hysteresis effect has been the subject of various studies. For example, in Saraç's study, unemployment rates and labour force participation rates between 2005 and 2013 were examined, and a stationary analysis of the unemployment series was conducted (Saraç, 2014). This study presents findings that support the existence of the hysteresis effect and serves as an important reference for understanding the dynamics of unemployment in Turkey.

When examining the effects of major economic shocks such as the 2001 and 2008 crises on unemployment, Saraç's findings provide a theoretical foundation pointing to the potential existence of the hysteresis effect, while our analyses show that this effect is not permanent. Similarly, studies that address

unemployment dynamics in Turkey at the sectoral level also enrich the theoretical framework of the hypothesis. Çınar and colleagues conducted sectoral analyses of unemployment hysteresis in Turkey and proposed various theories to explain the underlying causes of this dynamic (Çınar et al., 2014). Compared to traditional equilibrium unemployment theories, the hysteresis hypothesis concludes that structural changes and shocks in labour markets may have lasting rather than temporary effects. This theoretical perspective has formed the basis for our inquiry into whether shocks leave permanent effects while testing the stationarity of unemployment rates during the 1999-2023 period. Similarly, Baktemur's study tests the hysteresis hypothesis by conducting both linear and nonlinear analyses of unemployment and youth unemployment rates in Turkey (Baktemur, 2024). This study contributes to the literature by offering different testing methods to assess the validity of unemployment hysteresis.

Furthermore, the structural break unit root tests (Lee and Strazicich, 2003) used in our study present an approach parallel to Baktemur's methodological diversity, revealing that the hysteresis hypothesis is not valid in Turkey and providing an empirical contribution to these theoretical discussions. The international perspective on the hysteresis hypothesis also strengthens the theoretical framework of our study. In their study, Minford and Naraidoo (2010) comprehensively examine the research agendas caused by rising unemployment rates in Europe. In this context, they note that there are a significant number of studies that question the existence of hysteresis and propose different theories. Both in Turkey and globally, research on unemployment hysteresis contributes to a better understanding of labour markets and deepens the discussions on this topic. As a result of our study, we show that unemployment rates in Turkey returned to long-term equilibrium at turning points such as 2009 and 2020, which aligns with anti-hysteresis findings in the international literature. In conclusion, the unemployment hysteresis hypothesis provides a critical theoretical framework for understanding labour market dynamics both in Turkey and internationally. Findings from various studies suggest that unemployment rates tend to remain above their natural equilibrium level, and this could lead to long-term economic consequences. However, the structural break unit root tests applied with 1999-2023 data in our paper demonstrate that unemployment rates in Turkey returned to equilibrium aftershocks, indicating that the hysteresis effect is not valid. This requires a reevaluation of this theoretical framework within the Turkish context.

2.2. Empirical Literature on Unemployment Hysteria

Empirical tests of the unemployment hysteresis hypothesis provide an important foundation for understanding the effects of economic and political uncertainties on labour markets. In this context, by examining Turkey's unemployment rates from 1999 to 2023, our study evaluates these dynamics. Unemployment hysteresis is closely linked to the effects of economic uncertainties and political instability on labour markets. Specifically, youth unemployment rates are directly associated with the rise

in economic and political uncertainties. In the study presented by Polat, the youth unemployment rate in Greece was analyzed with ten different uncertainty indices over the period 1998-2019, clearly showing the increasing impact of uncertainties on youth unemployment (Polat, 2020).

In this context, uncertainties have not only economic but also social consequences. In our paper, we observed the return of unemployment rates to equilibrium at turning points such as 2009 and 2020. Polat's findings emphasize the impact of uncertainties on youth unemployment, suggesting that sectoral or demographic differences in Turkey should be examined in greater depth. Studies addressing the relationship between unemployment and uncertainty in Turkey play a complementary role in testing the hysteresis hypothesis. In another study highlighting the effects of economic uncertainties on unemployment, Yıldırım analyzed the impact of financial development and economic growth on uncertainties using the Turkey case (Yıldırım, 2021). These analyses show that unemployment is influenced not only by current economic conditions but also by growth dynamics.

In our study, it was found that the effects of the 2001 and 2008 crises on unemployment were temporary. This result is supported by Yıldırım's study, which provides a theoretical framework on how such shocks can interact with growth and financial factors. Alternative approaches also exist to describe the relationship between unemployment and uncertainty in Turkey. Çınar's study highlights how natural resources and economic growth interact, showing that this interaction is both positive and significant in the long and short term (Çınar, 2016). This allows for a better understanding of the dynamics of macroeconomic variables that influence unemployment rates. Our analyses, in line with Çınar's emphasis on macroeconomic variables, confirm that unemployment rates return to equilibrium in the long run and that there is no hysteresis effect. Studies examining the sectoral impacts of economic shocks also contribute to the unemployment hysteresis literature. Furthermore, Türkmen, in his study examining the effects of economic crises and other external factors on unemployment, analytically presents the impacts of crises on Turkish tourism (Türkmen, 2023).

This study also highlights the importance of intersectoral interactions in unemployment dynamics. The 2009 turning point identified in our paper coincides with the effects of the global financial crisis in Turkey, while Türkmen's sectoral focus demonstrates the potential to link the return of unemployment rates to overall equilibrium with intersectoral dynamics. Similarly, in the study by Çelikay and Doğankollu (2023), the economic effects of Turkey's financial amnesty programs were examined. Such programs have the potential to reduce uncertainties in the labour market. Therefore, analyzing how these policies affect unemployment is crucial for understanding unemployment hysteresis. In our study, we found that policies after 2012 did not create a permanent deviation in unemployment, which aligns with Çelikay and Doğankollu's policy-oriented approach and supports the flexibility of Turkey's labour market. From an international perspective, the consistency of economic policies is a key factor in discussions on

unemployment hysteresis. In Yağış's (2024) study, the relationship between economic policy uncertainty and international trade in the G-7 countries was examined, further supporting this notion. Low levels of trust can lead to increases in unemployment rates.

As a result of our study, we demonstrate that after the 2020 turning point (likely due to the COVID-19 impact), unemployment rates in Turkey returned to equilibrium. Yağış's emphasis on uncertainty highlights that the long-term effects of such shocks can be mitigated through policy consistency. In conclusion, studies on unemployment hysteresis underline the deep interactions of economic and political uncertainties in labour markets. Addressing these uncertainties is crucial for reducing the negative effects on the labour force. Additionally, factors such as economic growth, natural resource management, and fiscal discipline are also found to influence unemployment rates. Therefore, policymakers need to adopt a multidimensional approach to solving the unemployment issue. In our paper, by testing these multidimensional dynamics with structural break unit root tests, we reveal that there is no unemployment hysteresis in Turkey and that the effects of shocks are temporary. This provides a complementary contribution to uncertainty and policy-oriented studies in the literature.

2.3. Unemployment and Economic Shocks in the Turkish Economy

The relationship between unemployment rates and economic shocks in Turkey forms the core context of the unemployment hysteresis hypothesis tested with data from the 1999-2023 period in our study, and these dynamics offer a critical area for examining macroeconomic stability. The unemployment situation in the Turkish economy is a key component of the country's macroeconomic dynamics and is closely linked to economic shocks. Unemployment, particularly in developing countries like Turkey, serves as a factor threatening socio-economic stability and is a determinant of both macroeconomic variables and economic growth.

In our study, while analyzing the effects of significant shocks such as the 2001 and 2008 crises on unemployment, we found that these shocks were temporary and did not result in hysteresis, offering a fresh perspective on the discussions in the literature regarding Turkey's unemployment dynamics. The relationship between unemployment and economic growth in Turkey is a commonly discussed topic in the literature and provides a comparative perspective when contrasted with our findings. Many studies have examined the relationship between unemployment rates and economic growth in Turkey. For instance, studies conducted within the framework of Okun's Law have shown a strong inverse relationship between unemployment and economic growth in Turkey (Çevik and Sungur, 2021; Ertürkmen, 2023; Sarica et al., 2021). Empirical analyses on the validity of Okun's Law have demonstrated that unemployment rates decrease as the economy grows, but this relationship does not exhibit linearity (Çevik & Sungur, 2021; Sarica et al., 2021). While the effect of economic growth on unemployment is

generally limited to cyclical unemployment, structural unemployment is noted to have more complex causes (Apaydın and Taşdoğan, 2019; Yüceol, 2006). Our analysis, considering structural breaks during the 1999-2023 period, shows that unemployment rates are stationary and that shocks do not have a lasting impact. This finding aligns with the literature, indicating that cyclical effects are dominant, but the hysteresis hypothesis is not valid.

The effects of economic shocks on unemployment in Turkey are also supported by studies highlighting the significance of external factors. Economic shocks, particularly external factors, have a significant impact on Turkey's unemployment rates. For instance, fluctuations in oil prices have been shown to negatively affect Turkey's unemployment rates, a situation connected to other macroeconomic variables such as growth, balance of payments, and inflation (Sinan, 2018). Additionally, it has been argued that high unemployment rates in Turkey become persistent after economic shocks, which is explained by the phenomenon of unemployment hysteresis (Güloğlu & İspir, 2011). However, the structural break unit root tests (Lee and Strazicich, 2003) applied in our study demonstrate that unemployment rates returned to equilibrium at breakpoints such as 2009 and 2020, disproving Güloğlu and İspir's hysteresis claim and revealing that shocks in Turkey are not permanent. The employment-creating capacity of growth is another important aspect in understanding Turkey's unemployment dynamics. Furthermore, analyses of Turkey's economic growth period have been conducted to better understand the effects of economic shocks. Studies examine the employment-generating capacity of growth, focusing on the concept of "jobless growth" (Akcan, 2018; Uslu, 2020). In particular, in the post-2000 period in Turkey, while growth rates increased, these increases were insufficient in terms of generating employment (Karakuş and Atabey, 2021; Akcan, 2018).

These findings support the return of unemployment rates to long-term equilibrium after 2012 in our study, suggesting that the limited effect of growth on employment, in the absence of hysteresis, can be explained by structural factors. In conclusion, unemployment rates in the Turkish economy are largely influenced by economic fluctuations. Both structural and cyclical types of unemployment interact with economic growth and external economic shocks, and a better understanding of these relationships is a critical requirement for policymakers. Economic reforms and structural transformation projects play a critical role in combating unemployment. The findings we have presented using data from the 1999-2023 period demonstrate that there is no unemployment hysteresis in Turkey and that economic shocks have temporary effects, offering a counterpoint to discussions on persistence in the literature; this highlights the success and flexibility of policies in restoring equilibrium to the labour market.

3. Methodology

3.1. Model and data set

The data used in this study were obtained from the World Bank database and include annual

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unemployment rates (UNR) for individuals aged 15 and above in Turkey, covering the period from 1999 to 2023.

3.2. Findings

To test the unemployment hysteresis hypothesis, the stationarity of the series has been analyzed using structural break unit root tests. In this context, the one-break Lagrange Multiplier (LM) type test by Lee and Strazicich (2013) and the two-break Lee and Strazicich (2003) test have been applied. To determine whether the series is stationary using the ADF and PP unit root tests, the following hypotheses are set:

H_0 : The series is non-stationary (The series contains a unit root)

H_1 : The series is stationary (The series does not contain a unit root)

Table 1. Results of ADF and PP Tests

Unemployment			
ADF	Level	t-stat	-4.851
		p-value	0.001***
	1st	t-stat	-4.056
		p-value	0.005***
PP	Level	t-stat	-2.357
		p-value	0.167
	1st	t-stat	-4.124
		p-value	0.004***

, *, * s, *, *, * indicate $p < 0.01$, $p < 0.05$, $p < 0.10$ significance levels respectively. All variables are tested with a constant model.

In Table 1, the results of the ADF and PP tests show that the variables are non-stationary, but they become stationary at the first difference ($p < 0.05$). This finding indicates that all variables are $I(1)$. Then, to determine whether the stationarity of the series occurred in a specific year, a structural break unit root test was performed, and the results are presented in Table 2. This type of analysis allows for a more detailed examination of which years and economic shocks are associated with the series becoming stationary.

Table 2. Results of LS (2013) and LS (2003) Tests

		LS (2013)		LS (2003)	
		Model A	Model C	Model A	Model C
Unemployment	TB ₁	2009	2012	2009	2011

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	TB ₂	-	-	2020	2018
	λ_1	0.440	0.560	0.440	0.520
	λ_2	-	-	0.880	0.800
	LM ₁	-5.543***	-5.152***	-5.815***	-6.347**

The LS (2013) single-break and LS (2003) double-break unit root tests are used. ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively. The critical values are taken from the works of Lee and Strazicich (2013) and Lee and Strazicich (2003). TB₁ refers to the first break point, representing the time of the first structural break in the series. TB₂ refers to the second break point, representing the times of two breaks in cases where multiple breaks are detected in the series over time. λ_1 and λ_2 ($\lambda = TB/T$) are proportional values that indicate the positions of the first and second breakpoints.

According to the results of the one-break LS (2013) test, the null hypothesis is rejected at the 1%, 5%, and 10% significance levels in Model A. The breakpoint ($\lambda_1=0.440$) coincides with the middle of the sample period and corresponds to the year 2009. This reflects the impact of the global financial crisis; however, it is observed that the shocks in the unemployment rate were not permanent, and the unemployment rate returned to equilibrium after the recovery from the crisis. In Model C, the null hypothesis is also rejected at all significance levels, and the breakpoint is determined to be 2012 ($\lambda_1=0.560$). These results indicate that the unemployment series is stationary and that the hysteresis hypothesis does not hold. In the two-break LS (2003) test, the breakpoints identified in Model A are 2009 ($\lambda_1=0.440$) and 2020 ($\lambda_2=0.880$), while in Model C, the breakpoints are 2011 ($\lambda_1=0.520$) and 2018 ($\lambda_2=0.800$). In both models, the null hypothesis is rejected at the 1%, 5%, and 10% significance levels, confirming that the unemployment series is stationary. The 2009 break is associated with the global financial crisis, while the 2020 break is likely related to the COVID-19 pandemic; however, it is observed that these shocks did not have a permanent effect on unemployment. The ADF and PP tests were applied as additional validation and confirmed that the unemployment series was stationary at the first difference. However, since the structural break LM tests also showed that the series is stationary at the level, the rejection of the hysteresis hypothesis is consistent with these results.

CONCLUSION

This study tested the unemployment hysteresis hypothesis for Turkey using data from 1999-2023 and found, based on both one-break (LS, 2013) and two-break (LS, 2003) structural unit root tests, that the hysteresis effect does not hold. The movements in unemployment after 2012 were temporary, and the unemployment rate returned to a stable equilibrium level in the long term. Considering the structural breaks in the series, the stationarity of the unemployment rate indicates that it was not permanently affected by external shocks in Turkey. In other words, shocks such as those in 2009, 2011, 2018, and 2020 caused temporary effects, and the unemployment rate gradually returned to its long-term average over time. This result indicates that the economic policies implemented in Turkey, particularly after 2012, have not permanently deviated unemployment from its long-term equilibrium, and there is no hysteresis

effect. This finding may be encouraging for policymakers, as the implemented economic measures and reforms have not only prevented permanent worsening of unemployment but have also not led to long-term negative consequences. The analyses are based on unit root tests that account for structural breaks.

The economic policies and labour market regulations implemented in Turkey have prevented the effects of shocks on unemployment from becoming permanent, thus maintaining the labour market's flexible structure. Continuing policies that enhance the resilience of the labour market will shorten the time it takes for the market to return to equilibrium in the face of future economic shocks. These findings provide a counter-perspective to the discussions on persistence in the literature, highlighting that Turkey's labour market is resilient and has maintained long-term equilibrium despite economic shocks.

DISCUSSION

This study analyzed the unemployment rates in Turkey for the period 1999-2023 and tested the validity of the unemployment hysteresis hypothesis, revealing that economic shocks did not have a lasting impact on unemployment and that the series is stationary. The findings demonstrate that unemployment rates returned to long-term equilibrium even during significant breakpoints such as 2009 and 2020, confirming the absence of hysteresis effects in Turkey. While these results contradict some studies in the literature, they are consistent with others and provide valuable insights into understanding the dynamics of Turkey's labour market.

The theoretical foundations of the unemployment hysteresis hypothesis in the literature are based on the idea that economic shocks can lead to permanent deviations in unemployment rates (Minford & Naraidoo, 2010). In the context of Turkey, Saraç (2014) conducted a stationary analysis of unemployment series using data from 2005-2013 and found evidence suggesting the existence of hysteresis effects. Similarly, Güloğlu and İspir (2011) argued, based on sectoral panel data, that unemployment rates in Turkey could become permanent following economic shocks. However, the structural break unit root tests (Lee & Strazicich, 2003; 2013) applied in this study show that the unemployment series is stationary and that the effects of shocks are temporary. This discrepancy may stem from differences in analytical methods; for instance, Saraç (2014) and Güloğlu and İspir (2011) relied on traditional unit root tests or panel data methods, whereas our study adopts a more modern approach that considers structural breaks. Our findings are consistent with Baktemur's (2024) study, which questions the hysteresis hypothesis through linear and non-linear analyses, supporting the view that the dynamics of unemployment in Turkey are not permanent but have a temporary nature.

Studies examining the relationship between unemployment and economic shocks in the Turkish

economy have generally focused on the effects of growth and external factors. Çevik and Sungur (2021) and Sarica et al. (2021) pointed out an inverse relationship between economic growth and unemployment within the framework of Okun's Law but emphasized that this relationship deviates from linearity. Our findings, consistent with this literature, show that while cyclical unemployment responds to economic shocks, the unemployment rate returns to equilibrium when structural breaks are considered. Sinan (2018) highlighted the negative impact of fluctuations in oil prices on unemployment; however, no evidence was provided to suggest that these effects were permanent. Our analysis confirms that external shocks, such as the 2009 global financial crisis, caused temporary increases in unemployment but did not create a lasting deviation in the long term. This suggests that the Turkish labour market demonstrates a certain level of flexibility in response to external shocks.

The impact of economic policies and sectoral dynamics on unemployment also plays an important role in the discussion. Çelikay and Doğankollu (2023) noted that fiscal amnesty programs in Turkey have the potential to reduce uncertainties in the labour market; this is consistent with our finding that no permanent deviation in unemployment was observed after 2012. Türkmen (2023), on the other hand, examined the effects of economic crises on the Turkish tourism sector and highlighted the role of sectoral interactions in unemployment dynamics. While our 2009 break point suggests that the global financial crisis might have impacted unemployment through sensitive sectors like tourism, our conclusion that this effect was not permanent implies that sectoral shocks did not transform the overall labour market in the long term. Additionally, Yıldırım (2021) emphasized the impact of economic growth and financial development on uncertainties, arguing that macroeconomic factors shape unemployment dynamics. In this context, our findings support the idea that economic policies and growth dynamics in Turkey have been effective in preventing the permanent effects of shocks.

When compared to the international literature, Polat's (2020) study on youth unemployment in Greece highlighted the exacerbating effect of uncertainty on unemployment; however, it did not draw a conclusion regarding the persistence of these effects. Our findings, which show that after the 2020 breakpoint (likely due to the COVID-19 pandemic), unemployment rates returned to equilibrium in Turkey, align with Yağış's (2024) view that economic policy uncertainty in G-7 countries could mitigate long-term effects. The flexibility of Turkey's labour market may have played a significant role in maintaining its capacity to return to equilibrium despite economic shocks. Furthermore, Çınar (2016) emphasized the positive interaction between natural resources and economic growth, drawing attention to the indirect effects of macroeconomic variables on unemployment; this suggests that the absence of hysteresis in Turkey could also be explained by structural factors.

In conclusion, this study presents a perspective against some previous findings in the literature (e.g., Güloğlu and İspir, 2011; Saraç, 2014) by demonstrating that the unemployment hysteresis

hypothesis is not valid in Turkey and that economic shocks only have temporary effects. However, it aligns with studies focusing on the growth-employment relationship (Çevik and Sungur, 2021; Karakuş and Atabey, 2021) and political flexibility (Çelikay and Doğankollu, 2023). The findings indicate that Turkey's labour market is resilient to shocks, and economic policies support this resilience. However, future studies could further explore sectoral differences (Türkmen, 2023) and demographic factors (Polat, 2020), shedding light on the heterogeneous structure of unemployment dynamics. Additionally, research that more deeply analyzes the timing and nature of structural breaks could contribute to a better understanding of the limits and potential vulnerabilities of Turkey's labour market flexibility.

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Artificial Intelligence Integration in Learning Management Systems: A Case Study of

Erzincan Binali Yıldırım University

Seda EYGÜ²⁵

Abstract

This study explores the usability of an Artificial Intelligence (AI)-supported Learning Management System (LMS) implemented at Erzincan Binali Yıldırım University (EBYU), the first of its kind in Turkey. The research focuses on how students perceive the system's usability, particularly in relation to demographic factors such as gender, age, and frequency of use. Utilizing the System Usability Scale (SUS), data were collected from 82 undergraduate students who had actively used the AI-enhanced features of the LMS for at least one semester. Findings indicate an above-average usability score ($M = 75.2$), with significant differences observed across gender and age groups. Female and younger students reported higher satisfaction levels, and more frequent use of the system correlated with greater perceived usability. These results suggest that EBYU's AI-supported LMS is both effective and user-friendly. The study highlights the importance of personalized training and technical support to maximize the benefits of AI integration in higher education environments.

Keywords: Artificial Intelligence, Learning Management Systems, Usability, System Usability Scale, Higher Education, Student Perceptions

JEL Codes: I21, I23, O33, C83

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Introduction

The integration of technology in higher education is increasingly attracting attention due to its potential to transform learning processes and provide student-centered educational experiences. Learning Management Systems (LMS) enhance educational efficiency by facilitating processes such as course management, content sharing, and student assessment (Garrison, 2011). In recent years, the integration of artificial intelligence (AI) technologies into LMS has strengthened the effectiveness of these systems by offering innovative features such as automated exam evaluation, personalized content recommendations, and real-time performance analysis (Selwyn, 2016). AI-supported LMS provide adaptable learning opportunities tailored to students' individual needs, reduce faculty workload, and make educational processes more flexible and accessible (Arbaugh, 2000).

In Turkey, higher education institutions are increasingly adopting LMS as part of their digital transformation processes; however, AI integration remains limited. Erzincan Binali Yıldırım University (EBYÜ) has taken a pioneering step in this field with the introduction of Turkey's first AI-supported LMS. The system stands out with features such as automated exam evaluation, personalized content recommendations, student performance analysis, and detailed reporting. These features aim to enrich students' learning experiences and optimize faculty members' pedagogical processes. However, the effectiveness of such innovative systems must be evaluated based on user perceptions and usability levels (Davis, 1989).

In the literature, standardized scales such as the System Usability Scale (SUS) are widely used to assess the usability of LMS (Bangor, Kortum, and Miller, 2008). SUS provides a reliable tool for understanding the impact of technology in education by measuring factors such as ease of use, functionality, and user satisfaction (Sauro and Lewis, 2011). Factors such as user demographics (e.g., gender, age) and frequency of use have a critical impact on system perception (Venkatesh et al., 2003). In this context, examining the usability and student perceptions of EBYÜ's AI-supported LMS is significant for understanding its potential contributions to higher education and establishing a model for other universities in Turkey. This study investigates the economic and pedagogical impacts of educational technologies and is classified under JEL codes I21 (Analysis of Education), I23 (Higher Education), O33 (Technological Change), and C83 (Data Collection and Analysis).

This study takes EBYÜ's AI-supported LMS as a case study and evaluates its usability using the SUS scale. The system perceptions of 82 undergraduate students are analyzed in the context of demographic characteristics such as gender, age, grade level, and frequency of use. The research aims to assess the

system's potential to enhance the efficiency of educational processes, reduce faculty workload, and provide students with flexible learning opportunities. Additionally, it seeks to demonstrate the capacity of the EBYÜ case to serve as a model for the widespread adoption of AI-based educational systems in Turkish higher education institutions.

2. Literature Review

2.1. The Role of Learning Management Systems in Higher Education

Learning Management Systems (LMS) play a significant role in higher education by facilitating processes such as course management, content sharing, and student assessment. Garrison (2011) notes that LMS enhance student-faculty interaction, making learning processes more structured and accessible. These systems, particularly in online and hybrid learning environments, overcome time and space constraints, offering flexible learning opportunities (Arbaugh, 2000). The data analytics and reporting features provided by LMS enable faculty to monitor student progress and optimize curricula. However, the effectiveness of LMS depends on factors such as user-friendly interfaces and alignment with pedagogical needs, which underscores the importance of usability evaluations (Davis, 1989). In Turkey, the use of LMS is increasing, but AI integration remains limited (Akkoyunlu and Soylu, 2008). Recent studies further emphasize that LMS adoption fosters collaborative learning environments and supports institutional goals for digital transformation (Al-Fraihat et al., 2020).

2.2. Integration of Artificial Intelligence into LMS

The integration of artificial intelligence (AI) technologies into LMS is transforming learning processes by offering personalized and adaptive learning experiences. Selwyn (2016) emphasizes that AI enhances the efficiency of teaching processes and reduces faculty workload through features such as automated assessment, content generation, and student performance analysis. For instance, AI-supported systems can provide customized content recommendations tailored to students' learning styles, addressing individual needs (Zawacki-Richter et al., 2019). However, AI integration presents challenges, including technical infrastructure requirements and the need for user training (Bates, 2019). Recent advancements highlight AI's role in predictive analytics, enabling proactive interventions to improve student retention and academic success (Chen et al., 2020). Moreover, AI-driven chatbots and virtual assistants within LMS enhance student engagement by providing real-time support and feedback (Popenici and Kerr, 2017). Therefore, the success of AI-supported LMS must be evaluated based on user perceptions and system usability.

2.3. Usability Evaluation of LMS

Evaluating the usability of Learning Management Systems (LMS) plays a critical role in understanding their capacity to meet the needs of students and faculty. The System Usability Scale (SUS) is a widely used tool in higher education for measuring ease of use, functionality, and user satisfaction (Bangor, Kortum, and Miller, 2008). Sauro and Lewis (2011) state that SUS is a reliable and valid scale for comparing different technological systems, noting that the average SUS score is 68, with scores above 70 classified as indicating “good” usability. In evaluating LMS, SUS is particularly effective in assessing the contribution of intuitive interfaces and low learning curves to student satisfaction (Tullis and Albert, 2008). Recent research suggests that usability evaluations should also consider accessibility features to ensure inclusivity for diverse student populations (Harrati et al., 2016). Additionally, longitudinal usability studies provide insights into how user perceptions evolve with prolonged system interaction (Orfanou et al., 2015).

2.4. Impact of Demographic Factors on Technology Perception

User demographics are a significant factor influencing the perceived usefulness and usability of LMS. Venkatesh et al. (2003), through the development of the Technology Acceptance Model (TAM), demonstrated that gender creates differences in technology use perceptions, with women placing greater emphasis on perceived ease of use. Similarly, age affects technological affinity and adaptation speed, with younger students adapting more quickly to digital learning environments (Prensky, 2001). Additionally, frequency of use emerges as a factor that enhances perceived usefulness; regular use enables users to better understand the system’s features (Davis, 1989). Recent studies indicate that cultural background and prior technological experience also influence LMS acceptance, particularly in diverse educational settings (Tarhini et al., 2017). Furthermore, socioeconomic factors, such as access to reliable internet and devices, can impact students’ interaction with LMS, highlighting the need for equitable technology integration (Czerniewicz and Brown, 2013).

3. Method

This study employed a quantitative research design to evaluate the usability of EBYÜ’s AI-supported LMS. The sample consisted of 82 undergraduate students at EBYÜ (45 female, 37 male). Participants were randomly selected from students who had experienced the system’s AI-supported features (e.g., automated assessment, content generation) for at least one semester. The System Usability Scale (SUS)

was used as the data collection tool, supplemented with demographic questions regarding gender (female/male), age (18-20, 21-23, 24-26, 27+), grade level (1st-4th year), and frequency of system use (<2 hours/week, 2-5 hours/week, 5-10 hours/week, >10 hours/week). The SUS, a 10-item 5-point Likert scale (1: Strongly disagree, 5: Strongly agree), was administered, and scoring followed the standard method (Bangor et al., 2008). Data were collected via an online platform (Google Forms) and analyzed using SPSS 26.0. Mean SUS scores, standard deviations, and t-tests and ANOVA analyses based on demographic variables were calculated.

4. Findings

To evaluate the usability of EBYÜ's AI-supported LMS, the SUS questionnaire was administered to 82 undergraduate students. SUS scores were calculated using the standard method: for odd-numbered items (1, 3, 5, 7, 9), 1 was subtracted from the raw scores; for even-numbered items (2, 4, 6, 8, 10), raw scores were subtracted from 5. Each student's total score was obtained by multiplying the sum of item scores by 2.5, resulting in a 0-100 scale. The average SUS score was calculated as the arithmetic mean of all individual scores.

The sample's average SUS score was 75.2 (SD = 11.8). In the literature, SUS scores above 68 are considered "above-average usability" (Bangor et al., 2008). This result indicates that EBYÜ's AI-supported LMS is perceived by students as a user-friendly and effective learning tool. In particular, features such as automated assessment and personalized learning pathways received positive feedback for facilitating learning processes and providing flexible opportunities.

Table 1 presents the mean scores and standard deviations of SUS items. The items "I think the system is easy to use" (Item 3, M = 4.2, SD = 0.7) and "I think most people would learn to use this system quickly" (Item 7, M = 4.1, SD = 0.8) received the highest scores, indicating that the system has an intuitive interface and a low learning curve. However, the item "I think I would need technical support to use the system" (Item 4, M = 2.7, SD = 1.0) received a lower score, suggesting that some students encountered technical issues or required additional guidance in using AI-supported features.

Table 1. Mean Scores and Standard Deviations of SUS Items for EBYÜ's AI-Supported LMS

Item No	Item Description	Mean (M)	Standard Deviation (SD)
1	I would like to use the system frequently	4.0	0.8

Item No	Item Description	Mean (M)	Standard Deviation (SD)
2	I found the system unnecessarily complex	2.3	0.9
3	I think the system is easy to use	4.2	0.7
4	I think I would need technical support to use the system	2.7	1.0
5	I found the system's functions well-integrated	3.9	0.8
6	I think there is too much inconsistency in the system	2.4	0.9
7	I think most people would learn to use this system quickly	4.1	0.8
8	I found the system very cumbersome to use	2.5	1.0
9	I felt very confident using the system	3.8	0.7
10	I needed to learn a lot of things before I could get going with the system	2.6	0.9

Note: Each item is scored on a scale from 1 (Strongly disagree) to 5 (Strongly agree). Overall SUS score: $M = 75.2$, $SD = 11.8$.

4.1. Demographic Analysis

Analyses based on demographic data revealed significant relationships between SUS scores and variables such as gender and age. Table 2 presents the average SUS scores and statistical test results by demographic groups.

Table 2. Comparison of SUS Scores by Demographic Variables

Variable	Category	n	Mean SUS Score	Standard Deviation	Test Result
Gender	Female	45	78.4	10.5	$t(80) = 2.89$, $p < 0.01$
	Male	37	71.3	12.1	
Age	18–20	30	79.1	9.8	$F(3, 78) = 3.45$, $p < 0.05$
	21–23	35	74.8	11.6	

Variable	Category	n	Mean SUS Score	Standard Deviation	Test Result
Grade Level	24–26	12	71.2	12.9	$F(3, 78) = 0.87, p > 0.05$
	27+	5	69.5	14.2	
	1st Year	25	76.5	11.0	
	2nd Year	20	74.9	12.3	
	3rd Year	22	75.0	11.9	
	4th Year	15	73.8	12.5	
Usage Frequency	< 2 hours	15	69.7	13.4	$F(3, 78) = 4.12, p < 0.01$
	2–5 hours	30	73.5	11.7	
	5–10 hours	25	77.8	10.3	
	> 10 hours	12	80.2	9.5	

Gender: The average SUS score for female students ($M = 78.4$, $SD = 10.5$) is significantly higher than that of male students ($M = 71.3$, $SD = 12.1$) ($t(80) = 2.89$, $p < 0.01$). This may indicate that female students perceive the system's personalized learning and automated assessment features more positively (Venkatesh et al., 2003).

Age: A significant difference was found among age groups ($F(3, 78) = 3.45$, $p < 0.05$). Students aged 18–20 scored higher ($M = 79.1$, $SD = 9.8$), particularly compared to those aged 27 and above ($M = 69.5$, $SD = 14.2$). This suggests that younger students are more inclined toward AI-supported technologies and derive greater satisfaction from the system's intuitive interface.

Grade Level: No significant relationship was found between grade level and SUS scores ($F(3, 78) = 0.87$, $p > 0.05$). This indicates that the system is equally accessible and effective for students with varying levels of academic experience, supporting the flexibility advantage highlighted in the study's summary.

Usage Frequency: A significant relationship was identified between system usage frequency and SUS scores ($F(3, 78) = 4.12$, $p < 0.01$). Students using the system more than 10 hours per week scored higher ($M = 80.2$, $SD = 9.5$) compared to those using it less than 2 hours per week ($M = 69.7$, $SD = 13.4$). This suggests that regular use enhances the perceived benefits of the AI-supported features.

5. Discussion

This study analyzed the results of the SUS survey administered to 82 undergraduate students to evaluate the usability of EBYÜ's AI-supported LMS. The findings reveal an average SUS score of 75.2 (SD = 11.8), surpassing the literature's threshold of 68 for "above-average usability" (Bangor et al., 2008). This indicates that the system is perceived by students as a user-friendly and effective learning tool. Specifically, features such as course management, automated assessment, and personalized learning pathways align with the study's summary claims of enhancing educational processes and providing flexible learning opportunities.

The SUS score of 75.2 is consistent with literature examining the contribution of technology integration in higher education to student satisfaction. Sauro and Lewis (2011), analyzing over 5,000 SUS responses, reported an average score of 68, with a score of 74 corresponding to the 70th percentile. EBYÜ's LMS score of 75.2 can be classified as "good," supporting its potential as an effective learning tool in higher education. The system's strengths, such as ease of use (Item 3, M = 4.2) and low learning curve (Item 7, M = 4.1), align with studies showing that AI-supported LMS with intuitive interfaces facilitate learning processes (Arbaugh, 2000; Garrison, 2011).

Demographic analyses revealed that female students (M = 78.4) gave significantly higher SUS scores than male students (M = 71.3) ($p < 0.01$). This finding is consistent with the Technology Acceptance Model (TAM) by Venkatesh et al. (2003), which posits that women's perception of ease of use positively influences technology acceptance. Features like personalized learning pathways and automated assessment in EBYÜ's LMS may have reinforced female students' positive perceptions. Similarly, higher SUS scores among students aged 18–20 (M = 79.1, $p < 0.05$) align with literature indicating that younger generations are more adept at using AI technologies and adapt quickly to digital learning environments (Prensky, 2001).

The positive correlation between system usage frequency and SUS scores ($p < 0.01$) is noteworthy, with students using the system more than 10 hours per week giving the highest scores (M = 80.2). This supports Davis's (1989) hypothesis that perceived usefulness increases with usage frequency. The flexible and adaptive learning opportunities provided by EBYÜ's LMS enhance student satisfaction with regular use, reinforcing the efficiency claim in the study's summary.

The low score on the item "I think I would need technical support to use the system" (Item 4, M = 2.7) indicates that some students faced difficulties with AI-supported features or that the system's technical

infrastructure requires improvement. This finding aligns with literature noting that AI integration can introduce technical complexity and necessitate user training (Selwyn, 2016). It underscores the need for long-term research, as suggested in the summary, focusing on user training and technical infrastructure optimization.

6. Study Limitations

While this study provides valuable insights into the evaluation of EBYÜ's AI-supported LMS, it has some limitations. First, the sample consists of only 82 students and includes only undergraduates, which may limit the generalizability of the results. Second, while the SUS scale measures general usability perceptions, additional scales were not used to evaluate the specific impacts of AI-supported features (e.g., automated assessment, content generation). Third, although demographic analyses showed significant relationships with gender and age, other potential factors (e.g., technological experience, academic performance) were not examined. Finally, the study focuses solely on EBYÜ's LMS, without comparative analysis with LMS at other Turkish universities, which may limit the generalizability of its potential as a model.

7. Conclusion

This study demonstrates that EBYÜ's AI-supported LMS is an effective learning tool in higher education, enhancing educational processes and providing flexible learning opportunities. The average SUS score of 75.2 indicates that the system is user-friendly and exceeds the "good" usability threshold in the literature (Sauro and Lewis, 2011). Higher satisfaction levels among female and younger students suggest that the system appeals to diverse demographic groups, while the positive correlation between usage frequency and satisfaction confirms the effectiveness of AI-supported features with regular use. However, some students' need for technical support highlights the importance of user training and technical infrastructure improvements for widespread adoption.

EBYÜ's AI-supported LMS has the potential to serve as a model for other universities in Turkey (Akkoyunlu and Soylu, 2008) and supports the study's summary claim regarding the potential of AI-based educational systems to improve the quality of teaching processes. Future research should conduct longitudinal studies to assess the long-term impacts of AI-supported LMS, use pedagogical scales to measure the effects of specific AI features (e.g., automated assessment, content generation) on learning outcomes, and analyze perceptions of different groups, such as graduate students. Additionally, user-centered design approaches and training programs should be developed to reduce the need for technical

support. These findings indicate that AI can play a transformative role in higher education and that the EBYÜ example represents a pioneering step in this field.

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A Potential Risk Factor In Birth Stress And Fear: Obstetric Violence

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Abstract

Objective: This study aimed to determine the effects of obstetric violence on birth stress and fear experienced by women in labor.

Methods: The literature search was conducted by examining Google Scholar, Cochrane, Pubmed, Web of Science, Science Direct, Medline databases. Studies conducted between 2015-2024 were included in the study. The keywords in Turkish were determined as “obstetric violence”, “birth”, “fear of birth”, “midwifery” and “stress”. In English; “obstetric violence”, “birth”, “delivery”, “labor”, “fear of birth”, “midwifery” and “stress”.

Results: Women who do not receive respectful care during childbirth may be more vulnerable to negative encounters within the health system. Such negative encounters can lead to a lack of trust in healthcare professionals, stress and fear of childbirth, and may lead women to avoid medical intervention altogether or avoid becoming pregnant. It has been concluded that women with reduced fear of childbirth have decreased labor pain, birth complications, labor duration, traumatic stress disorder, cesarean section rate, neonatal complications, postpartum psychological problems, strengthened mother-baby relationship and breastfeeding is positively affected.

Conclusion and Recommendations: This review showed that there can be serious consequences for women who experience obstetric violence, including fear of giving birth in the future, post-traumatic stress disorder (PTSD), anxiety and depression. The experience of traumatic birth may lead women to choose elective caesarean section (CS) for future births, potentially contributing to the high rate of CS worldwide. This topic can be included in training to prevent obstetric violence and improve the relationship between women and health professionals. Additionally, studies can be conducted to strengthen the counseling and communication skills of health professionals. It is thought that conducting various studies on the causes of obstetric violence and its role in fear of birth can guide the development of various application policies to prevent obstetric violence.

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Keywords: Obstetric violence, birth, fear of birth, midwifery, stress

INTRODUCTION

Labor is critical for the health of the mother and baby. Respectful and quality care during this period will reduce maternal and infant mortality and morbidity rates. (Işık & Nazik, 2023). One of the major targets of the Sustainable Development Goals (SDGs) is to reduce the maternal mortality ratio to 70 per 100,000 live births by 2030. Major improvements in the quality of maternity care are needed to increase life expectancy and reduce some of the killer factors associated with infant and maternal mortality. (Goli et al., 2019). Quality care includes disrespectful and abusive treatment, patient blaming, intentional neglect, verbal or physical abuse, disrespect for traditional beliefs, and failure to use local languages in patient communication. (Da Silva et al., 2017 and Savage & Castro, 2017). The World Health Organization (WHO) calls for respectful maternity care, encouraging individualization of care and empowerment of women so that they can experience birth positively and fulfill their expectations and beliefs. (WHO, 2018). However, no health service is provided in line with this call. It is known that many women are exposed to many negative actions during pregnancy, childbirth and postpartum periods, such as routine procedures without consent, lack of respect, implementation of non-recommended clinical practices during childbirth, physical abuse, insults, discrimination, violation of privacy, and inadequate care. (Martinez et al., 2021; Gökçek et al., 2023). This neglect and abuse is defined as “obstetric violence” (Kilci et al, 2020).

One of the most common forms of obstetric violence is the use of non-consensual and unnecessary medical interventions and procedures on women during pregnancy and childbirth. (Yılmaz et al., 2023). These procedures include physical or verbal abuse, discrimination, vaginal examinations without the woman's consent, lack of privacy, lack of supportive care, lack of knowledge about different practices used during care, the crystal maneuver, continuous electronic fetal monitoring, women not eating for long periods of time, inappropriate pain management, lack of skin-to-skin contact, prevention of breastfeeding, and neglect. Although birth is a physiological process, these practices can cause fear and anxiety in women about birth. (Sezen & Ünsalver, 2018). Women who have had previous pregnancy experience may develop fear of childbirth after a traumatic obstetric event in their previous birth. Women who have fear of childbirth may experience fears such as themselves or their babies being harmed or dying during childbirth, losing control during childbirth, and taking actions that will prevent birth. Some women may experience fear of vaginal examination, fear of episiotomy, fear of vacuum application during birth, and fear of not receiving support or being scolded by the healthcare professional present during birth. They also experience fear and stress about the disruption of their sexual life due to vaginal cuts and tears that may occur during birth (Gökçek, 2022).

It has been observed that not seeing women as individuals, excluding them from practices and decisions regarding their own bodies, and not providing information have physical and psychological consequences. Fear of childbirth is one of the psychological consequences that negatively affects both the pregnancy and birth process of the woman (Gökçek, 2022). Women in labor have experienced negative outcomes such as mood disorders, personality changes, birth trauma, postpartum stress disorder (PTSD), disruption of bonding with the newborn, negative effects on family dynamics, disruption of sexuality and sexual function, and delayed breastfeeding following obstetric violence. In addition, these inhumane treatments, violence and abuse can cause women to lose their power to have a say and make decisions over their bodies, leading to loss of autonomy, anxiety, fear of childbirth and stress. (Demir & Yılmaz., 2024). In the study conducted by Avcı and Kaydırak (2023), women stated that they felt stress, anxiety, sadness, helplessness, anger and fear due to the types of obstetric violence they were exposed to and that they did not consider having children again, even though they had previously wanted to. Another study stated that women may choose to give birth at home despite knowing that it is dangerous due to this fear. (Kane et al., 2018).

Obstetric Violence

In the context of violence in health institutions, and particularly violence against women during labor, the term obstetric violence emerged in Latin America and Spain in the 2000s, in an effort to recover women's autonomy in the birthing process through activist movements for the humanization of childbirth. Venezuela was the pioneer country in the creation and legal definition of the term in 2007. This definition considers obstetric violence as any behavior, action or omission that directly or indirectly triggered by a team of health professionals in a public or private context, dominates the woman's body and reproductive processes, manifested by inhuman assistance, abuse of medical intervention and pathogenesis of reproductive physiological processes, leading to the loss of the woman's autonomy and capacity to make free decisions, negatively affecting her quality of life and well-being (Ferrao et al., 2022).

Many women are subjected to neglect and abuse in health institutions during pregnancy, birth and postpartum periods. This neglect and abuse is defined as “obstetric violence” (Silva-Fernandez et al., 2023). Obstetric violence consists of acts, neglect and disrespectful behaviors that cause physical and/or psychological harm to women during care in health services. This terminology is proposed to describe any act of violence against a pregnant woman, a woman in labor or in postpartum, or her baby, committed during professional assistance and that amounts to a lack of respect for their autonomy, physical and mental integrity, feelings, options and preferences (Lansky et al., 2019). Obstetric violence, which is a barrier to quality maternal and newborn health, includes physical, sexual, and verbal abuse; non-consensual care, such as episiotomy, cesarean section, and augmentation of labor without the woman's consent; degrading care, such as humiliation; non-confidential care, such as rooming with other women

during pregnancy and birth; discrimination based on specific patient characteristics; abandonment of care; detention in facilities; and failure to meet professional standards of care (Olajide & Duma, 2024).

The World Health Organization has declared that all women have the right to receive dignified, respectful health care throughout pregnancy and childbirth, and to be free from violence and discrimination (WHO, 2014). However, studies have reported that women are exposed to various forms of physical violence during childbirth, such as hitting, pinching, fundal pressure, unnecessary episiotomies, frequent vaginal examinations, verbal violence (e.g. shouting, insults), and mistreatment/mistreatment by health professionals (e.g. lack of confidentiality, disrespect for women's self-respect and dignity, neglect, discrimination, disregard for health preferences, and performing medical interventions without sufficient information and consent) (Avcı & Kaydırak, 2023).

Obstetric violence includes both direct violence (physical, verbal and sexual abuse), emotional forms of violence (inhumanity, disrespect, undignified care) and structural violence (stigma, discrimination and system deficiencies). Obstetric violence can be psychological, such as the denial of a partner's presence during birth, humiliation or invasion of privacy. Obstetric violence can be verbal, such as a health professional shouting at a pregnant woman, or scolding or threatening her. Obstetric violence can be physical, such as performing procedures on a woman without her informed consent or using coercive language to obtain her consent. Obstetric violence can also mean lack of access to analgesia when needed (Kilci et al, 2020).

Prevalence Of Obstetric Violence

Obstetric violence has a prevalence of 15-97% worldwide. In a systematic review covering the years 2015-2020, it was determined that 17.3% of women in the USA, 20% in Kenya, 23.6% in Mexico, 28% in Mozambique, 30% in Guinea, 34% in Ghana, 44% in Nigeria, 58% in Malawi, 70% in Tanzania and 78.6% in Ethiopia were exposed to obstetric violence during birth (Shetty et al., 2021). In a study conducted in Mexico, 33.3% of women who gave birth in the last five years reported being exposed to obstetric violence (Perara et al., 2018). In another study conducted in Spain, two out of every three women reported experiencing similar violence during childbirth (Cecilia et al., 2019).

Types Of Obstetric Violence

As a result of their research, Browser and Hill defined obstetric violence during pregnancy and birth in 7 different categories: physical violence, care without consent, care without respect for privacy, undignified care, discriminatory care, neglectful care and detention in a health center (Bowser & Hill, 2010).

Physical Violence

Behaviors such as beating, threatening, harassing, beating during childbirth, slapping, pinching, applying

excessive physical force to the abdomen to try to get the baby out, and performing unnecessary episiotomy are considered physical abuse (Bowser & Hill, 2010). Brezilya'daki obstetrik şiddeti ele alan Pelotas (RS) Doğum Kohortu (2015), The Pelotas (RS) Birth Cohort addressing obstetric violence in Brazil is a population-based study that collected information from 4275 women on obstetric violence three months after birth. It showed that 10% of them were subjected to verbal abuse, 5% to physical abuse, 6% to inappropriate or unwanted procedures and 6% to being denied some form of care. In total, 18.3% of women reported experiencing some form of maltreatment during their last birth (Mesenburg et al., 2018).

Care Without Consent

The procedures and care to be performed are carried out without the woman's knowledge and consent. (Kilci et al., 2020). In the Born in Brazil study, a national study of 23,940 postpartum women, more than half of the women reported having an episiotomy, 91.7% giving birth in the lithotomy position, 40% receiving oxytocin and artificial rupture of the amniotic membrane to hasten labor, and 37% receiving the Kristeller maneuver (pressure on the uterus to expel the baby), an aggressive procedure that has harmful consequences for the women in labor and their babies. (Leal et al., 2014). In a qualitative study, it was reported that episiotomy was performed without informing the woman and without anesthesia, and the Kristeller maneuver was also performed without informing her, causing severe pain (Lansky et al., 2019). A study in Ethiopia found that the most commonly experienced form of maltreatment was non-consensual care (66%) (Molla et al., 2022).

Care Without Privacy

It includes the public presentation of women's information and the lack or incomplete confidentiality regarding sensitive issues (patient information such as HIV status, age, marital status, medical history, etc.) (Kilci ve ark., 2020). In the study conducted by Yalley and his colleagues on 713 people in Ghana, the lack of privacy was found to be 35.8% (Yalley, 2023).

Dishonorable Care

It includes humiliation, blaming, rudeness, scolding, shouting, informing and negative behaviors related to care (Gray et al., 2019). In a study conducted by Yalley and colleagues in Ghana among 713 people, undignified care was reported as 28.5% (Yalley, 2023).

Discriminatory Care

It includes discriminatory behaviors that women are exposed to based on their race, ethnicity, age, language, HIV/AIDS status, religious beliefs, economic status and level of education (Bowser & Hill, 2010). Valdez et al reported that 5.4% of women perceived discrimination because of their language (Valdez et al., 2023). Alnemari et al reported that 3.6% of women experienced racism and discrimination (Alnemari et al., 2020).

Neglected Maintenance

It is defined as leaving the woman alone during labor and not intervening in life-threatening situations (Gray et al, 2019).

Detention At Health Center

Not discharging women who have given birth and their babies due to failure to pay in health institutions and threatening to take the baby away from the family and take it to social services are also indicators of obstetric violence (Savege & Castro, 2017).

Causes Of Obstetric Violence

Social Gender Inequality

Gender equality is defined as equality among different groups of women and men of all ages and characteristics, regardless of sexual orientation or identity, and the equal benefit from social opportunities, resources, rewards and rights. The most important area where gender discrimination is seen in women's health is reproductive health services (Eryılmaz, 2020). Shabot and Korem argued that the disrespectful and abusive treatment of women by health professionals through shame and gaslighting in sexual and reproductive health services is an indicator of gender inequality (Karabulut & Unutkan, 2024). Gender inequality fundamentally undermines women's rights, and failure to address unacceptable violence during childbirth fuels the right to continue to use violence against women (Annborn & Finnbogadóttir, 2022).

Women's Lack of Knowledge/Recognition of Obstetric Actions

The value given to women in society is related to the perception of respect and disrespect she receives from others during the act of giving birth. Abuse and treatment at birth have become commonplace in many countries and are accepted as a part of birth (Karabulut & Unutkan, 2024). In their study in which they conducted focus group interviews with 57 women, Flores et al. stated that women were inadequate in describing their negative experiences in the birth environment because they did not have sufficient information about obstetric violence (Flores et al., 2019).

Organizational Problems

The care of pregnant women and the care process during labor and delivery should be guided by quality and humanitarian principles, and the duty of health services and health professionals is to welcome women and newborns with dignity, focusing on the rights of the individual (Katz et al., 2020). The knowledge, position and resources of healthcare personnel place them in an automatic position of superiority over the individuals they care for (Annborn & Finnbogadóttir, 2022). Obstetric violence is exacerbated by the structural violence experienced by obstetricians in the form of frequent exposure to long working hours, understaffing, heavy workloads and inadequate equipment, which ultimately leads to the frustration and exhaustion that affects women (Collins et al., 2024).

Consequences Of Obstetric Violence

The impact of birth violence on health care utilization is concerning because the quality of care affects

women's birth experience and society's culture around childbirth, and may compromise the reliability of maternity care services (Lansky et al., 2019). For women who experience obstetric violence, there can be serious consequences, including fear of giving birth in the future, post-traumatic stress disorder (PTSD), anxiety and depression. (Fraser et al, 2025). In addition, negative outcomes such as mood disorders, personality changes, birth trauma, disruption of bonding with the newborn, delay in breastfeeding, negative effects on family dynamics, deterioration in sexuality and sexual function, delay in seeking/applying to health professionals and health institutions, rejection of the baby, and not wanting another child have also been observed (Karabulut & Unutkan, 2024).

Fear of Birth

Every woman is faced with the social expectation that motherhood is, by default, her destiny and her primary source of success and happiness. The satisfaction of childbearing women with their birth experience is a multifaceted and multidimensional phenomenon (Annborn & Finnbogadóttir, 2022). However, women who are subjected to obstetric violence have negative birth experiences as a result of the use of non-consensual and unnecessary medical interventions and procedures during birth. Adverse birth experiences have been associated with birth complications such as anal sphincter injury, cesarean section, postpartum hemorrhage and maternal infections, postpartum mood disorders, personality changes, birth trauma and postpartum stress disorder (PTSD), disruption of bonding with the newborn, negative effects on family relationships, disruption of sexual function, and not wanting another child. A systematic review revealed that prolonged labor, use of epidural anesthesia, and obstetric complications were variables associated with the need for postpartum psychiatric care, such as anxiety and depression (PTSD). Fear of childbirth, which occurs as a result of a negative birth experience, has been reported to be associated with obstetric violence (Annborn & Finnbogadóttir, 2022). Consequences of obstetric violence include trauma, post-traumatic stress disorder (PTSD), tokophobia (fear of childbirth), and postpartum depression (Waal & Mayra, 2023).

Fear of childbirth has been defined as a spectrum of fear, anxiety, or worry about impending birth. Contributing factors associated with fear of childbirth often include a woman's mental health history, anxiety symptoms, and previous experiences of trauma and obstetric violence. Women with fear of childbirth often report having had previous negative birth experiences or dissatisfaction with care during childbirth (Larsson et al., 2023). Studies in India have found that obstetric violence during childbirth leads to a fear of childbirth that can cause women to deter from seeking care even if complications arise. This situation causes women to avoid giving birth in a health facility during complications, jeopardizing progress towards reducing maternal mortality rates (Shrivastava & Sivakami, 2020).

Fear of pregnancy and childbirth is a very common source of stress in women. There may be more than

one factor that causes fear of birth. Factors that generally cause fear of childbirth are; disturbance in neurohormonal homeostasis, negative birth experiences heard from women who have had traumatic births, fears related to medical care (ineffective pain control, fear of losing control or death, and lack of trust in the care team), psychosocial factors (adolescent pregnancy, low level of education, and social disadvantage), and psychological factors (respect, decreased pain sensitivity, traumatic childhood memories or psychiatric disorders, commonly depression or anxiety) (Gökçek, 2022). In addition, the idea that interventional birth, perineal damage, the baby suffering a birth-related disability, and the episiotomy performed during birth or lacerations that develop will negatively affect sexual life cause anxiety in women about childbirth (Çolak, 2020; Gökçek, 2022). It is known that women who have fear of childbirth prefer cesarean delivery. In addition, the increase in cesarean section rates is directly proportional to the fear of childbirth (Gökçek, 2022).

Stress at Birth

Obstetric violence causes stress in women. Obstetric violence appears to cause increased stress levels and mental health problems in women. The relationship between obstetric violence and stress is an important issue that profoundly impacts women's birth experiences and mental health. Therefore, healthcare providers adopting a more humane and respectful approach to women during the birth process can help prevent obstetric violence and protect women's mental health. (Lafaurie et al., 2015; Jamali et al., 2017).

Obstetric violence can have negative psychological consequences for women. Chadwick et al. (2014) found in their study that not having a companion at birth caused women to feel anxious, fearful, worthless and unimportant. In addition, it is stated in the literature that restricting women's movements during labor makes pain management difficult and, accordingly, causes an increase in the need for analgesic administration, prolongation of labor, and an increase in interventional births/cesareans (Brandao et al., 2018).

The birth process is of critical importance for the woman and the baby. Respectful and quality care during this period will reduce maternal and infant mortality and morbidity rates. However, during childbirth, many women may experience trauma that will change their reproductive health and lives as a result of the pressure, insecurity, and extreme fear and stress they feel about their individual and reproductive rights (Diaz, 2016).

Mothers who have had a traumatic birth experience describe birth as a moment of fear, helplessness and terror, with symptoms such as nightmares, flashbacks, irritability and feelings of guilt, rather than excitement and happiness. (Bingöl et al., 2022). It is extremely important to be able to diagnose risk factors in labor and to provide the necessary midwifery care in the early period so that labor, which is a normal, healthy physiological process, is not affected by some negative factors and becomes traumatic by deviating from normality. Health professionals should relieve the woman's anxiety and teach her coping

strategies. They should explain the birth process to the woman and support her participation in decisions about her own birth. In this way, the woman will experience a positive birth instead of a traumatic one (Mucuk & Özkan, 2021).

Conclusion and Recommendations

Women have fears and anxieties about pregnancy and birth. These fears and anxieties are related to the inability to communicate effectively with health professionals, their wishes not being taken into account, and feeling like an object (Ladeira & Borges, 2022). Midwives, nurses and doctors can directly affect the comfort and course of this important process.. Compassionate midwifery care is needed to prevent obstetric violence and improve the relationship between women and health professionals. However, working conditions, health system, insufficient financial resources, hospital hierarchy and other negativities prevent women from receiving quality midwifery care (Karabulut & Açıkdeniz, 2024). It is stated that women who do not receive adequate care experience fear and stress during birth, which causes the birth to be prolonged and the rate of interventional birth/cesarean section to increase. (Brandao et al, 2018). Midwifery education, working conditions, authority and responsibilities of midwives need to be emphasized more for positive birth action. (Karabulut & Açıkdeniz, 2024). Health professionals should take part in the process of creating policies, plan/conduct education and research activities, and develop quality communication skills. (Aktaş & Pasinoğlu, 2021).

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Effects Of Gender Roles On Women's Health In Gynecological Cancers

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Abstract

Purpose: The review was written to examine the effects of gender roles on gynecological cancers and to raise awareness.

Method: This study was carried out by examining and compiling the existing literature. The literature research was conducted by examining Pubmed, Google Scholar, Science Direct, Web Of Science and Cochrane databases. The keywords "gynecological cancer", "gender", "gender roles" and "women's health" were used in the searches. All studies published on the subject until February 2025 were examined.

Findings: Gender roles may lead women to risky behaviors that pave the way for the development of gynecological cancer. While fulfilling their gender roles (motherhood, housework, etc.), women may put their gynecological health on the back burner. This situation may delay women's participation in gynecological cancer screening processes. Additionally, studies show that women prioritize gender roles in their lives even during gynecological cancer treatment. The responsibilities imposed on women by gender roles can negatively affect women's reproductive and sexual health and quality of life during cancer processes.

Conclusion: The effects of gender roles on gynecological cancers should not be ignored in healthcare delivery. Especially in patriarchal societies, service provision and health care investments in gynecological cancers should be planned in the context of women's gender roles. Necessary training should be provided for this purpose and women should be empowered. While providing care, midwives must continue to care for women by considering their cultural structures.

Keywords: Gender, gynecological cancers, gender roles, women's health

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1. Introduction

Gynecological cancers are malignant tumors of the endometrium, cervix, ovary, vulva, vagina and fallopian tube (Srivastava et al., 2017). When GLOBOCAN 2020 data is examined, 1,398,601 new gynecological cancer cases were detected globally. Cervical cancer is the most common with a rate of 13.3 per hundred thousand people. This rate is followed by endometrial cancer with a rate of 8.7, ovarian cancer with a rate of 6.6, vulva cancer with a rate of 0.9 and vaginal cancer with a rate of 0.4 (GLOBACAN, 2020). In Turkey, the rate of female reproductive organ cancers is 23.8 per hundred thousand people; 11.1 endometrial, 6.5 ovarian, 4.2 cervical, 0.5 vulvar and 0.1 vaginal cancers were reported, respectively. (Ministry of Health, 2018). Gynecological cancers are among the leading causes of morbidity and mortality in women. Cancer health inequalities largely reflect social inequalities between and within countries (Who 2020). Much has been done to transform health research, policies and practices in the last decade; different conceptual models and analytical frameworks have been presented to reveal, examine and address gender inequalities and related disparities in health (Ginsburg, et al., 2023). Discriminatory practices that have been neglected for a long time and that weaken women's interaction with the health system have emerged. However, cancer is still not sufficiently represented on the global women's health agenda (Langer et al., 2015, Starrs et al., 2018). Although significant progress has been made in the detection and treatment of gynecological cancers, the psychological and social effects of this cancer and its treatments continue to be a significant source of concern (Sun et al., 2022). Again, the long and costly process of cancer treatment, the need for long hospital stays, the drugs used and their side effects, and the spread or recurrence of the disease can bring about physiological, economic and psychosocial problems related to the disease (Çakır and Nazik, 2022). Gender roles are the characteristics, expectations and behaviors attributed to women and men, and are an expression that defines femininity and masculinity (Seçgin, F., 2012). In addition to shaping the lives of women and men, it affects women's lives more. It is seen that as humans, we have played many social roles that have been determined as norms by societies from past to present. While it is thought that a man should always be the breadwinner of his family, although there are differences between countries, the traditional role of women is limited to family, children and home. Women are expected to assume gender roles as mothers and wives before professional success and career (Sökmen, R., 2022). Women play a central role in family life, often taking on roles such as managing daily tasks, feeding children, and caring for family members (Lowdermilk, D., & Germino, B. B. (2000). Gender conventions are often internalized from early childhood and develop into self-concepts throughout adolescence and adulthood (Steffens & Viladot, 2015). Therefore, over time, women internalize these roles that society imposes on them.

Gender roles affect women's health in many ways in gynecological cancers. Depending on gender

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norms, women are expected to prioritize the health of their families before their own health (Pearse, R., & Connell, R. 2016). In this case, women may be late for early diagnosis, screening, and treatment. When they cannot benefit from reproductive health services sufficiently, they may develop cervical cancer as a result of HPV (Eryilmaz, S., 2020, Aref-Adib, M., & Freeman-Wang, T. 2016). In order to achieve the beauty that gender norms impose on women, women may develop various types of gynecological cancer as a result of using unhealthy products (Korkmaz, A., & Batur, M., 2024, Farooq et al., 2024, Chang, et al., 2022). Treatment processes can affect women's health by causing conflict in gender roles due to their effects on women's fertility, sexual function and quality of life (Lopez et al., 2019, Hosseini et al., 2022, Sekse, et al., 2019, Yarandi, et al., 2021, Uceda-Escobar, et al., 2023).

The purpose of this review is to raise awareness on the dimensions of gender roles in gynecological cancers. At the same time, it is aimed to shed light on research that will develop new solutions for protecting and improving women's health by drawing attention to the effects of gender roles in gynecological cancers.

2. The Effects of Gender Roles on Women's Health in Gynecological Cancers

2.1. The Effects of Gender Roles on the Development of Gynecological Cancers

From the past to the present, physical beauty has been one of women's gender roles. Throughout history, a beauty framework has always been drawn for women. For example, the Heian Period tradition confined women to certain patterns according to the ideal type in the eyes of the men of that period. According to this tradition, the smaller the face, lips, eyes and feet of a woman and the more slanted her eyes are; the whiter her skin, the fuller her cheeks, the blacker, brighter and longer her hair, the more beautiful the woman is. Some women even wore hair extensions to make their hair look longer than it is; painted their faces with a mixture of mercury, chloride and white chalk to make them look whiter; and married women painted only the front part of their lips with red paint to make them look smaller (Arslan, E., 2018). After 1960, half-open and full lips and full breasts became the new indicators of being sexy (Çetgin, F., 2022). Today, how a woman should look, what she should wear, and what measurements she should have are among the tasks assigned to women within the scope of social gender roles. This beauty framework assigned to women is imposed on women through many mass media, directing women to various practices that will affect their health. Social roles and realities are internalized by individuals over the years. A person continues their life under the influence of social roles and realities from the moment they are born until they die. Due to this acceptance, the realities created by society are generally accepted without question. They are also considered to have an unchangeable feature. All individuals, whether women or men, are forced to accept the roles assigned to them by society in order to be valued or approved within society (Baherirad, S., 2016). Women can also become exploited by the marketing sector of cosmetic products or women's products containing various chemicals in order to reach these beauty

patterns assigned to them due to their social gender roles (Korkmaz, A., & Batur, M., 2024).

These chemical products cause many health problems in women, including gynecological cancers. It has been reported in the literature that hair products generally contain chemicals such as para-phenylenediamine (PPD) and endocrine disrupting chemicals (EDCs) (Farooq et al., 2024). These chemicals have negative effects such as hormonal disorders and carcinogenicity. Indeed, in a systematic review including 17 English studies, associations were observed between the use of hair straighteners or hair dyes and breast and ovarian cancer (Farooq et al., 2024). Similarly, in the 2022 study by Chang et al., a strong association was reported between the risk of uterine cancer and the use of hair straighteners (Chang, et al., 2022). Again, in a large-scale prospective cohort study, an association was reported between the regular use of hair straightening products by consumers and endometrial cancer (Fondation Ophthalmologique Adolphe de Rothschild., 2021). In addition, chemicals such as BFA and paraben can cause early puberty. In the literature, parabens have been associated with earlier onset of puberty in girls during the peripubertal period (Harley et al., 2019). Again, in a case-control study conducted in Shanghai, China between 2011-2012 with 136 girls (6-9 years old) diagnosed with early puberty and a control group of 136 people of the same age, urinary BFA concentrations of all participants were measured and their relationship with the possibility of early puberty was examined. The study showed that BFA exposure was associated with an increased probability of early puberty in school-aged girls (Chen, Y., 2018). In the literature, early puberty is among the risk factors for endometrial (Öngen, M., & Başar, F., 2023) and ovarian cancer (Momenimovahed et al., 2019). Therefore, the use of these chemicals at an early age may pave the way for the development of gynecological cancer. The American Cancer Society emphasizes that cosmetics, etc. products are tested for immediate effects such as skin or eye irritation and allergic reactions, but "it is not completely clear whether cosmetics or specific ingredients in them cause milder or long-term health problems. Because little is known about the long-term results of these products and the health effects of their long-term use (Kaushik, M., 2023).

One of the important problems brought about by gender roles for women is the inadequacy of reproductive health services (Eryılmaz, S., 2020). Inadequate use of reproductive health services increases the risk of STIs (HPV, HIV, etc.) in women. The formation of cervical cancer, one of the types of gynecological cancer, is also associated with the presence of human papillomavirus (HPV) (Aref-Adib, M., & Freeman-Wang, T. 2016). Within the gender role structure, one of the important duties of women towards their husbands is to meet the sexual needs of men. Due to gender roles, women should prioritize their perceived duties towards their husbands rather than their own rights (Ma'rifah, et al., 2024). For this reason, cervical cancer can occur in women due to HPV infection as a result of unprotected sexual intercourse. It is reported in the literature that human papillomavirus is the most common sexually transmitted disease and that most (99.7%) cervical cancers are associated with HPV (Singh, et al., 2011).

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There have been various studies in the literature on the effects of women's cosmetic products and STIs on the development of gynecological cancer. However, these issues have not been examined in the context of women's gender roles. There is a need for qualified research to examine the effects of gender norm pressure or these internalized roles on women's cosmetic product preferences and STI protection behaviors.

2.2. The Effect of Gender Roles on Diagnosis and Screening Processes in Gynecological Cancers

One of the obstacles that prevent women from having gynecological cancer screenings or starting early treatment when symptoms of the disease appear is gender roles. Depending on gender norms, women are expected to prioritize the health of their families before their own health (Pearse, R., & Connell, R. 2016). Because in this structure, roles such as housework and childcare are more prioritized for women. When a woman realizes the need to seek care, gender roles determine the decision to seek care, where and when to seek care. In gender norms, women are expected to meet and prioritize the needs of their families at the expense of their own health. This situation causes women to postpone seeking health care for themselves (Pearse, R., & Connell, R. 2016, Akuoko, et al., 2017, Kim, S. J., 2018).

The structure of society has a significant impact on determining gender roles. For example, in conservative societies, women from low-income households may not have financial autonomy. This is because gender roles also affect individuals' financial resources, time availability, and mobility (Sen, G., & Iyer, A. 2012). In the literature, low socioeconomic status and lack of health insurance have been associated with lower rates of participation in cancer screenings and lower overall access to cancer care. These situations have also been associated with longer periods of time for women to receive medical care (Nnaji, et al., 2022). These women often have to rely on men to cover transportation and medical care expenses. Again, in these societies, when a woman needs to see a doctor, the husband's approval is usually required. If the doctor is a man and the examination requires the woman to show private parts of her body, this consent is usually not given (McCutchan, et al., 2022, Dodo, et al., 2016, Ikhile, et al., 2022, Unger-Saldaña, et al., 2020, Ginsburg, et al., 2023). This situation can be related to the fact that women are not given the right to speak due to gender roles in societies with patriarchal mentality. Patriarchal ideas about women and their complaints are often accepted by medical personnel with this mentality. This situation manifests itself in the widespread mistreatment, disrespect, neglect and abuse of female patients (Heise, et al., 2019)

There are many studies examining the barriers to women's access to gynecological cancer screening (Öztürk, Y. 2020, Şen, M. A., & Ak, E. Y. 2024, Aydın, M., & Avcı, İ. A. 2023, Yaşar, et al., 2024), Farajimakin, O. 2024). Common barriers across studies include lack of knowledge and awareness, cultural and religious factors, economic barriers such as cost and lack of insurance, access problems related to transportation and distance to health facilities, fear and shame. The inequalities that gender

roles create for women cause these barriers. It has been reported in the literature that a deep sense of shyness rooted in patriarchal culture and male dominance plays an important role in limiting women's motivation to participate in screening (Fulane, et al., 2024). Studies show the important roles that gender roles play in directly and indirectly affecting women's health attitudes and behaviors in cancer screening. (Nguyen et al., 2014).

There are limited studies in the literature examining the effects of gender roles on gynecological cancer screening and diagnosis processes. In general, studies have been conducted examining external factors such as male suppression, socioeconomic status, and transportation inequalities. However, no study has been found examining the effects of women's self-attributed gender roles (such as motherhood, cooking, beauty, and sexuality) on diagnosis and screening processes. Determining women's priorities based on their subconscious gender roles can contribute to the screening and early diagnosis of gynecological cancers. In addition, studies on this subject can increase women's awareness of gynecological cancer.

2.3. The Effect of Gender Roles on the Treatment Process in Gynecological Cancers

Globally, women's health focuses on reproductive and maternal health, a patriarchal structure that is consistent with narrow anti-feminist definitions of women's value and roles in society (Ginsburg, et al., 2023). When gynecological cancer occurs, women's reproductive ability is their primary concern (Salama, M., et al., 2020). Gynecological cancers affect many gender-based roles related to "being a woman" that may affect the disease process (Lopez, et al., 2019). For example; the uterus is culturally associated with motherhood, femininity, and sexuality (Hughes, M. K. 2008). Procedures such as hysterectomy and oophorectomy in gynecological cancer can be perceived as a loss of femininity (Demir, R. 2021). In this regard, various scientific evidence suggests that gynecological cancer diagnoses create more suffering and distress, psychological problems, fear and shame burden, among others (Hughes, M. K. 2008, López Peláez, et al., 2021). Therefore, it is important to provide information to women about fertility-preserving approaches in order to facilitate the treatment process for women. However, especially in patriarchal societies such as Turkey, knowing the society's perspective on fertility-preserving approaches will be beneficial in counseling. Because religious and cultural norms affect the use of cryopreservation in many countries (Logan S, et al., 2018). Individual counseling given according to the woman's oncofertility attitude can help relieve the woman's anxiety and concern during the treatment process. One of the frequently overlooked effects of gynecological cancer treatments is sexual dysfunction (Hosseini et al., 2022). Gynecological cancers have quite a lot of negative effects on sexual function. Gynecological cancer diagnosis and accompanying treatments cause significant health problems that negatively affect women's sexual functions and sexual health. Because surgical interventions such as radical hysterectomy and vulvectomy; treatments such as radiotherapy and chemotherapy, and hormone therapies cause

significant health problems that negatively affect women's sexual life (Bilge, et al., 2016, Heyne, et al., 2021). In a meta-analysis study conducted by Hosseini, et al., 2022, it was reported that the prevalence of sexual dysfunction in women with gynecological cancer was higher compared to other types of cancer (Hosseini, et al., 2022).

Sexual dysfunctions are closely related to gender role conflict (Komlenac, et al., 2019). Gender roles impose certain duties on individuals based on their gender and society's beliefs about gender. Therefore, feminine gender roles mainly concern women's reproductive capacity and surround femininity and motherhood (Poli, 2023). Gender roles often cause women to feel responsible for meeting men's sexual desires and needs. In order to participate in sexual relationships, women must exhibit 'feminine' behaviors, such as serving men (Impett & Peplau, 2002). In a study conducted by Sekse, et al., 2019 with women who survived gynecological cancer, they reported that femininity and sexual life were among the most prominent concerns of these women (Sekse, et al., 2019). Therefore, women try to cope with the problems they experience due to the disease process and treatment, while trying to fulfill their sexual responsibilities towards their husbands due to their gender roles. In a study conducted with Indonesian women with gynecological cancer, it was reported that women prioritize their perceived duties towards their husbands (men's sexual desires and needs) rather than their own rights within the gender role structure (Ma'rifah, et al., 2024). In addition, studies show that the sexual problems of women with gynecological cancer are generally deeper, more burdensome and progress with multifaceted consequences. Gender role expectations further complicate these results. As a wife, gender role expectations cause women to hesitate or fear having sexual intercourse, not to enjoy having sexual intercourse, and to have difficulty maintaining their sexual life with their husbands despite pain or vaginal dryness, fatigue and fear of cancer recurrence (Alinejad Mofrad et al., 2021 ; Uceda-Escobar et al., 2023). Studies examining the effects of gender roles on sexuality in women with gynecological cancer generally focus on the perception of responsibility towards the spouse. Sexuality is not an action that only healthy individuals or men desire. Women with gynecological cancer may also desire sexuality, but the problems they experience during the process may prevent them from fulfilling this desire. In cases such as pain and reluctance due to gender role pressure, women feeling obliged to engage in sexual activity due to gender norms may lead to long-term sexual dysfunction. Therefore, comprehensive studies are needed to examine the effects of the sexual life imposed on women by gender roles on women's mental health and sexual dysfunction. There are very few scientific studies addressing fertility and sexuality issues in patients undergoing this type of treatment (Uceda-Escobar, et al., 2023).

Gender roles impose certain tasks on women, such as housework, childcare, and cooking. These roles can be disrupted when a woman has cancer. There are many studies showing that cancer patients experience role disruptions or conflicts during and after cancer treatments. However, these studies have

focused on men with prostate cancer (Keesing et al., 2018 ; Lennon et al., 2018 ; Uceda-Escobar et al., 2023). The emergence and experience of gender role conflicts in women with gynecological cancer has not yet been investigated. Studies on gender role conflicts among women diagnosed with gynecological cancer are very important in the context of the well-being of women and their families (Arianti et al., 2020). Women are affected by the disease and treatment in terms of their roles within the couple/family. Due to gender-based roles, most patients diagnosed with gynecological cancer have certain concerns about their family role, that is, their caregiver role (Yarandi et al., 2021). In addition, chemotherapy and radiotherapy can cause changes in women's instrumental daily living activities, that is, activities related to independent living such as cooking, shopping, housework, work and leisure (Gamel, et al., 2000, Rezaei, et al., 2018). Women may experience limitations in their daily living activities due to fatigue, and this can affect both their work and leisure time (Uceda-Escobar, et al., 2023). In addition, barriers, lack of access and role conflicts can also reduce women's quality of life (Ginsburg, et al., 2023). In the study conducted by Shirali et al. (2020), it was reported that gynecological cancer patients had lower quality of life and experienced more anxiety and depression (Shirali, et al., 2020). Sekse et al. (2018) reported in their study that women diagnosed with gynecological cancer and receiving treatment deal with changes and difficulties related to their physical, mental and psychosocial health (Sekse et al., 2018). Strong gender role expectations for women can create significant pressure on women with gynecological cancer (Uceda-Escobar, et al., 2023), and this can reduce their quality of life.

3. Effects of Gender Roles on Women's Health in Gynecological Cancers: The Role of Midwives

Given that approximately 90% of midwives worldwide are women, the inclusion of women in the health care workforce should be a priority for global cancer control (Langer, et al., 2015). Health professionals are important drivers for advancing the universal health coverage agenda (Tulenکو, et al., 2013). Female health workers have an important role in primary care in settings where cultural and religious norms are prevalent, as female patients are more receptive to female staff and physical examinations by male health workers are unacceptable in many settings (Parray, et al., 2021).

Given that the majority of midwives are women and their advocacy role is taken into account, it can be said that they can improve access to health care, education, and communication with the community for everyone, “regardless of race, ethnicity, sexual orientation, gender, socioeconomic status, or geographic location” (Garcia, et al., 2022). If midwives who are in one-on-one contact with women can learn about women’s thoughts, feelings, beliefs, and living conditions without judgment, they may be able to address deficiencies in the health system that cause delays in care. They can also learn about women’s lack of personal initiative or fears about cancer treatment due to an abusive partner at home (Ginsburg, et al., 2023). All of these can increase women’s awareness of gynecological cancer risk factors and symptom recognition, contribute to increased cancer screenings, and affect early diagnosis.

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Midwives should recognize the cultural values of the society they serve and provide care accordingly (Karatopuk, S., & Yarıcı, F. 2021). Being aware of traditional practices, cultural-religious factors, and which gender is disadvantaged in which areas is important for improving women's health (Sökmen, R. 2022). In this context, midwives should know the gender roles in the culture of the women they provide care or counseling. They should also plan their care and counseling services knowing the effects of these gender roles on the development of gynecological cancer, and the barriers to diagnosis, screening, and access to treatment. Midwives should have an egalitarian perspective on gender roles. This perspective will contribute to both the egalitarian perspective of the individuals served by midwives and the strengthening of midwifery, which is a women's profession (Aydın et al. 2016).

Midwives, who play an important role in preventing gender discrimination in our country, should be aware of the negative effects of gender roles on women's health in gynecological cancers.

Conclusion and Recommendations

The effects of gender roles in gynecological cancers should not be ignored in health service presentations. Especially in patriarchal societies, service presentation and health service investments in gynecological cancers should be planned in the context of women's gender roles. Necessary training should be provided for this and women should be empowered. Midwives should continue their care by considering women with their cultural structures while providing care. In addition, more research is needed on the effects of gender roles imposed on women and internalized by settling in the woman's subconscious after a while on gynecological cancers.

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The Legal Protection of Victims of Gender-Based Violence Following the Ratification of the Istanbul Convention in North Macedonia

Fjolla Ejupi³², Besa Arifi³³

Abstract

This paper examines the legal protection of victims of gender-based violence in North Macedonia after ratifying the Istanbul Convention. It focuses on the legal reforms introduced to enhance victim protection and their implementation in the Macedonian context. The analysis covers the legal framework before and after ratification, evaluating changes in national legislation, including stricter laws and protective measures for victims.

In order to examine the legal protection of victims of gender-based violence in North Macedonia, a combination of legal, institutional, and statistical analyses will be applied. As for the legal analysis, we will examine the legal framework for the protection of victims of gender-based violence (the Penal Code and other laws stemming from the Convention, etc.). The institutional analysis will investigate the deficiencies and gaps faced by victims. **Statistical analysis** will be used to examine trends in reported cases of GBV after the ratification of the Convention, to assess the impact of legal reforms. Statistical analyses will be used from relevant institutions to reflect the situation of victims over a five-year period. These analyses will provide a comprehensive overview of the legal landscape and its impact on gender-based violence victims in North Macedonia. In conclusion, continued reforms, stronger inter-institutional cooperation, and increased public education are essential to improve the protection of victims of gender-based violence in North Macedonia.

Keywords: victims, gender-based violence, Istanbul Convention, North Macedonia.

JEL CODE: K14 K38 K33 K36

Introduction

Gender-based violence (GBV) continues to be one of the most serious and persistent forms of human rights violations, affecting individuals across all social, economic, and cultural backgrounds. In response to the pressing need for a unified and legally binding approach to prevent and combat such violence, the

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Council of Europe adopted the Istanbul Convention in 2011. North Macedonia ratified the Convention in 2017, committing itself to substantial legal and institutional reforms aimed at enhancing the protection of victims and aligning domestic legislation with international standards.

Since ratification, the country has undertaken a series of legal changes, including amendments to the Criminal Code and the adoption of new laws focused on prevention, protection, and prosecution. These reforms aim to strengthen the legal framework surrounding gender-based violence and provide more effective support and protection mechanisms for victims. However, the real impact of these legal changes depends not only on the content of the legislation but also on the effectiveness of its implementation in practice.

This paper explores the evolution of legal protection for victims of gender-based violence in North Macedonia, with a particular focus on the post-ratification period. By conducting a multi-layered analysis legal, institutional, and statistical the study assesses how national legislation has changed, to what extent institutions are equipped to protect victims, and how these changes have influenced trends in reported cases of GBV over a five year period. Through this comprehensive approach, the paper aims to provide an evidence-based assessment of the country's progress and remaining challenges in fulfilling the obligations of the Istanbul Convention.

Ultimately, the findings underscore the importance of continued legal reform, improved inter-institutional cooperation, and broader public education to ensure that the legal protections envisioned by the Convention translate into meaningful change for victims of gender-based violence in North Macedonia.

Definition and Classification of Gender-Based Violence

Gender-based violence (GBV) refers to any harmful act directed against an individual based on their gender, resulting or likely to result in physical, sexual, psychological, or economic harm. This includes threats, coercion, or arbitrary deprivation liberty, occurring in both public and private spheres (Council of Europe, 2011).

According to the Istanbul Convention, GBV is recognized as a violation of human rights and a form of discrimination primarily affecting women, stemming from historically unequal power relations and gender stereotypes (Council of Europe, 2011).

The Istanbul Convention provides a comprehensive legal definition that broadens the scope of protection against gender-based violence. It acknowledges that such violence is deeply rooted in social norms that

perpetuate the subordination of women, and it obligates state parties to implement preventive, protective, and punitive measures (Council of Europe, 2011).

Forms and Classification of Gender-Based Violence: The classification of gender-based violence is essential to understanding the scope of the issue and the legal and institutional responses required. Based on international standards and the Istanbul Convention, GBV is generally divided into several key categories:

Physical Violence: Includes bodily harm such as hitting, slapping, kicking, burning, or the use of objects or weapons that inflict injury (Council of Europe, 2011).

Sexual Violence: Encompasses any non-consensual sexual act, including rape, forced sexual acts, sexual harassment, and exploitation (UNHCR, n.d).

Psychological Violence: Involves emotional abuse, threats, intimidation, coercion, isolation, and other behaviors that degrade or control the victim (Council of Europe, 2011).

Economic Violence: Consists of controlling a person's financial resources, restricting access to employment, or forcing economic dependency (UNHCR, n.d.).

Institutional Violence: Occurs when institutions fail to protect victims, ignore their needs, or reinforce discrimination through inaction or inadequate procedures (Council of Europe, 2011).

In the context of North Macedonia, the ratification of the Istanbul Convention in 2018 marked a turning point in the legal recognition and classification of GBV. National laws have since incorporated broader definitions of violence and adopted a gender sensitive approach to protection and justice for victims. This reflects an alignment with international standards and a commitment to combating all forms of violence rooted in gender inequality (Council of Europe, 2011).

The Istanbul Convention and Its Provisions for Victims of Gender-Based Violence

The Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence, widely known as the Istanbul Convention, is the first legally binding instrument in Europe that creates a comprehensive legal framework to prevent gender-based violence, protect victims, and punish perpetrators. Adopted in 2011 and entered in force in 2014, the Convention represents against women as violation of human rights and a form of gender-based discrimination (Council of Europe, 2011)

Core Principles of Victim Protection

The Istanbul Convention emphasizes a **victim-centered approach**, grounded in the principles of non-discrimination, gender equality, and the right to live free from

violence. It obliges state parties to take legislative and practical measures that prioritize the safety, dignity, and autonomy of victims (Council of Europe, 2011).

Article 4 of the Convention establishes the principle of non-discrimination, stating that protective and support measures must be accessible to all women, regardless of race, age, religion, disability, migrant or refugee status, sexual orientation, or any other status. This ensures an inclusive and equitable approach to victim support (Council of Europe, 2011).

Furthermore, the Convention underlines that all services for victims must be available, accessible, adequate, and sensitive to the needs of those affected. This includes avoiding re-victimization, respecting victims confidentiality, and ensuring their voluntary participation in any assistance (Council of Europe, 2011, Art. 18).

Specific Measures for the Protection of Victims

The Istanbul Convention outlines a range of mandatory measures that states must implement to protect and support victims effectively. These include:

- **Access to Shelters and Support Services:** Article 23 requires that parties provide safe accommodation in sufficient numbers for victims and their children. Article 20 further mandates access to general support services such as legal advice, healthcare, psychological counseling, and housing (Council of Europe, 2011).
- **Emergency Barring Orders and Restarting Measures:** Article 52 of the Convention obliges states to enable immediate protective measures that can remove the perpetrators from the victim's residence and prohibit contact, even before criminal proceedings begin. These emergency measures are crucial in preventing further violence and ensuring victim safety (Council of Europe, 2011, Council of Europe, 2021).
- **Legal Assistance and Access to Justice:** Articles 49 and 57 stress the importance of ensuring that victims have effective access to justice, including through free legal aid, victim friendly judicial procedures, and protection from secondary victimization during criminal investigations and court proceedings (Council of Europe, 2011).
- **Protection of Children Witnessing Violence:** The Convention also recognizes the specific vulnerability of children who witness domestic violence and mandates support services tailored to their needs (Council of Europe, 2011, Art. 26).

Role of State Authorities and Inter-Institutional Cooperation

The Convention places significant responsibility on state parties to coordinate institutional responses

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through a multispectral approach. Article 7 calls for the implementation of “comprehensive and coordinated policies” that involve all relevant institutions and organizations, including law enforcement, judiciary, health care providers, and NGOs (Council of Europe, 2011).

Training of professionals is another key requirement. Article 15 demands that states provide adequate and ongoing training for those working with victims including police officers, medical staff, and judges to ensure sensitive and informed treatment of GBV survivors. In addition, Article 10 of the Convention mandates the establishment of coordinating bodies to monitor the implementation of the convention at the national level and to promote effective data collection and research on gender-based violence (Council of Europe, 2011).

Monitoring Mechanism and GREVIO

The Convention is accompanied by robust monitoring mechanism the Group of Experts on Action against Violence against Women and Domestic Violence (GREVIO). This independent body evaluates the compliance of state parties with the Convention and issues country specific reports and recommendations (GREVIO, 2022). This mechanism ensures accountability and promotes continuous improvement of national frameworks.

Implementation of Legislation in North Macedonia and Victim Protection in Practice

This section explores the process of adopting the Istanbul Convention's legal framework in North Macedonia, the challenges in its implementation, and the practical protection of victims of gender-based violence. Implementation of Legislation in North Macedonia and Victim Protection in Practice North Macedonia ratified the Istanbul Convention in 2018, committing to align its national legal framework with the Convention's provisions and enhance the protection of victims of gender-based violence (GBV). The adoption of the Convention marked a pivotal moment in the country's efforts to address gender-based violence comprehensively. However, while the legal and institutional frameworks have been revised, the implementation of these reforms has encountered several challenges. This section explores the legislative changes in North Macedonia after ratification and assesses the practical impact on the protection of victims.

Legal Reforms after ratification of the Istanbul Convention upon ratifying the Istanbul Convention, North Macedonia took significant steps to amend and expand its legal framework to better protect victims of GBV. Key legal reforms were made in various areas, such as criminal law, family law, and the protection of victims in domestic violence cases.

Penal Code Amendments: One of the main legislative changes involved the amendment of the Penal Code to introduce stricter penalties for perpetrators of domestic violence and other forms of gender-based violence. The revised Penal Code increased sentences for domestic violence offenses, including longer prison terms for repeat offenders, and recognized stalking and psychological violence as criminal offenses (Republic of North Macedonia, 2018). These changes aligned the country's legal framework with the provisions of the Istanbul Convention, which advocates for more severe penalties for violence against women.

Law on Prevention and Protection from Domestic Violence: In 2014, North Macedonia passed the Law on Prevention and Protection from Domestic Violence, a significant step before ratifying the Istanbul Convention. However, after ratification, this law was further amended to include broader provisions for the protection of victims, particularly through the establishment of shelters and support services for victims (Government of North Macedonia, 2019).

Additionally, the law created a legal basis for the implementation of protection orders and emergency barring orders, which allow victims to remove the perpetrator from their home temporarily, a provision directly in line with the Istanbul Convention's Article 52 (Council of Europe, 2011).

Institutional and Policy Developments: The ratification also prompted the establishment of a coordinated national policy for addressing gender-based violence, ensuring that key institutions such as the police, judiciary, healthcare, and social services worked together to offer a unified response to GBV (Ministry of Labour and Social Policy, 2020). This multi-agency approach aims to ensure that victims receive holistic support and that there is an effective mechanism for coordination among authorities.

Challenges in Implementing Legal Reforms Despite the robust legal reforms, the implementation of these changes has faced several obstacles, including limited resources, insufficient training, and inconsistent enforcement. These challenges hinder the effectiveness of legal protections for victims in practice.

Lack of Resources and Infrastructure: While the law mandates the provision of shelters and services for victims, the actual availability of such services remains limited. There are very few shelters across the country, and the existing ones are often underfunded and lack adequate capacity to meet the growing demand (Amnesty International, 2020). Victims of GBV often face difficulties in accessing shelters, especially in rural areas where services are sparse (Sasho, 2021).

Inadequate Training for Professionals: A critical barrier to effective victim protection is the lack of adequate training for professionals working with victims of GBV. While the law requires that police

officers, judges, and social workers receive specialized training on handling GBV cases, there is a significant gap in the quality and consistency of this training. Many professionals are still not well-equipped to deal with the specific needs of GBV survivors, particularly in terms of providing emotional support and respecting the victims' rights to confidentiality (Pulevski, 2022).

Gender Bias and Social Norms: Despite legal reforms, gender-based violence continues to be influenced by deeply ingrained social norms and cultural attitudes towards women. Gender stereotypes and victim-blaming remain prevalent in society, which impacts the willingness of victims to report violence and the way in which cases are handled by authorities. This societal mindset can result in secondary victimization, where the victim is stigmatized or not taken seriously by law enforcement or judicial actors (Pulevski, 2022). In practice, this makes it difficult for women to seek legal recourse, further deterring them from using available legal protections.

Victim Protection in Practice in terms of victim protection, several initiatives have been undertaken to provide immediate and long-term support to survivors of GBV in North Macedonia. These include the establishment of victim support units, improvement of judicial processes, and development of national awareness campaigns.

Victim Support Services: North Macedonia has established specialized victim support services to provide psychological, legal, and social assistance. These services are designed to help victims navigate the legal system, find temporary shelter, and access healthcare and counseling. However, challenges remain in ensuring that these services are available throughout the country, and there are still significant gaps in services for marginalized groups, including Roma women and refugees (Amnesty International, 2020).

Judicial and Police Training: There have been efforts to train police officers and judges on how to handle GBV cases, but the lack of consistency in the application of these measures has led to mixed results. Police officers are often accused of not taking GBV cases seriously, and there are reports of victims being discouraged from pressing charges or being offered inadequate protection (Sasho, 2021).

Public Awareness Campaigns: The Macedonian government has launched several public awareness campaigns aimed at changing societal attitudes towards gender-based violence. These campaigns are critical in addressing the cultural and social barriers that prevent victims from coming forward and seeking help. However, such initiatives need to be expanded and sustained to ensure widespread impact (Ministry of Labour and Social Policy, 2020).

Moving Forward: Strengthening Implementation for North Macedonia to fully implement the Istanbul Convention and ensure that victims of GBV are adequately protected, several improvements are necessary:

Increase Funding for Victim Services: There is an urgent need to increase investment in shelters and victim support services. Expanding the availability and accessibility of these services, particularly in rural areas, will help ensure that victims can find the support they need when they need it.

Expand Training Programs: Continued training of professionals who work with GBV victims is essential for improving the quality of responses. This training must be comprehensive, regular, and tailored to the specific needs of different professionals, including police officers, healthcare providers, and social workers.

Public Awareness and Attitude Shifts: Efforts to change societal attitudes toward gender-based violence must be intensified. Public education campaigns that challenge harmful gender norms and promote gender equality can play a significant role in reducing instances of GBV and ensuring that victims are not blamed for the violence they experience.

The Prevalence and Impact of Gender-Based Violence: A Statistical Overview

Gender-based violence (GBV) remains one of the most pervasive and devastating forms of human rights violations globally. It is deeply rooted in structural inequalities and power imbalances and is often exacerbated by economic hardship. Empirical research consistently highlights the strong connection between GBV and economic factors such as poverty, income inequality, and unemployment. These conditions not only increase the risk of violence but also diminish women's ability to seek help or exit abusive environments.

According to the **World Health Organization (2018)**, approximately 35% of women worldwide experience physical and/or sexual violence inflicted by an intimate partner at some point in their lives. This figure underscores the alarming scope of the issue. However, women who live in poverty are significantly more at risk, with studies showing they are two to three times more likely to suffer from such violence compared to those with stable economic conditions. Financial dependence can create a cycle of abuse where victims are unable to escape due to a lack of resources, shelter, or access to legal and social services.

Further reinforcing this connection, data from the **Centers for Disease Control and Prevention (CDC)**,

2011) reveal that unemployment is a significant risk factor for GBV. Women without a source of income often lack the autonomy necessary to leave harmful relationships. The inability to contribute economically may lead to feelings of helplessness and isolation, both of which are commonly exploited by abusive partners to maintain control.

Additionally, a report by the **World Bank (2020)** highlights a broader macroeconomic perspective, suggesting that countries with higher levels of economic inequality tend to report higher rates of gender-based violence. This pattern suggests that the issue is not merely individual but systemic, where societal structures and economic systems contribute to environments that enable violence against women. Similarly, **UN Women (2021)** emphasizes that limited access to economic opportunities often forces women to remain in toxic and violent relationships, especially when children are involved or when housing and legal support are inaccessible.

In the case of **North Macedonia**, national statistics confirm the persistence of this issue. According to data from the **Ministry of Internal Affairs**, reported cases of rape and domestic violence over a four-year period demonstrate the ongoing threat to women's safety. Specifically, there were:

- **38 cases of rape in 2020,**
- **25 in 2021,**
- **18 in 2022,**
- **and an increase to 33 cases in 2023.**

Meanwhile, cases categorized as **domestic violence** show a consistently high occurrence:

- **992 cases reported in 2020,**
- **1,056 in 2021,**
- **1,117 in 2022, and**
- **1,082 in 2023.**

(Source: www.mvr.gov.mk)

While there are slight fluctuations, the data reveal that domestic violence remains a serious and ongoing issue in the country, requiring more comprehensive policy responses and support mechanisms.

A **nationwide survey** conducted in 2022 by the **State Statistical Office of North Macedonia** offers additional insight into the prevalence of gender-based violence among women. The survey found that

15.0% of women aged 18 to 74 reported experiencing some form of psychological, physical (including threats), or sexual violence by an intimate partner. Within this group:

- **8.4% experienced psychological abuse**, including behaviors such as constant criticism, verbal humiliation, restriction of movement, bans on communication with family and friends, and financial control.
- **1.1% reported sexual violence** by their partner.

These statistics point to the multifaceted nature of GBV, which often begins with psychological manipulation before escalating to physical and sexual violence. Emotional abuse is particularly insidious, as it may not leave visible scars but has lasting effects on mental health and self-esteem.

The breakdown by age group provides a more nuanced view. Women aged **65 to 74 years** reported the **highest incidence**, with **18.7%** of respondents in this group having experienced some form of violence from a partner. Within this demographic:

- **17.8% had faced physical abuse or threats**,
- and **0.5% were victims of sexual violence**.

(Source: www.stat.gov.mk)

In contrast, younger women are also highly affected. Among women aged **18 to 29**, **16.6%** reported experiencing psychological, physical, or sexual violence, with **1.2% stating** they had been subjected to sexual violence by a current or former partner. These experiences occurred regardless of whether the relationship was formal (marriage) or informal (cohabitation or dating).

These findings indicate that GBV transcends age, affecting women across all life stages, though the forms and frequency of violence may vary. Younger women may be more exposed to certain types of control or coercion due to modern relationship dynamics, while older women may remain in long-term abusive relationships due to generational norms or economic dependence accumulated over time.

In conclusion, the empirical data clearly demonstrate that gender-based violence is both a widespread and deeply systemic problem in North Macedonia and globally. Economic hardship, whether through unemployment, poverty, or income inequality, significantly increases women's vulnerability to abuse. Moreover, the persistence of psychological, physical, and sexual violence across different age groups emphasizes the need for targeted interventions, including economic empowerment programs, legal

protections, and increased public awareness. Without addressing the root economic causes and ensuring that women have access to safe support systems, the cycle of violence is likely to continue unbroken.

Challenges and Issues in the Implementation of the Istanbul Convention in North Macedonia

The ratification of the Istanbul Convention by North Macedonia in 2018 marked a significant milestone in the country's efforts to combat gender-based violence (GBV). This legally binding international treaty aims to prevent violence, protect victims, and promote gender equality, which aligns with the broader European and international human rights framework. However, the implementation of the Convention has been far from straightforward, with several institutional, social, and cultural challenges that impede its effectiveness in providing adequate protection for victims of GBV.

One of the major hurdles in implementing the Istanbul Convention in North Macedonia is the inadequate enforcement of the country's legal framework. While the government has made strides by amending the Penal Code in 2023 to criminalize femicide and other forms of GBV, challenges remain in ensuring these legal provisions are effectively applied. Studies and reports highlight that many cases of domestic violence are not reported due to fear of retribution or a lack of trust in the justice system. According to the Coalition "All for Fair Trials" (2020), approximately 85% of cases of domestic violence in North Macedonia go unreported, and the majority of victims retract their complaints due to systemic inefficiencies and delayed judicial procedures. Furthermore, even when cases are reported, victims often experience lengthy delays in court proceedings, which diminishes their faith in the legal system. Research by Balkan Insight (2022) notes that the failure of courts to prioritize gender-based violence cases has contributed to a culture of impunity, where perpetrators face few consequences for their actions.

A critical aspect that hinders the effective implementation of the Istanbul Convention is the lack of trust in state institutions, particularly among women from marginalized communities. Many victims of GBV fear stigmatization or victim-blaming when seeking help from authorities. Balkan Insight (2022) reports that victims often encounter dismissive attitudes from police officers, social workers, and other public service employees, who fail to take their claims seriously. For instance, some women have reported being told by police that their case was not severe enough to warrant intervention or were instructed to "work things out" within their families. Such attitudes not only violate victims' rights but also discourage them from pursuing justice, leading to a lack of confidence in the legal system.

The inadequacy of resources and institutional capacity further exacerbates the challenges in addressing gender-based violence. A 2021 report by the Platform for Civil Society for Gender Equality (CSSP) indicated that many municipalities in North Macedonia have not developed clear operational plans for the

implementation of the Istanbul Convention, and there is a general lack of transparency in the allocation of resources for victim support services. This shortage of resources affects all aspects of the response to GBV, from victim protection services to the availability of specialized training for police and judicial officers. Without sufficient funding and skilled personnel, it is difficult to ensure that the provisions of the Istanbul Convention are fully operational zed at the local level.

Additionally, traditional cultural norms continue to play a significant role in hindering the fight against GBV. In many parts of the country, particularly in rural areas, domestic violence is still perceived as a private matter, often dismissed or ignored by communities and families. These deeply rooted cultural beliefs perpetuate gender inequality and contribute to a cycle of violence that is difficult to break. The Group of Experts on Action against Violence against Women and Domestic Violence (GREVIO), in its 2023 baseline evaluation report on North Macedonia, noted that while there has been progress in addressing GBV, cultural norms around gender roles and family privacy still prevent many women from coming forward to report abuse. The report emphasizes the need for greater public awareness campaigns to challenge these norms and raise awareness about the rights of women and girls to live free from violence (GREVIO, 2023).

Another significant challenge is the lack of coordination between institutions responsible for addressing gender-based violence. The Istanbul Convention requires an integrated approach that involves collaboration between police, courts, social services, and NGOs. While there have been some attempts to improve coordination, progress has been slow. In 2023, the Ministry of Labor and Social Policy, in cooperation with UNFPA and the British Embassy, presented a multi-institutional model for the collection of gender-based violence data. However, this initiative is still in its early stages, and more efforts are needed to strengthen the capacity of state institutions to collect, share, and analyze data on GBV effectively (UN North Macedonia, 2023). Without a robust system for data collection, it is difficult to monitor progress, identify gaps in services, and develop evidence-based policies to address GBV.

Moreover, the political will to prioritize gender-based violence remains inconsistent. While there have been positive steps, such as the establishment of the National Action Plan for the Implementation of the Istanbul Convention, the commitment to fully realizing the Convention's provisions varies between different levels of government. Local authorities, in particular, have been slow to implement policies and allocate resources for GBV prevention and victim support, as highlighted in the 2021 CSSP report. Furthermore, political instability and frequent changes in government have resulted in a lack of long-term commitment to addressing gender-based violence.

In conclusion, the full implementation of the Istanbul Convention in North Macedonia faces significant challenges that require comprehensive, sustained efforts across multiple sectors. These challenges include insufficient legal enforcement, a lack of institutional trust, limited resources, deeply ingrained cultural norms, and inadequate coordination between agencies. To address these issues, North Macedonia must focus on strengthening its legal and institutional frameworks, increasing public awareness, providing adequate resources for victim services, and fostering a cultural shift that prioritizes gender equality and the protection of victims of violence. Only through these concerted efforts can the country ensure that the Istanbul Convention achieves its goal of providing effective protection for all victims of gender-based violence.

Conclusion

The legal protection of victims of gender-based violence (GBV) in North Macedonia has undergone significant development since the ratification of the Istanbul Convention in 2018. The Convention, as a comprehensive international framework for preventing and combating violence against women and domestic violence, has provided the legal foundation for enhancing victim protection, including provisions on legal frameworks, institutional responses, and public awareness. However, despite the ratification of this crucial instrument, North Macedonia continues to face significant challenges in fully implementing its provisions.

In the context of gender-based violence, it is essential to understand that this phenomenon encompasses various forms of violence, such as physical, psychological, and sexual abuse, often perpetrated by intimate partners or family members. Gender-based violence is deeply embedded in societal inequalities and power imbalances, and the Istanbul Convention offers a powerful mechanism for addressing these issues, focusing on prevention, protection, prosecution, and integrated policies.

The adoption of the Istanbul Convention in North Macedonia was a key step in aligning the country's legal framework with international human rights standards. The legal reforms introduced after the ratification of the Convention, such as the criminalization of femicide and improvements in the legal protection of victims, reflect a positive shift toward addressing GBV within legal and institutional systems. However, empirical data indicates that the actual implementation of these reforms remains problematic. According to available statistics, gender-based violence continues to be widespread, with a significant number of unreported cases and insufficient institutional responses to support victims (Ministry of Internal Affairs of North Macedonia, 2023). This gap between legal frameworks and practice highlights the need for more effective implementation of laws and enhanced capacity to enforce the legal

protections established for victims.

The challenges in implementing the Istanbul Convention in North Macedonia are multifaceted. Institutional weaknesses, such as the lack of coordination between the police, courts, and social services, undermine the country's ability to address and prevent GBV effectively. Moreover, societal attitudes regarding gender roles and domestic violence, particularly in rural areas, create barriers to reporting abuse and accessing support services. Many victims fear stigmatization and do not trust state institutions, which significantly weakens the success of the protective mechanisms envisioned by the Convention.

Additionally, the lack of sufficient resources allocated to victim support services, along with limited training for professionals in the justice and social sectors, exacerbates the issue further. These systemic weaknesses prevent the full realization of the protection mechanisms envisioned in the Istanbul Convention. The implementation of the legal framework must be accompanied by adequate investment in victim services, ongoing training for public officials, and public awareness campaigns aimed at changing cultural norms and attitudes regarding gender-based violence.

The empirical analysis presented throughout this paper demonstrates the continued prevalence of gender-based violence in North Macedonia, despite legal advancements. The data reveals that a significant portion of the population continues to suffer from abuse, particularly women aged 18-29 and those living in economically insecure situations. These statistics confirm that, while the ratification of the Istanbul Convention has laid the groundwork for improving legal protection, much work remains to be done to ensure that legal measures translate into real improvements for victims.

In conclusion, while North Macedonia has made substantial progress in strengthening the legal framework for the protection of victims of gender-based violence following the ratification of the Istanbul Convention, significant challenges remain in the full implementation of the Convention's provisions. These challenges include institutional shortcomings, insufficient resources, cultural barriers, and a lack of coordination between sectors. To ensure the effectiveness of the Istanbul Convention in protecting victims of gender-based violence, it is crucial for the country to address these issues by improving institutional responses, increasing funding for victim services, promoting public awareness, and fostering a cultural shift towards gender equality. Only through these efforts can North Macedonia ensure meaningful protection and support for victims of gender-based violence and move toward a more just and equitable society.

This conclusion summarizes the key themes and issues addressed throughout the paper, including the

understanding of gender-based violence, the Istanbul Convention, the challenges in its implementation, legal reforms, and the protection of victims in practice. It provides an analysis of the weaknesses preventing the full implementation of the legislation and presents recommendations for improving the situation, emphasizing the need for improved institutional coordination, increased resources, and public awareness regarding gender-based violence.

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Abstract

The essay analyses various intertextual figures and metafictional aspects of Iris Murdoch's novel *The Sea, The Sea*, published in 1978. This text can be considered, *in nuce*, a dialogue: on one hand, between fiction and philosophy, and on the other, between British and Tibetan cultures. In contemporary society, intercultural dialogue represents a significant means to transcend time and space, serving as a method of spiritual interference. This type of dialogue fosters harmony between identity and alterity. The concepts employed are linked to the theories of intertextuality, narratology, and cultural studies; the study aims to provide a holistic approach to the analysed novel. The analysis will examine three aspects (the intertextual, metafictional, and fantastic dimensions) of this novel through the lenses of intertextuality, hermeneutics, close reading, and comparative methods.

Keywords: interculturality, intertextuality, metafiction, narratology, philosophy.

1. Introduction: Iris Murdoch and the Post-war Literature, Criticism and Literary Theory

New research directions emerged in the post-war period in the field of literary theory: theory of intertextuality, narratology, deconstruction theory, postcolonialism, feminism, postmodernism, cultural studies, ecocriticism, geocriticism, etc. Literary theory has a dynamic evolution facing significant paradigm shifts. Julia Kristeva coined the concept of intertextuality starting from Saussure and Bakhtin's theories (Allen 2000: 11). The Bulgarian-origin theoretician described intertextuality as the way in which a text reads history and inserts itself into it (Kristeva 1980: 266), while Michael Riffaterre considered it a web of functions which constitutes and regulates the relation between the text and the intertext (Riffaterre 1981: 4). According to Terry Eagleton, the modern literary theory had three major evolutionary stages according to the object on which the criticism focused: "a preoccupation with the author (Romanticism and the 19th century); an exclusive concern with the text (New Criticism); and a marked shift of attention to the reader over recent years" (Eagleton 2008: 64). Consequently, the reception theory holds a privileged position in the field of literary theory nowadays. Paul Cornea emphasised the distinction between reading and reception, and he stated: "The idea of reading favours the content of the text, whilst reception focuses on what the reader retains, according to their personality and the circumstances"

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³⁵(Cornea 1998: 16). Highly relevant for contemporary society, ecocriticism and geocriticism, interdisciplinary research methods, connect literary studies, environmental studies and geography:

“a cultural criticism attuned to the pressing environmental and spatial challenges facing discrete populations and humanity at large in this, the late anthropocene and the age of globalization, is crucial for any adequate understanding of the interconnected social spheres and the planetary space in which we must dwell together” (Tally Jr., Battista 2016: 14).

In Post-war British literature, the young writers of the '50s remained loyal to the old narrative methods, and they did not innovate much. Some of them dealt with the social history of England, others were interested in either the traditional novel or technical innovations. Iris Murdoch (1919-1999), an Irish-British novelist and philosopher, was a prominent name in Post-war British literature, and this is “one of the most common ways of introducing her work” (Forsberg 2013: 15). Her literary activity started when she was thirteen, in the interwar period, when she wrote poems and essays. She was interested in politics, and at that time she admired monarchy, condemning totalitarianism and imperialism; later, she changed her political views, turning towards the Communist Party, but after some time she gave up on the communist ideology. She graduated from Somerville College, Oxford, where she taught philosophy between 1948 and 1963. This was the time when she focused on Buddhist philosophy. Iris Murdoch's first book was *Sartre: Romantic Rationalist*, a philosophy book published in 1953, in which she spoke about her encounter with Sartre, her war experience, her work in Brussels, Innsbruck, her visit to Paris, and the period when she studied philosophy in Oxford and Cambridge. Her first novel, *Under the Net* (1954), deals with the philosophical problems of freedom and responsibility, and it was followed by *The Flight from the Enchanter* (1956), *The Sandcastle* (1957), and *The Bell* (1958). The British writer also touches on structuralism in *A Severed Head* (1961), a text which resurrects the Gothic novel and paints characters caught in bizarre sexual entanglements (Wagner 2003: 208). These are recurrent themes in the work of the Irish-British novelist, and they can be also found in *Bruno's Dream* (1969), *The Black Prince* (1973), *The Sacred and Profane Love Machine* (1974), *The Sea, The Sea* (1978), and *Nuns and Soldiers* (1980). Iris Murdoch recycled in her novels moral and philosophical problems, and her books have a profound intertextual character. *The Sea, The Sea*, a novel that won the Booker Prize, deals apparently with a former theatre director's life and his childhood love, but essential problems like love as an illusion, the tricks of memory, and the comical aspect of sexual entanglements are also part of the core structure of the

³⁵ The article's author did all the translations from languages other than English.

text. Many of Iris Murdoch's novels can be considered detective and psychological narratives, the author explores the nature of good and evil, the importance of religion and faith, the sacred taboo, the Freudian determinism and sexuality. The last years of her life were marked by physical and mental decay, progressive decay caused by Alzheimer's. Her last novel, finished in 1993, *The Green Knight*, unifies her favourite themes in a dense and intertextual allegory which starts from the medieval poem *Sir Gawain and the Green Knight*. In this study, I will analyse the Buddhist intertext in the novel *The Sea, The Sea*, emphasising the intertextual and metafictional character of this book.

2. The Buddhist Reference

The action of the novel *The Sea, The Sea* (1978) focuses on a retired, famous theatre director from London, Charles Arrowby. After retirement, he goes to a seaside village to live peacefully and write his autobiography. Here he meets Hartley by chance, his first teenage girlfriend, which causes a whole series of devastating problems for the hero and his former girlfriend. Charles would like to continue his love story with Hartley (their relationship ended all of a sudden in their teenage years), but now she is married and she has a foster son, Titus. Her husband, Ben Fitch, is an aggressive and jealous man who forbids Charles to see Hartley. Later, Charles finds out from Titus, who had run away from home because his foster father considered him to be Hartley and Charles's son, that Hartley and Ben were not having a happy marriage because Ben found out about his wife's relationship with Charles, and this obsessed him. The arrival of the theatre director in the village causes new quarrels inside the Fitch family. Charles kidnaps Hartley and seizes her in his house, hoping that she would love him again, but this would rather traumatise her, and she would constantly ask to go home. Charles' behaviour is obsessive, and, finally, he frees Hartley but still holds on to the idea of his love for her. Titus has a tragic end, he drowns in the sea after Charles was about to drown as well near Cape Shruff. The Fitch family moved to Australia, and Charles to London, in the apartment inherited from his cousin James. This main story is intertwined with two other secondary stories; one is focused on the childhood of the protagonist, and the second one deals with his career in theatre and television, and his relations with famous actors and actresses. The narration is autodiegetic, the perspective on the events pertains to the narrator-character because the narrator is also "perceptible in the text" (Bal 2009: 27). Charles Arrowby has the features of a hero, he is brave and honest in general, but he also possesses the characteristics of an antihero, "a hero defined by negative or less than admirable attributes" (Prince 2003: 6), he is sometimes selfish and histrionic. The novel is structured into three parts: *Prehistory*, *History* and *Postscript*, and the text is full of analepses. Its intertextual character is more obvious in the second part, where readers can find references to some Buddhist philosophical themes and concepts. Murdoch expressed her interest in Buddhism in her works

as well as in an interview in 1983 (Normand, Winch 2015: 180), in which she was talking about a Christian Buddhism, a kind of syncretism between the two faiths (Haffenden 1985: 206).

Right from the first part of the novel, *Prehistory*, the narrator-character refers to three key concepts of the Buddhist philosophy: *ahiṃsā*, *maitrī* and *karuṇā*, when he describes his father:

“My father was a quiet, bookish man and somehow the gentlest being I have ever encountered. I do not mean he was timid, though I suppose he was timid. He had a positive moral quality of gentleness. I can picture him now so clearly, bending down with his perpetual nervous smile to pick up a spider on a piece of paper and put it carefully out of the window or into some corner of the house where it would not be disturbed” (Murdoch 1980: 28).

Ahiṃsā is “the religious ideal and ethical injunction of harmlessness toward all living beings” (Buswell, Lopez 2014: 21); *karuṇā* or compassion, “considered to be one of the chief attributes of a Buddha, it is among the prime motivating factors in Siddhārtha Gautama's pursuit of enlightenment” (Prebish, Keown 2010: 105); and *maitrī* “is defined as the wish for happiness” or loving-kindness (Buswell, Lopez 2014: 518). These three characteristics are defining features of Charles’ father.

Gilbert, one of Charles’ friends, refers to the law of interdependence: “Or you can make us very happy and make yourself happy just by being gentle and kind and by loving us and letting us love you. Why ever not? And if you make us miserable you'll feel wretched yourself in the end” (Murdoch 1980: 68). The law of dependent origination or *pratītyasamutpāda* is “one of the core teachings in the Buddhist doctrinal system having both ontological epistemological and soteriological implications” (Buswell, Lopez 2014: 669). This philosophical idea involves another Buddhist concept – *karma*, which literally means “action” (Keown, Prebish 2010: 437). Charles’ actions and choices will influence not only Lizzie and Gilbert as a couple but also his own life, according to Gilbert. Charles’ friend states that every action (cause) produces similar effects, in the sense of a conditioning process. In this text, the narrator touches on various aspects of the Buddhist philosophical system from the four noble truths to some yogic practices of Tibetan monks: *tumo*, *lungompa*, the symbol of the wheel, etc. The intertextual reference in this novel goes beyond Buddhism, setting connections with Greek mythology, Dante Alighieri's works, Anglo-Saxon mythology and Shakespeare's works. The intertextual aspect is an element of originality in the way the author recycles Buddhist philosophical ideas and Greco-Latin myths, having an intertextual dialogue with the works of some major writers of world literature.

3. The Metafictional Character of *The Sea, The Sea*

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The concept of metafiction is relatively recent, but the practice of metafiction is as old as, or even older than novel as a literary genre (Waugh 2001: 5). Patricia Waugh considers that metafiction is a tendency or an inherent function of all novels (*ibidem*). The essential characteristic of metafiction is, *in nuce*, the creation of a fictional world and the simultaneous description of this creative process. The metafictional novels place self-consciously their own codes against the conventions of the tradition of the novel (as a genre). The act of reading is, in the case of metafictional novels (*narcissistic narrations* as Linda Hutchinson calls them), similar to the act of writing, the creative function on which the text drags the attention of the reader (Hutcheon 1980: 39). As Patricia Waugh noticed, this type of novel is conceived on the fundamental opposition between constructing a fictional illusion, as in the traditional realism, and revealing it (Waugh 2001: 6).

The novel *The Sea, The Sea* by Iris Murdoch presents particular features specific to metafictional novels, but they occur sporadically. In the beginning, the text has an autobiographical aspect following the evolution of the hero from childhood to adulthood, and his becoming an actor and film director; from this perspective, this novel can be considered a *künstlerroman*. The narrator-character, as an author, has a critical approach to his own text:

“How high-flown, almost pompous, I am becoming, now that I am a prose-writer! I know many playwrights who regard continuous prose as a sort of alien language which they could not dream of mastering. I think I may have felt like this myself at one time. And yet look at all the pages I have already covered! I have been looking back over my little sketch of James, and it is quite stylish. Is it true, however? Well, it is not totally misleading, but it is far too short and ‘smart’. How can one describe real people? James looks, in my description of him, so complete, so hard. I have omitted to say that he has little square teeth and an inane childish grin. Sometimes his mouth hangs vacantly open. He has a hooked nose and a dark complexion” (Murdoch 1980: 51).

By using metatextual inserts, the narrator-character places himself on an intermediate level between the text of his autobiography and the larger background of the novel; from this position, he addresses directly the reader:

“It has only just now occurred to me that really I could write all sorts of fantastic nonsense about my life in these memoirs and everybody would believe it! Such is human credulity, the power of the printed word, and of any well-known ‘name’ or ‘show business

personality'. Even if readers claim that they 'take it all with a grain of salt', they do not really. They yearn to believe, and they believe, because believing is easier than disbelieving, and because anything which is written down is likely to be 'true in a way'. I trust this passing reflection will not lead anyone to doubt the truth of any part of this story! When I come to describe my life with Clement Makin credulity will be strained, but will I hope not to fail!" (Murdoch 1980: 56).

The metaliterary intrusions cause the transformation of the text in what Gerard Genette called "metadiegetic narrative" (Genette 1988: 84):

"Since I started writing this 'book' or whatever it is, I have felt as if I were walking about in a dark cavern where there are various 'lights', made perhaps by shafts or apertures which reach the outside world. (What a gloomy image of my mind, but I do not mean it in a gloomy sense.)" (*ibidem*: 57).

While writing his autobiography, Charles is dealing with numerous metaliterary interrogations:

"Do I really want to describe my childhood?" (*ibidem*: 28).

"When I decided to write about myself, of course, the question arose: am I then to write about Hartley? Of course, I thought, I must write about Hartley, since that is the most important thing in my life. And yet, how can I, what style can I adopt or master worthy of such a sacred tale, and would not the attempt to relive those events upset me to some intolerable degree? Or would it be simply a sacrilege? Or suppose I were to get the wrong tone, making the marvellous merely grotesque?" (*ibidem*: 57).

Charles' attitude and worries show his preoccupation with his work, its structure, aesthetics and value, and his propensity towards sterile beauty.

4. Fantastic Intrusions

The concepts of fiction fantastic and fantasy are interconnected in the literary field the fantastic is the result of the writer's fantasy, and fantasy is also a species of fantastic literature. For Tzvetan Todorov the first condition of the fantastic is the reader's hesitation in front of a piece of fiction. The concepts of real and imaginary are essential in defining the fantastic. Todorov defined the fantastic as the hesitation of

someone who knows only the natural laws in front of an apparently supernatural event (Todorov 1973: 42). For Gary Wolfe fantasy as a literary species is based on the criteria of the impossible, as well as the whole of fantastic literature. Cosmin Perța identified two essential types of fantastic: the *interpretation fantastic* and the *modernist fantastic*. For the first type the interpreter is indispensable, for the second type the interpreter is not absolutely indispensable, and its main purpose is mainly “to frighten to terrify or at least to raise some question marks” (Perța 2011: 19). According to this classification in the analyzed novel we can find both types of the fantastic. The sea monster has a great impact on the hero, and it is a manifestation of the supernatural. Charles described in detail the monster and his reaction in front of this manifestation of the netherworld:

“Out of a perfectly calm, empty sea, at a distance of perhaps a quarter of a mile (or less), I saw an immense creature break the surface and arch itself upward. At first, it looked like a black snake, then a long, thickening body with a rigid, spiny back followed the elongated neck. There was something which might have been a flipper or perhaps a fin. I could not see the whole of the creature but the remainder of its body, or perhaps a long tail, disturbed the foaming water round the base of what had now risen from the sea to a height of (as it seemed) twenty or thirty feet. The creature then coiled itself so that the long neck circled twice, bringing the now conspicuous head low down above the surface of the sea. I could see the sky through the coils. I could also see the head with remarkable clarity, a kind of crested snake’s head, green-eyed, the mouth opening to show teeth and the pink interior” (Murdoch 1980: 23-24).

The effect of this manifestation of the supernatural on Charles is overwhelming:

“The shock and the horror of it were so great that for some time I could not move. I wanted to run away, I feared beyond anything that the animal could reappear closer to land, perhaps rising up at my very feet. But my legs would not function and my heart was beating so violently that any further exertion might have rendered me unconscious” (*ibidem*).

The monster symbolizes the hero’s voracity, which comes out of his soul like a monster from the depths of the sea. The sea creature is the manifestation of the modernist fantastic, while the interpretation fantastic can be deciphered in James’ actions; he makes a *tulpa*, a mental projection through some esoteric Tibetan practices. He also decides the moment of his death according to his personal physician,

Mr. Tsang:

“Mr. Arrowby died in happiness, achieving all. I have written for cause of death on the certificate ‘heart failure’, but it was not so. There are some who can freely choose their moment of death and without violence to the body can by simple will power die. It was so with him. I looked upon him with reverence and bowed before him. He has gone quietly, and by the force of his own thought was consciousness extinguished. Thus, it is good to go. Believe me, Sir, he was an enlightened one” (*ibidem*: 354).

Iris Murdoch conceived an intercultural dialogue between the Occident and Orient in the novel *The Sea, The Sea*, between the British culture and the Tibetan culture, between two different religious traditions, Christian and Buddhist, confirming the hypothesis that “the literary texts could be excellent bridges between cultures because they are privileged places in which other perspectives on the world are revealed” (Ferréol, Jucquois 2005: 371).

Conclusion

Iris Murdoch combines the fantastic philosophy and metafiction in the novel *The Sea, The Sea* in an intertextual manner, producing a text that satisfies the need for fiction and triggers the interest of the reader to study further Buddhist philosophy and Tibetan culture. The Buddhist reference is amply exploited in this text and the main intertextual figure is the paraphrase. Besides the intertextual component, the reader can identify a fictional and metafictional one, which contributes to the complexity of the novel. In this text, the author links two totally different cultures, British and Tibetan, conceiving a subtle intercultural dialogue, thus dealing with alterity. A complex personality with a propensity towards literature and philosophy, Iris Murdoch imbues an eclectic character in her novel.

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Prishtina High School EFL Students' Attitudes towards Information and Communication Technologies in the EFL classroom

Bekim Emini³⁶

Abstract

The traditional classroom model has undergone significant changes with the advent of ICT. The way that students feel about using ICT in the classroom has a big impact on their overall EFL performance. Numerous studies on attitudes toward information and communication technologies (ICT) have been conducted regarding students' attitudes towards ICT. The attitudes of Prishtina high school EFL students toward ICTs have been the subject of relatively little investigation. This study sought to ascertain the attitudes of Prishtina high school EFL students regarding information and communication technologies in the EFL classroom, in keeping with the current trend of encouraging a wider use of ICT in EFL classrooms in Prishtina. The survey included 28 respondents (EFL students), from each of the 13 public high schools in Prishtina. The data source was a students' questionnaire. While the primary study was carried out in-person in public high schools in the capital of Kosovo, the questionnaire was piloted electronically. Version 20.0 of the SPSS software was used to evaluate the data collected through a questionnaire. The analysis of the data obtained from the questionnaire revealed that Prishtina EFL students have positive attitudes towards ICT in the EFL classroom.

Keywords: *attitudes, Computer-assisted language learning, ICT, students*

INTRODUCTION

ELT is reaping the benefits of the various tools made possible through advances in information and communication technologies. Kramsch and Thorne (2002) have argued that ICT tools provide language learners with ample opportunities to practice English and a wider range of interactive practice materials. New ICT-related developments have resulted in massive innovations in the way language learning and instruction to take place. Research has shown that such innovations have led to many benefits for EFL learners. Galavis (1998), for example, has reported that the use of ICT in the EFL classroom speeds up students' acquisition of language skills and teaches them independence. Schoepp and Erogul (2001) have found out that the incorporation of ICT-based activities in the EFL classroom increases learner motivation. Such recognized benefits have led many educational institutions worldwide to adopt and incorporate ICT tools in the EFL language curriculum (Buabeng-Andoh, 2012).

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LITERATURE REVIEW

Today, we are witnessing more and more technology tools being incorporated and used for ELT purposes. Technology is already being integrated in language learning to help students practice and develop different language skills such as speaking practice, reading, and writing (Pim, 2013). A considerable amount of literature has highlighted the benefits of ICT in language learning. Darasawang and Reinders (2010), for example, stated that an online language support system helps promote learner autonomy. Another contributing factor of ICT is motivation. The blossoming of multimedia technology including visual aids, 22 sounds, video clips, animations, and so on motivates learners, “attracts their attention and elevates their interest in learning” (Kuo, 2009, p. 25).

Depending on the number of their components, attitudes have been defined and described in various ways. However, “a complete description of attitudes requires that all three components be assessed by obtaining measures of all three response classes” (Ajzen & Fishbein, 1980, p. 20). This implies affective, cognitive and behavioral attitude components that have been used and measured in this study.

METHODOLOGY

According to Gay et al. (2008), survey research can be either (a) cross-sectional survey research or (b) longitudinal survey research. Cross-sectional studies measure a population’s situation at a specific point in time (Gay et al., 2008). This study is a cross-sectional survey of Prishtina High School EFL Students’ Attitudes towards ICT in EFL classroom.

The study aimed to answer the following research question:

1. What are the attitudes of Prishtina high school EFL students towards Information Communication Technology in EFL classroom?

RESEARCH PARTICIPANTS

There were 28 EFL high school students (14 males and 14 females) voluntarily participated in the study. All teachers and students were recruited from public high schools in Pristina, the capital city of Kosovo. The ages of the 28 EFL male and female students ranged from 15 to 18 years at the time of the study. They attended year 10, 11, and 12 at their respective high schools. Most EFL students participating in the study learned in mixed classes (males and females) except for the students of Alauddin High School Madrasa where classes were segregated.

DATA COLLECTION AND INSTRUMENT

The study used non-probability (nonrandom) sampling. One of the major forms of nonrandom sampling is purposive (judgment) sampling. Despite its limitations, “purposive sampling has been useful in attitude and opinion surveys” (Ary et al., 2010, p. 156). Additionally, “if a researcher plans to study exceptional

high schools, he can choose schools to study based on his knowledge of exceptional schools” (Gay et al., 2008, p. 134). The researcher considers public high schools in Prishtina to be exceptional schools since he used to tutor students who came from different Kosovo high schools in privately-run English language centers in Prishtina, Kosovo.

The main instrument used was a 15-item Likert scale questionnaire. This questionnaire was used to collect the data on the participants’ attitudes towards the use of ICT in the EFL classroom. Most of questionnaire items were adopted from Albirini (2004) questionnaire.

RESULTS - FINDINGS

The EFL students’ questionnaire contained 15 Likert-type items that asked the respondents to describe their attitudes towards the use of ICT in the EFL classroom. The scale was divided into three subscales: (a) the affective domain subscale (items 1 to 5), (b) the cognitive domain subscale (items 6 to 10), and (c) the behavioral domain subscale (items 11 to 15). Prishtina high school EFL students’ attitudes were measured on a 5-point Likert-type scale ranging from 5 (Strongly Agree) to 1 (Strongly Disagree). Higher scores indicate EFL students’ positive attitudes towards ICT in the EFL classroom whereas lower scores indicate fewer positive attitudes. The table below shows the frequency of the responses to this 15-item Attitude Scale questionnaire of the EFL students’ survey.

Table 1. Frequency Percentages on EFL Students’ Attitude Scale

Item	EFL Students’ Attitude Scale	Percentage (%)				
		SA	A	N	D	SD
1	ICT in the EFL classroom do not scare me at all	71.4	28.6	0.0	0.0	0.0
2	I like to use ICT in the EFL classroom	46.4	39.3	14.3	0.0	0.0
3	ICT in the EFL classroom make me feel uncomfortable	3.6	7.1	10.7	46.4	32.1
4	Using ICT in my English lessons is enjoyable	42.9	39.3	14.3	3.6	0.0
5	I dislike using ICT in the EFL classroom	0.0	0.0	10.7	35.7	53.6
6	ICT motivate me to learn English	50.0	42.9	7.1	0.0	0.0
7	I do not need any ICT in the EFL classroom	0.0	0.0	17.9	46.4	35.7
8	ICT enhance my learning of English	39.3	39.3	21.4	0.0	0.0
9	ICT do more harm than good in the EFL	0.0	17.9	7.1	21.4	53.6

	classroom					
10	EFL students must use ICT to develop their own listening, speaking, reading and writing skills	35.7	35.7	28.6	0.0	0.0
11	I would rather do things by hand (<i>e.g., use a chalk/marker to write things on the board, etc.</i>) than use touch screen ICT (<i>e.g., smart boards, etc.</i>)	7.1	7.1	14.3	32.1	39.3
12	I would use ICT in the EFL classroom	50	39.3	3.6	3.6	3.6
13	I avoid ICT in the EFL classroom as much as possible	3.6	0.0	14.3	32.1	50
14	I would particularly use Skype to learn English in the EFL classroom	28.6	21.4	21.4	17.9	10.7
15	I have no intention to use ICT in the EFL classroom in the near future	3.6	7.1	17.9	32.1	39.3

Note: Scale: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree.

The Affective Domain. Statements 1 through 5 measured the affective aspect of Prishtina ESL students' attitudes towards the use of information and communication technologies in their EFL learning. In response to the first statement, that is, "ICT in the EFL classroom do not scare me at all," all the students indicated that they strongly agreed (71.4%) or agreed (28.6%) with it. Also, most of the respondents strongly agreed (46.4%) or agreed (39.3%) that they like to use ICT in the EFL classroom. However, 14.3% of the respondents were neutral. Only 10.7% of the respondents agreed with the third statement that information and communication technologies make them feel uncomfortable whereas the majority of the respondents (78.5%) indicated their disagreement with the statement. Most of the respondents (82.2%) strongly agreed or agreed that using ICT in English lessons is enjoyable. When asked to respond to the negative statement, "I dislike using ICT in the EFL classroom," 53.6% of the respondents strongly disagreed, and 35.7% disagreed.

The Cognitive Domain. As far as the cognitive subscale (statements 6 to 10) is concerned, it was shown that the most of the students (92.9%) agreed or strongly agreed that information and communication technologies motivate them to learn English in the EFL classroom. Regarding the negative statement, 'I do not need any ICT in EFL the classroom,' 35.7% of the respondents strongly disagreed; 46.4% disagreed whereas 17.9% were neutral. In terms of the benefit of ICT for EFL students, 78.6% of the

respondents agreed that the use of ICT enhanced their learning of English while 21.4% were neutral. Also, in response to the other negative statement of this attitude domain, namely “ICT do more harm than good in the EFL classroom,” three quarters of the respondents (75.0%) expressed their disagreement. When it came to the statement that EFL students must use ICT to develop their own listening, speaking, reading and writing skills, 71.4% of the respondents agreed.

The Behavioral Domain. Statements 11 to 15 addressed the EFL students’ behavioral domain of attitudes. About 71.4% of the students disagreed with the first behavioral domain statement, that is “I would rather do things by hand (e.g., using a chalk/marker to write things on the board, etc.) than use touch screen ICT (e.g., smart boards).” Only 14.2% agreed with this statement. Most of the respondents (89.3%) indicated their positive behavioral intentions to the hypothetical statement that they will use ICT in the EFL classroom. In response to the negative statement about avoiding ICT in the EFL classroom as much as possible, more than 82% of the respondents indicated they disagreed with the statement. Only a small minority (3.6%) of the EFL students indicated that they avoided ICT in the EFL classroom as much as possible. Half of the respondents (50.0%) declared that they would use Skype to learn English in the EFL classroom. More than 71% of them disagreed or strongly disagreed with the statement that they have no intention to use ICT in the EFL classroom in the near future.

Overall EFL Students’ Attitudes towards ICT. After the negatively stated items were reversed, it had been concluded that the Kosovo high school EFL students, who participated in the study, had positive attitudes towards the use of information and communication technologies in foreign language learning with an overall mean of 4.19 out of 5 (SD = 0.873). As is clear from Table 8, the mean score of the participants’ responses on the affective domain was 4.44 (SD = 0.667) indicating that the EFL students had strong positive affective attitudes towards the use of ICT in the EFL classroom. Similarly, they had strong positive cognitive attitudes towards the use of ICT in the EFL classroom with a slightly lower mean of 4.24 (SD = 0.742). The EFL students also expressed positive behavioral attitudes towards the use of ICT in the EFL classroom. However, their mean score (M = 3.89, SD = 1.212) on the behavioral subscale was lower than their mean scores on both the affective and cognitive subscales.

Table 2. Distribution of Mean Scores on the Attitude Scale of the EFL Students

Scale	Mean	Std. Deviation	Range
Affective	4.44	0.667	4
Cognitive	4.24	0.742	4
Behavioral	3.89	1.212	4
Overall Attitude	4.19	0.873	4

DISCUSSION

The current study investigated whether EFL students in Prishtina public high schools had positive or negative attitudes towards the use of information and communication technologies in the EFL classroom. The results above enabled the researcher to test the following hypothesis: 1. Prishtina high school EFL students have positive attitudes towards the use of information and communication technologies in the EFL classroom. The results of the present study provided descriptive statistical data to support both hypothesis that Prishtina EFL students have positive attitudes towards the use of information and communication technologies in the EFL classroom. These positive attitudes remained consistent for the participants across the affective, cognitive, and behavioral domains of attitudes.

CONCLUSION

Based on the results of the study, the study hypothesis was confirmed. Prishtina high school students who participated in the study did have positive attitudes towards the use of ICT on the EFL classrooms. Compared to findings of existing research on the attitudes of students from different backgrounds towards the use of ICT in EFL pedagogy, findings of this study indicated that Prishtina high school EFL students were part of a larger international trend that viewed the use of ICT to learn and teach EFL positively. This indicated that stakeholders in Kosovo might want to look into the reasons behind this lag and design programs to help improve students' behavioral attitudes towards the use of ICT in the EFL context. The findings of the current study may also serve as an incentive for education policymakers to propose investments in ICT in Kosovo public high schools and classrooms since not many high schools in Kosovo have the necessary ICT infrastructure. Here are a few more pedagogical recommendations geared towards educational policy makers of Kosovo's Ministry of Education, Science, Technology and Innovation. The following are some recommendations for educational policymakers in Kosovo's Ministry of Education, Science, Technology and Innovation. MESTI policymakers are recommended to:

- Provide Prishtina high school students with different ICT tools that help improve English language acquisition: projectors, computers/laptops and reliable internet.
- Organize workshops that aim at exchanging high school students' experiences of employing ICT when acquiring the four English language skills: listening, speaking, reading, and writing.
- Promote blended learning in Prishtina high schools; in the event of adverse weather conditions, students could attend online classes from home.

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Expectations Of Generation Z Regarding Working Hours

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Abstract

This study aims to understand the expectations of Generation Z regarding working hours and analyze the impact of these expectations on workplace practices. Generation Z typically consists of individuals born between 1999 and 2011, who have grown up in the digital age and are well-adapted to technology. Unlike previous generations, this cohort challenges traditional work models and rigid job arrangements, seeking a balance between work-life harmony and individual freedom.

Generation Z considers technology an integral part of their lives and expects to maintain these habits in their professional lives. The primary objective of this research is to comprehend this generation's tendencies toward flexible, remote, and personalized work models and to evaluate the implications of these tendencies on employer policies.

The research findings reveal that Generation Z is moving away from traditional fixed working hours and leaning toward flexible and remote work models. 82% of participants indicated that customizing working hours according to individual needs positively impacts job satisfaction. Furthermore, flexible work models support work-life balance and enhance employee motivation.

In conclusion, Generation Z individuals have fundamental expectations in the workplace, such as a search for meaning, individual freedom, and technological integration. Adopting work models that align with these demands will increase job satisfaction and productivity, providing a more sustainable work environment.

Keywords: Generation Z, Working Hours, Flexible Work, Work-Life Balance, Survey Research

JEL Code: J01 Labor Economics: General, J11 Demographic Trends, Macroeconomic Effects, and Forecasts, J81 Working Conditions, J11 Demographic Trends, Macroeconomic Effects

INTRODUCTION

In today's business world, the contributions and expectations of different generations in the workplace have become an important topic. Especially, the impact of Generation Z—generally defined as those born

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between 1999 and 2011—on working life has been increasing significantly in recent years. As a product of the digital age, Generation Z challenges traditional working models in the workplace and replaces them with more flexible, modern, and technology-driven environments.

In this context, the expectations of Generation Z regarding working life, especially working hours, have become an important area of research. This study aims to examine the expectations of Generation Z about working hours and how these expectations affect practices in workplaces.

In the first section, the purpose, importance, and scope of the study are introduced. Firstly, generations and their general characteristics are discussed. Then, the general characteristics of Generation Z and studies about their approach to working life are presented.

In the second section, Generation Z's attitudes toward working life are explained. First, their attitudes, expectations, and concerns about working are discussed. Then, topics such as working hours, wages, working conditions, and managerial expectations are addressed.

In the third and final section, the objectives and methods of the study are explained, and the hypotheses guiding the study are stated. The survey conducted is presented in this section, and based on its results, suggestions are offered.

This study aims to understand the preferences and expectations of Generation Z in working life and to contribute to the development of suitable workplace practices for this generation. Understanding Generation Z's expectations regarding working hours can help employers and managers better understand this generation and create a more efficient working culture in the workplace.

CHAPTER ONE: GENERATIONS AND GENERATION Z

Throughout history, many types of knowledge, skills, and cultural elements have been passed down from generation to generation. Although these transmitted elements differ between periods, they generally show similar characteristics in terms of helping humanity sustain its existence (Kılınç & Varol, 2021). Events throughout human history have had an impact on people's emotions, states, and behaviors. The fact that people who lived in the same period have similar characteristics has laid the foundation for the concept of generation. Each historical event has influenced people of its time, and similar traits have been observed among those within the same generation (Kılınç & Varol, 2021). The term "generation" refers to a specific time period or age group. According to the Turkish Language Association, a generation is defined as: "a group of people born around the same years, sharing the same conditions of an era, and therefore similar struggles, destinies, and responsibilities" (<https://tdk.gov.tr/>, Access Date: 16.12.2023).

The concept of generation, in its historical development, was first studied in a modern sense by Auguste

Comte between 1830 and 1840. Comte stated that with changing forces over time, there is a continuous process between generations, and that social progress is possible through the transfer of past experiences to new generations. Every event, whether good or bad, should be seen as a learning experience, and these experiences should help guide future generations in resolving similar events more effectively (Uğurbulduk & Efeoğlu, 2021). With this approach, Auguste Comte was the first to examine the concept of generation as a research topic in the 19th century (Yıldırımaltı & Güvenç, 2020).

In the 20th century, the first sociologist to systematically evaluate the concept of generation in the way we understand it today was Karl Mannheim (Yıldırımaltı & Güvenç, 2020). According to Mannheim, the concept of generation is defined as the development of a shared social identity by individuals born in the same time period due to having common historical experiences. Based on Mannheim's work, five characteristics are necessary to describe the existence of generations: first, the emergence of new participants in the traditional process; second, the continuous disappearance of old participants; third, the ability of members of a generation to participate in a specific period within the traditional process; fourth, the transmission of traditional heritage; and fifth, the continuous transfer from one generation to the next (Uysal, 2019).

The concept of generation, which describes people born in the same period, who have witnessed similar events and carried similar responsibilities, expresses the unique features of each generation and what distinguishes them from others (Kılınç & Varol, 2021). From the 20th century onward, generations have been classified as follows: the Silent Generation (Traditionalists) 1925–1945; Baby Boomers 1946–1964; Generation X 1965–1983; Generation Y 1984–1998; Generation Z 1999–2011; and Generation Alpha (α) 2011 and beyond. Each generation has its own characteristics, values, attitudes, and culture. When evaluating generations as a whole, it is important to understand that not everyone shares the same traits (Adıgüzel, Batur, & Ekşili, 2014).

In this study, the generations classified from the 20th century onward, the significant events they experienced, and how these events affected the emotions, conditions, and behaviors of the generations will be discussed (Kılınç & Varol, 2021).

Generations And Their Characteristics

Silent Generation (1925–1945):

Also known as the “War Generation” or “Traditionalists,” this generation includes those born between 1925 and 1945. Due to the difficult conditions of the time, individuals from this generation generally have stricter personalities, respect for authority, and are committed to work, family, and spirituality (Uğurbulduk & Efeoğlu, 2021). In terms of working life, this group represents the oldest segment today,

and most of them are retired (Işık, 2019). For these individuals, work has been seen as the most important part of life and even a life philosophy (Kavak, 2020).

Baby Boomer Generation (1946–1964):

Also called “Baby Boomers” or the “Golden Generation,” this generation includes those born between 1946 and 1964. As the world had just come out of World War II, there was a rapid population increase worldwide. That’s why this generation is also known as the “Baby Boom.” In terms of working conditions, they are known for living to work, being loyal to management, being committed to their jobs and workplaces, having a positive attitude, remaining calm, and being generally satisfied with life (Işık, 2019).

Generation X (1965–1983):

Described as the “transition generation,” this group was born between 1965 and 1983. They are also called the “unknown” generation because they wanted to change the existing system created by previous generations. This period witnessed major political, economic, and social changes, which led to serious transformations (Bekman & Gündüz, 2022). Generation X made great efforts to adapt to these global problems, but at the same time, they often felt excluded due to being perceived as not fully catching up with the modern era (Adıgüzel, Batur, & Ekşili, 2014).

Generation Y (1984–1998):

Also known as the “Digital Generation” or “Millennials,” this group includes those born between 1984 and 1998. In Turkey, they are often called the “Post-1980 Generation.” Compared to previous generations, they grew up in more prosperous, freer, and economically stable conditions (Bekman & Gündüz, 2022).

Generation Alpha (2012 and Beyond):

Referred to as the “Generation of Hope,” “New Age Generation,” “Regeneration,” “Digital Natives,” or “The Rescuers,” Generation Alpha includes individuals born in 2012 and after (Kavak, 2020). This generation is growing up during significant political and economic events, which shape their mental development based on their environment. The rapid development of technology has led to major changes in the core structures of society. Devices like computers, televisions, and tablets have moved human relationships into virtual environments.

Generation Z (1999–2011):

Known as the “Digital Natives,” “Crystal Generation,” “Deep Emotional,” and the “Network Generation,” Generation Z includes individuals born between 1999 and 2011. However, there is no full agreement about the starting year; some researchers believe it begins before 2000, while others suggest 2000 and after (Aksu, 2022). Generation Z was born in the late 20th century and early 21st century. They

are also known as the “Internet Generation” and use technology in all areas of life such as communication, health, transportation, and work (Adıgüzel, Batur, & Ekşili, 2014). Being the most global generation so far, they have integrated technology into their lives and actively use it for information access and communication (Kavak, 2020). Generation Z has witnessed many important political, social, cultural, and economic events around the world. Depending on their cultural and personal experiences, the events they lived through played a major role in shaping their lives. They reflect the comfort they grew up with in their working lives as well. They prefer to determine their own working conditions and hours, value work-life balance, oppose hierarchical structures, and evaluate success based on productivity (Kavak, 2020). Unlike other generations, they prefer individual work rather than group work and care about having personal space in professional life. With the combination of imagination and technology, they aim to produce unique and innovative work (Kavak, 2020).

CHAPTER TWO: Z GENERATION’S ATTITUDES TOWARD WORKING LIFE

The Z

Generation, covering those born between 1999 and 2011, has actively started participating in business life as of 2022, mostly as interns, having completed their university education. As the youngest members of working life, Z Generation individuals have rejected traditional norms in the workplace due to their upbringing and mindset and have pioneered the development of innovative working models. As children of X and Y Generation parents, they were raised in an overly protective and intervening manner, which has led to a lack of resilience against the challenges of working life (Çaşın, 2022). Characteristically, Z Generation individuals exhibit traits such as impatience, difficulty maintaining stability, lack of commitment, communication challenges, introversion, and a strong emphasis on individualism. Nonetheless, it is important for modern organizations to understand the expectations of Z Generation individuals—who will become the future employees and customers—and to conduct studies accordingly (Bekman & Gündüz, 2022).

Attitudes of the Z Generation Toward Work

Z Generation individuals, who interact intensively in digital and online environments, expect their working conditions to be compatible with internet and information technologies in both physical and technical aspects (Çaşın, 2022). As a digital generation, they tend to prioritize staying connected with social life even during work. Their ability to use multiple online applications simultaneously is believed to have enhanced their multitasking capabilities and various skills (Çaşın, 2022). Having grown up in a rapidly evolving and changing world, they believe that information quickly becomes outdated and must be constantly updated. For this reason, they consider it important to continuously improve their

knowledge and skills (Bekman & Gündüz, 2022).

Due to their self-centered upbringing and low commitment levels, they often do not prefer long-term employment in a specific institution or sector. Having witnessed their families suffer from unemployment during economic downturns, Z Generation individuals have developed financial awareness and tend to save money. Observing the financial and emotional difficulties faced by family members has encouraged them to seek opportunities to meet their own needs, often gaining experience in part-time jobs (Çaşın, 2022).

In an effort to improve their professional skills and knowledge, many Z Generation members have completed internships during their university years, which makes it easier for them to find positions in the workforce. Moreover, they frequently participate in online training to gain additional knowledge and support their personal development.

Despite their busy work schedules, Z Generation individuals enjoy allocating time for entertainment. They integrate technology into their daily lives and prefer to spend their free time on social media, online videos, and games. In addition, they dedicate considerable time to outdoor activities such as sports events, concerts, cinema, and theatre. These preferences help reduce work-related stress and contribute to maintaining a work-life balance.

If employers adopt a positive approach to their strong connection with technology, Z Generation individuals can significantly contribute to the workplace. For example, due to their digital literacy, they can accelerate digital transformation and, with their demands for flexible working models, increase work efficiency. Furthermore, they can easily adapt to task changes and successfully complete multiple assignments. Z Generation promotes efficiency, innovation, and diversity in the workplace.

When examining employers' perspectives on the Z Generation, many managers believe that the involvement of Z Generation will bring innovation, especially to office environments. They expect increased use of digital screens, the replacement of formal procedures with flexible work models, the emergence of new roles and responsibilities in line with the changing world order, and a diverse work environment where people of different religions, languages, and ethnicities collaborate (Bekman & Gündüz, 2022).

In response to these changes, organizations have begun to redesign their workspaces. They aim to create environments where employees can move freely and socialize, promote flexible structures over traditional hierarchies, and foster a workplace where different lifestyles and choices are respected rather than deemed unusual. Ultimately, adopting these practices will support the continuation and development of good and original ideas within a democratic structure (Bekman & Gündüz, 2022).

Z Generation's Expectations Regarding Working Life

Events that have occurred throughout history have brought about changes in society's structure, individuals' behaviors and values, belief systems, and expectations—impacting fields such as culture, law, education, and technology (Taş, Demirdöğmez, & Küçükoğlu, 2017). When examining the effects of these changes on individuals, it is observed that while previous generations were content and respectful of authority, new generations are curious, informed, questioning, conscious of their needs, and value personal space.

The Z Generation, expected to become a part of the workforce in the near future, stands out as a generation that will reshape business life by transferring their technological competence into the work environment. When their expectations from working life are examined, it is seen that they prioritize transparency, organic organization, and fairness in opportunities. Research on the Z Generation shows that individuals possess entrepreneurial spirit, technological integration, personal talent, financial awareness, environmental sensitivity, self-confidence, and multitasking abilities.

Due to their technological upbringing, they are highly proficient in digital tools and devices, which positively impacts remote and flexible work models by saving employers money and employees time (Uğurbulduk & Efeoğlu, 2021). Today's Z Generation strongly believes that employment is essential for securing a place in business life. Employment is viewed as a fundamental requirement to sustain one's life, support one's family, and contribute to society. Instead of choosing the most efficient job, they prefer jobs that make them happy.

Z Generation individuals adopt a libertarian and innovative approach to work life. This attitude promotes creativity and supports personal development, which positively affects productivity during work. They do not prefer restrictive and oppressive environments in their professional lives. During the employment process, they pay close attention to choosing workplaces that offer freedom of movement.

Z Generation is open to continuous innovation, does not hesitate to make changes in their lives, takes risks, and seeks the right path through diverse experiences—traits that differentiate them from previous generations. They are also highly sensitive to issues of justice and other social events. As digital natives, they easily integrate digital tools into their lives and expect their work environments to be technologically compatible and provide sufficient resources.

CHAPTER THREE: RESEARCH

Purpose of the Research

The aim of this research is to understand and analyze the attitudes, expectations, and preferences of Generation Z regarding working hours as they begin to enter the workforce. Generation Z, as a natural product of the digitalized world, brings a new perspective to work life and challenges traditional working models. This study seeks to deeply examine Generation Z's attitudes, expectations, and preferences about working hours and to understand the changes this generation introduces to the business world. In this context, the study aims to explore the basis of Generation Z's expectations about working hours and the reasons behind them. Moreover, the study aims to analyze how these expectations affect work life, including factors such as work efficiency, job satisfaction, and work-life balance. In addition, one of the main focuses of this research is to investigate how Generation Z's expectations regarding working hours are met in the workplace and what kind of policies managers develop in response. As a result, this study will provide an important contribution to understanding the integration process of Generation Z into work life and assessing the role they will play in the future work culture.

Research Methodology and Method

This research was conducted using a quantitative research method. Quantitative research uses numerical data and aims to reach accurate and generalizable results (Gürbüz & Şahin, 2018). In quantitative studies, numerical data are collected first, then analyzed using statistical and mathematical methods to reach reliable results. This study is exploratory in nature. Exploratory research usually does not aim for generalization but rather aims to provide initial information on new areas where there is not enough existing knowledge. This type of research includes expert opinions, literature reviews, and similar studies. It reveals topics that can be systematically examined, questions that can be asked, and new ideas and hypotheses that can be tested (Koç & et al., 2023). Exploratory research aims to determine the scope or dimension of a reality, problem, or movement, generate initial ideas about the phenomenon, or test the feasibility of a broader study on the topic (Koç & et al., 2023).

Research Data Collection Tools

In this graduation project, statistical analyses were conducted using the SPSS (Statistical Package for the Social Sciences) 29.0 software. The data collection process was carried out through an online questionnaire, and the collected data were analyzed with various statistical methods using SPSS. The analytical tools provided by SPSS enabled an in-depth examination of the data and statistical validation of the results in line with the research objectives. The analyses played a significant role in supporting the main findings of the study and answering the research questions.

The survey consists of 3 sections. In the first section, 4 demographic questions were asked to participants, such as gender, age range, education level, and employment status. The second section included questions on key topics such as the ideal work environment and working hours, flexible and remote work models, work-life balance, and expectations regarding leave. In the third and final section, questions were asked using a 5-point Likert scale to measure participants' attitudes and behaviors toward working life. The Likert Scale refers to the type of scale used by forming multiple Likert-type questions to analyze a research question. Participants express their opinions and experiences by choosing their answers to each question (Turan, Şimşek, & et al., 2015). Depending on their level of agreement, participants were asked to choose one of the following options: (1) Strongly Agree, (2) Agree, (3) Neutral, (4) Disagree, (5) Strongly Disagree.

Research Population and Sample

The research population includes individuals from Generation Z, as well as Generation X and Y. This study is limited to participants living in Turkey and continuing their education or work life from Generations X, Y, and Z. The research was conducted through online surveys distributed via various communication channels and social media platforms. A total of 235 people participated in the survey. The sampling method used was random sampling. Random sampling is a model where every unit in the population has an equal chance of being selected as part of the sample (Özdamar, 2004).

Research Findings and Analysis

In this section, the data from participants—especially from Generation Z—were examined through statistical analyses and the results were interpreted. These analyses were performed using the SPSS 29.0 program.

Demographic Findings

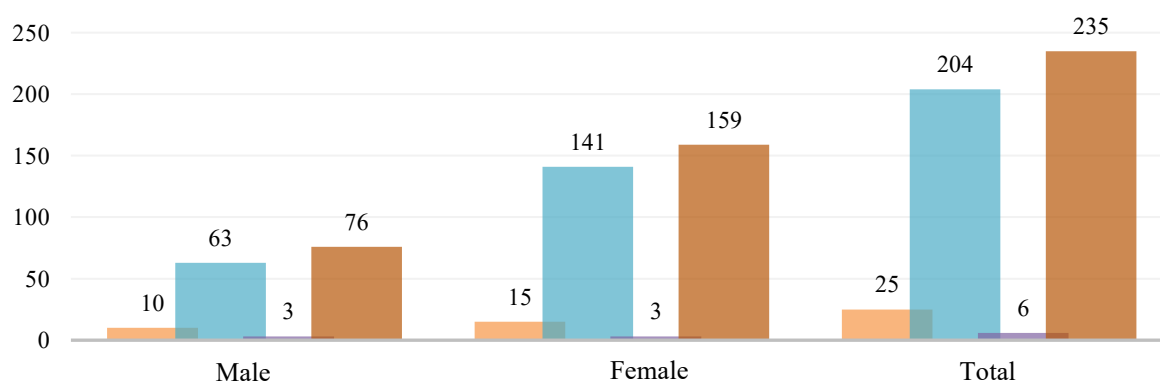
This section presents frequency and percentage distributions of variables related to participants' demographic information. According to the gender distribution of participants, 67.7% (n=159) were female and 32.3% (n=76) were male. According to age distribution, 77.9% (n=189) were from Generation Z, 18.3% (n=43) from Generation Y, and 3.8% (n=9) from Generation X. Thus, the majority of participants were from Generation Z, which is also the focus of the study. This high participation rate plays a crucial role in the accuracy of the research results. According to the education level distribution of the participants, 71.1% (n=167) were undergraduate students, 15.3% (n=36) associate degree, 7.7% (n=18) high school, and 6.0% (n=14) postgraduate

students. In terms of employment status, 51.5% (n=121) stated they were not currently working, 34.9% (n=82) said they were working, and 13.6% (n=32) said they would work if they found a suitable job.

Findings Based on Gender

In this section, the survey responses were analyzed based on gender, focusing on working hours and related expectations. The question “Are you currently working?” was asked to 235 participants. Among them, 82 stated that they are employed, 121 said they are not working, and 32 mentioned they are ready to work when a suitable job is found. Another question asked was “Are you familiar with the flexible working model?” Among 235 participants, 127 answered “I have some knowledge,” 73 said “Yes, I’m quite knowledgeable,” and 35 stated “No, I don’t know much about it.” In response to the question “Do you find flexible working to be an efficient model?” 76 participants said “Sometimes I find it efficient,” 72 said “I have never experienced flexible working,” 66 said “Yes, I find it definitely efficient,” and 21 responded “No, I generally don’t find it efficient.”

Table 1: Importance of Working Hours According to Gender in Generation Z



In Table 1, a total of 235 participants were asked the question: “As a member of Generation Z, is working time an important criterion for you?” The answers were analyzed according to gender to reveal participants’ expectations regarding working hours. According to the results, out of 235 respondents, 204 answered “Yes, working time is an important criterion for me,” 25 answered “Sometimes it is important,” and 6 answered “No, I generally do not care about working hours. When examining attitudes toward working hours by gender, it is seen that the vast majority of female participants (88.7%) consider working time to be an important factor, while a similar majority of male participants (82.9%) also share this view. These results indicate that both female and male participants generally attach importance to working hours. However, it can be observed that women have a stronger attitude on this matter and consider working hours to be a more significant criterion. The importance women place on working hours may be associated with traditional gender roles and domestic responsibilities. For men, the reason behind valuing

working hours might stem from the need to maintain a work-life balance and career-oriented expectations.

Findings Based on Age Groups

In this study, 33 questions were posed to participants using a 5-point Likert scale. Participants were asked to choose the option that best represented their views. The findings obtained aim to reveal the similarities and differences between generations and contribute to a better understanding of the dynamics in work life. The responses were categorized by generation.

Accordingly, regarding the statement *“Working hours are important in the job I want to do”*, the generation with the highest number of “strongly agree” responses was Generation Z, with 137 participants. This indicates a high level of consensus among Generation Z participants on this issue.

For the statement *“I consider working hours when choosing a job”*, Generation Z again recorded the highest number of “strongly agree” responses, with 122 individuals. This suggests that Generation Z places significant importance on working hours in their job selection process.

In response to the statement *“I want working hours to be clearly defined in a job”*, Generation Z gave the highest number of “strongly agree” responses, with 132 participants. Additionally, 40 individuals from this generation selected “neutral,” indicating that while a majority of Generation Z prefers defined working hours, a notable portion remains undecided on this issue.

Regarding the statement *“If I earn a high salary, working hours do not matter”*, 77 participants from Generation Z responded “disagree,” and 54 answered “strongly agree.” These findings show that Generation Z is not solely motivated by a high salary. Factors such as working hours and job design also hold significance for them. This highlights Generation Z's desire for balance in working life, indicating that they value not only financial compensation but also work-life quality.

These results emphasize the importance for employers and managers to consider not only salary increases but also working hours, work-life balance, and flexibility when designing job conditions.

For the statement *“I consider shorter initial working hours when starting a new job”*, 77 participants from Generation Z responded “strongly agree,” the highest among all groups. This indicates that Generation Z prefers shorter initial working hours when entering the workforce. This preference suggests that they tend to diversify their work experiences quickly and aim to gain experience in various work environments.

Additionally, these findings show that young job seekers expect employers to value short-term work experiences and view them as opportunities that contribute to career development.

For the statement *“Working hours should be determined according to the nature of the job”*, Generation Z again had the highest number of “strongly agree” responses, with 108 participants. This reflects their demand for flexibility and personalized work arrangements in the business world. Generation Z strongly believes that working hours should be arranged based on the requirements of the job.

This highlights the necessity for employers to organize work processes and hours in a flexible manner, aligned with job requirements. Such an approach can improve employee satisfaction while also enhancing productivity and performance.

Finally, in response to the statement *“I believe that shorter working hours will increase employee performance”*, the highest number of “strongly agree” responses again came from Generation Z, with 112 individuals. This indicates that Generation Z believes shorter working hours positively affect employee performance. They tend to think that establishing a balance between efficiency and work-life harmony will improve performance, and thus, they prefer shorter yet more efficient working hours.

RESULT

In the new world order, there is an increase in the number of studies conducted Decently to Decipher the intergenerational differences in working life between researchers and specialists. With the inclusion of technology in our lives, working life is also going through a radical change process. This transformation manifests itself in many areas, from the way of doing business to working hours, from the workplace to remote working. In today's working life, the presence of four different generations in the same working environment, such as Baby Boomers, X, Y and Z generations, leads to the formation of different and diverse expectations in the workplace. The personality traits, expectations, desires and preferences of these generations have an important impact on the development of new policies in working life. In particular, the fact that generation Z individuals were born into the technological era and are just starting to join the workforce affects the acceleration of policies. It is important that there are differences between generations that businesses and managers take into account when developing new policies. Dec. This research aims to contribute to the scientific literature in this field by examining the working time of intergenerational differences and expectations about working time. Dec. In this study, the opinions of generation Z individuals were used in relation to the attitudes and expectations of Generation Z who have started to be involved in working life regarding their working time. The participants are usually selected mainly from generation Z, and it is aimed to measure the perceptions of individuals from different generations about their working time and expectations. The participants were selected from different age groups, and this diversity represents generations and allows assessments to be made based on the perspectives of individuals from different generations. Generation Z individuals, as the youngest members of working life, tend to reject traditional norms. Together with their involvement in working

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life, they lead the development of new approaches. Generation Z individuals, who are open to innovations with their thinking structures and upbringing styles, encourage the adoption of different working models by getting out of old habits in their working life. When the demands of generation Z regarding their working life are examined, it is seen that they prefer a business life that attaches importance to transparent, organic organization and fairness of opportunity. The expectations of generation Z from the business world are quite diverse. Among these expectations, it is important to provide flexibility in working life and on time, to maintain work-life balance and to move away from hierarchical structure and Decelerate towards an organic organization. At the same time, the realization of career Deceleration in various ways and the creation of an innovative, technology-oriented business environment are also among the expectations from working life. Generation Z individuals want to be offered opportunities that will provide not only material but also blue satisfaction. Diversification of individual working environments and provision of technological equipment to all employees is one of the important demands. Generation Z individuals who question the traditional management approach and hierarchical structures prefer a participatory and democratic approach, wanting to play an effective role in internal corporate decisions in their working life.

There are significant differences in the opinions of Z Generation (1999-2011), Y Generation (1984-1998) and X Generation (1965-1983) individuals about their working time. According to this;

Flexible Working and Individual Preferences: It is observed that generation Z individuals attach more importance to the flexibility of working hours and individual preferences than generation Y and X individuals. Generation Z tends to use more initiative when choosing jobs and regulating their working time. With flexible and remote working models, work-life balance is a priority for generation Z. Generation Z's understanding of flexible working and freedom as natural products of the digital age reflects the departure of working hours from traditional norms and the desire of individuals to gain more control over their periods.

Specific and Fixed Working Hours: Generation X individuals attach more importance to specific and fixed working hours than generation Z individuals. Generation X is known for having a more traditional business approach and for their tendency to adapt to certain hours. Generation X, the children of the industrial age, prefer their working hours to be in a certain order because they have grown up with a certain understanding of order and discipline at work. Generation Y individuals support flexible working hours, but they participate less than generation Z. Generation Y individuals have a tendency to strike a balance between flexibility and the work-life balance that comes with it. Dec. The fact that generation Y individuals are adopting a more balanced approach compared to generations X and Z can be interpreted as the fact that they do not want certain working hours to be completely flexible.

Income Level and Job Satisfaction: Among generations X, Y and Z, factors such as income Decency and job satisfaction affect the perspective on working hours. For example, income growth may encourage the preference for long working hours or overtime. However, job satisfaction plays an important role in determining working hours and implementing flexibility policies.

Nature of the Job: While Generation X and Y individuals think that the job should be suitable for a certain working time due to its nature, generation Z individuals adopt a more flexible approach. This suggests that there may be differences in preferences depending on the type of work. For example, flexible working hours are usually preferred for jobs that require creativity, while certain working hours are more preferred for those who work on production lines. The nature of the job plays an important role in determining the preferences of employees regarding working hours.

Research Question 1: Does generation Z tend to personally determine their working time at work?

According to the survey data, the majority of generation Z respondents (I completely Agree 122, I agree 40) said, “I would like to have the opportunity to organize my working hours at work.” he answered the question in the affirmative. This trend shows that generation Z is looking for independence and autonomy in their working life. It can be said that generation Z prefers to have flexible working hours for reasons such as prioritizing work-private life balance and this flexibility is important due to the need to adapt to their personal schedules.

Research Question 2: Does generation Z consider flexible working hours as a priority in job choices?

According to the survey data, more than 90% of the generation Z respondents (I completely Agree 122, I agree 48) said, “I care about working hours when choosing a job.” he answered the question in the affirmative. Accordingly, flexible working hours are an important factor in job selection for generation Z individuals. This choice allows them to live both their personal and professional lives in a more balanced way.

Research Question 3: Does generation Z tend to prefer shorter working hours in business life?

According to the survey data, “The less working time, the more likely I am to prefer a job. The number of generation Z participants who said “I completely agree” with his statement is 65, and the number of participants who said “I agree” is 57. Accordingly, it can be said that more than half of the participants preferred shorter study periods. This trend shows that Generation Z cares more about their personal time than their working life.

Research Question 4: How can the relationship between Dec generation Z's digital technology usage habits and working hours be evaluated?

According to the survey data, “I would like flexible working hours to be implemented. The number of generation Z participants who say “I completely agree” with his statement is 82, and the number who say “I agree” is 62. Accordingly, it can be stated that flexible working hours are important for generation Z. Digital technology is being used extensively by generation Z to make their jobs faster, more efficient and more flexible. The adoption of digital technology by generation Z and its interest in flexible working models reflect the search for more flexibility and independence in working life compared to traditional ways of working. Therefore, generation Z employees are more likely to prefer working environments that are supported by digital technology and provide flexible working opportunities.

Research Question 5: How can the relationship between personal development and job satisfaction of the working time of generation Z be evaluated?

According to the survey data, the majority of generation Z respondents (110 Completely Agree) said, “Working hours should be determined according to the needs of employees.” he answered the question in the affirmative. This shows that the large segment of Generation Z prefers flexible and work periods determined according to their personal needs. Personal motivation and job satisfaction are an important source of motivation for generation Z. Flexible working hours offer more time and opportunities for individuals to improve themselves and be satisfied with their jobs.

Research Question 6: What is the impact of flexible working hours demands of generation Z employees on work productivity?

According to the survey data, “I think that employee performance will increase as the working time is shortened. The number of generation Z participants who said “I completely agree” with his statement is 112 and the number of participants who said “I agree” is 60. Accordingly, it is stated that the vast majority of Generation Z believes that shorter and flexible working hours increase productivity. Flexible working hours are an important factor to increase the work efficiency and job satisfaction of Generation Z. From the point of view of employees, it is stated that it is more productive when stress levels are low in an environment where they feel more flexible and comfortable. This also reflects positively on work efficiency and job satisfaction.

As a result, it is stated that generation Z has a positive approach to flexible working hours and work arrangements based on their personal preferences, and this approach affects their work preferences. Generation Z tends to increase job satisfaction and performance by caring about flexible working hours in their job choices. In addition, the adoption of flexible working models along with the use of digital technology reflects the search for more flexibility in working life for generation Z. These findings show that the implementation of flexible working policies at workplaces can have positive effects on the job

satisfaction, performance and quality of life of generation Z employees.

Research Hypothesis: Generation Z believes that when they have the flexibility to adjust their working hours according to their personal preferences, their attitudes towards work and working life will be positively affected.

Accept. According to the survey, there is a positive relationship between generation Z's flexibility to Decipher their working time according to their personal preferences and their attitudes towards work-private life balance. The fact that the majority of generation Z participants expressed that they want to organize their working hours according to their personal preferences shows that this flexibility can have positive effects on work-private life balance.

Research Hypothesis (H1) : When generation Z has the flexibility to adjust their working hours according to their personal preferences, the level of job satisfaction increases.

Accept. According to the data, a large part of the generation Z participants said, "I would like to have the opportunity to organize my working hours at work." he stated that he fully agrees with his statement. This supports that job satisfaction will increase when personal flexibility is provided.

Research Hypothesis (H2) : Generation Z individuals who have flexible working hours tend to increase their job performance and do their jobs more effectively.

Accept. According to the data, a significant part of generation Z said, "I would like flexible working hours to be implemented." he stated that he fully agrees with his statement. This shows that flexible working hours have a positive impact on job performance.

Research Hypothesis (H3) : Generation Z tends to exhibit higher productivity with shorter working hours.

Accept. According to the data, a large part of generation Z says, "The less working time, the more likely I am to prefer a job." and "I think that employee performance will increase as the working time is shortened." he stated that he agreed with their statements. This supports the fact that they tend to be highly efficient with shorter working hours.

Research Hypothesis (H4): Generation Z individuals believe that working in work environments that offer more flexible working hours and remote working opportunities will increase their job satisfaction and motivation compared to traditional office environments.

Accept. According to the data, the majority of generation Z said, "I would like flexible working hours to be implemented." and "I prefer working time that will not restrict my private life." he stated that he fully agrees with his statements. This supports that flexible and remote working opportunities increase job satisfaction and motivation.

Research Hypothesis (H5) : Generation Z believes that there is a positive relationship between flexibility and freedom in working hours and work-life balance, which can improve personal happiness and work performance.

Accept. According to the data, a large part of generation Z “I prefer working time that will not disrupt my family responsibilities.” and “I prefer working time that will not restrict my private life.” he stated that he fully agrees with his statements. This supports that flexible working hours are associated with work-life balance and personal happiness.

Research Hypothesis (H6) : The expectations of generation Z individuals regarding their working time include the integration of technology into business life and remote working opportunities. By meeting these expectations, the job satisfaction of generation Z employees will increase and their job performance will be positively affected.

Accept. According to the data, a large part of generation Z said, “I would like flexible working hours to be implemented.” and “I prefer working time that will not restrict my private life.” he stated that he fully agrees with his statements. This supports the integration of technology into working life and that remote working opportunities positively affect job satisfaction and performance.

As a result, it shows that generation Z has a positive approach to flexible working hours and work arrangements based on personal preferences. A large part of the participants prefer flexible working hours and think that this situation increases their job satisfaction and motivation. In addition, it is stated that generation Z individuals tend to exhibit high productivity during shorter working hours, and flexible working opportunities are associated with work-life balance and personal happiness. These findings suggest that the implementation of flexible working policies at workplaces may have positive effects on the job satisfaction, performance and quality of life of generation Z employees.

Research Assumption 1: Generation Z individuals are more prone to flexible working hours and remote working opportunities to achieve work-life balance. Therefore, they will prefer their employers who offer flexible working options.

According to the data, a large part of the generation Z participants said, “I would like flexible working hours to be implemented.” and “I prefer working time that will not restrict my private life.” he fully agrees with his statements. This supports that generation Z is more prone to flexible working hours and remote working opportunities and that they will prefer employers and managers who offer such options.

Research Assumption 2: Since generation Z is a generation that has been heavily exposed to technology, it has adopted and prefers digital working tools such as remote working and flexible hours more.

According to the data, the majority of generation Z respondents said, "I would like flexible working hours to be implemented." and "Working hours should be determined according to the needs of employees." he stated that they fully agree with his statements. Accordingly, it can be said that it supports the fact that generation Z tends to adopt the policies applied for remote working and flexible working hours.

Research Assumption 3: Generation Z individuals think that traditional office environments may be restrictive, job satisfaction will decrease if flexible working hours are not offered at workplaces.

According to the data, the majority of generation Z respondents said, "I would like flexible working hours to be implemented." and "I prefer working time that will not restrict my private life." he stated that he fully agrees with his statements. This supports that generation Z will decrease their job satisfaction when flexible working hours are not offered.

As a result, it is stated that generation Z individuals are more prone to flexible working hours and remote working opportunities to ensure work-life balance. This supports the prediction that they will prefer employers and managers who offer flexible working options.

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Barriers to Independent Living for Young Adults with High-Functioning Autism in Europe

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Abstract

High-functioning autism refers to individuals with average or above-average intelligence who may face social, communication, executive functioning and sensory processing challenges.

People with high-functioning autism in Europe face significant barriers transitioning to independent living, as identified by the Erasmus+ project "Houses4Autism". Key challenges include mental health issues, poor financial literacy, sensory overload, and **difficulties sharing spaces and responsibilities** (Baldwin and Costley, 2016)

This article presents our study conducted across Cyprus, Denmark, Ireland, Italy and the Republic of North Macedonia as part of the Houses4Autism project (Nov. 2023-April 2024). We combined a literature review and an analysis of good practices that supported independent living among individuals with high-functioning autism with accessible surveys engaging directly with individuals with high-functioning autism and their families/caregivers. Combining primary and secondary research activities into an academic article comprehensively outlined the barriers these individuals face when attempting to live independently. Through this activity, we identified that the greatest barrier to their independent living was a lack of an accessible support system or opportunities that could empower, support and sustain their independent living.

Such a support system, according to this research, should include support/training in: navigating complex public and social services required for independent living (healthcare system, financial services, etc.); managing stress, anxiety and mental health issues; managing finances; managing everyday home activities (cooking healthily, cleaning, household chores, etc.); enhancing and increasing social interactions through the development of social skills; organisational skills training; and understanding sensory issues/overload and how to manage and cope with these.

Keywords: high-functioning autism, independent living, financial management, mental health, sensory overload.

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Introduction

Independent living is a fundamental human right that enables individuals with disabilities to determine where they live, who they live with, and what kind of support they receive. Recently, there has been a growing interest in supportive housing and its impact on the experiences of home for people with disabilities (Owen & McCann, 2018). Individuals with high-functioning autism (ASD) have specific needs, and attempting to live independently is a challenge for them due to their complex and idiosyncratic characteristics (Ghanouni, 2021). Supportive housing, a form of accommodation that provides a secure, pleasant, and supportive living environment to people with disabilities, tailored to their special requirements, “bundled” with support services (i.e. social workers, psychologists, nurses, caretakers, life skills trainers, behavior specialists, occupational therapists, etc), could contribute to the independent living of people with ASD, regardless of the challenges that they may face. Factors related to psychophysical stability in everyday living, daily financial management, and integrated community opportunities were found to influence the ability of individuals with autism to live independently, foster social inclusion, enhance autonomy, and contribute to their overall well-being (Nagib & Williams, 2019). Studies have shown that the social and physical factors of the housing environment are not detached, and their combination could facilitate autistic people’s independent living. Therefore, a better understanding of their lived experiences through the supportive housing option could enable people with autism to live independently (Nguyen, 2021). The Houses4Autism project aims to contribute to the development of an innovative Toolkit for adult educators to train individuals with autism and equip them with all the knowledge, skills, and key competences necessary to build a more independent life in a house that offers all the essential and stress-free means to live independently. Within the framework of the Erasmus+ project, to culturally adapt to the circumstances, we researched the barriers that people with autism face in living independently. This knowledge can help us improve training programs for people with autism in the future.

The results showed that people with autism face stress at the very thought of living independently, primarily due to the challenges of organisation and planning of finances and household chores.

Literature review

Independent living is a big challenge for young adults with high-functioning autism (HFA), requiring mastery of life skills, employment readiness, social competence, and access to supportive environments. While individuals with HFA often possess cognitive strengths, the literature consistently shows that intellectual capacity does not necessarily equate to functional independence (Chiappini et al., 2024).

School systems across Europe often lack a sufficient focus on practical life skills training. In Malta, Pace (2024) found that school communities usually overlook independent living instruction, assuming high-

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functioning students do not require such support. Students themselves associate independence with both practical tasks (e.g., cooking, shopping) and personal empowerment; however, many have a limited understanding of what independent living entails, especially in societies where late departure from the parental home is common (Eurostat, 2022).

Technological interventions show promise. Virtual reality and robotics are increasingly used to build adaptive and vocational skills for autistic youth, although many programs remain underutilised by those classified as high-functioning (Sarri & Syriopoulou-Delli, 2022; Kumazaki et al., 2017). A scoping review by Chiappini et al. (2024) concluded that immersive VR tools can support social, employment, and motor learning goals; however, only a minority of interventions directly target functional independence.

Stress and anxiety are prominent psychological barriers for autistic individuals transitioning to independent living. Research suggests that challenges such as sensory overload, executive dysfunction, and unpredictability in daily routines contribute to elevated stress levels (Duckett et al., 2023). While individuals who have lived alone longer may report a reduction in stress over time, daily anxiety and poor coping strategies often remain persistent predictors of distress (Gotham et al., 2015). These findings underscore the importance of incorporating mental health supports and structured coping strategies into life skills and transition planning programs (Ghanouni & Seaker, 2021).

From a policy and research perspective, transition planning is key. Frentzel et al. (2022) emphasise the importance of employment-related training, including communication and problem-solving skills, in enhancing job retention for autistic adults. Similarly, Findley et al. (2022) highlight gaps in Individualised Education Programs (IEPS), noting that many neglect to integrate long-term goals for autonomy and housing. Barriers are also tied to employer bias, lack of workplace accommodations, and poor public understanding. Research from López & Keenan (2014) and the National Autistic Society (2016) found that even qualified autistic adults are excluded from employment opportunities due to social stigma and misinterpretations of behaviour.

Methodology

The research methodology for the *Houses4Autism* project was designed to provide a comprehensive and comparative analysis of the current status, needs, and practices regarding supportive housing for young adults with Autism Spectrum Disorder (ASD) across five European countries: Cyprus, Denmark, Ireland, Italy, and North Macedonia. A mixed-methods approach, combining quantitative survey data, desk research, and thematic analysis, was used.

The research aimed to assess the availability and quality of supportive housing for adults with autism in

participating countries; to identify gaps, challenges, and good practices in housing, support services, and daily living skills; and to explore the psychosocial aspects impacting independent living, such as stress, anxiety, and sensory overload.

The study was conducted in two phases:

- **Desk Research:** Involving country-specific policy analysis, institutional reviews, and existing national statistics related to autism and supportive housing.
- **Field Research:** Conducted through structured questionnaires administered to autistic individuals, their caregivers, and professionals with Google Forms, online.

The desk research phase aimed to provide a national context for each partner country. Researchers compiled data from public reports, national strategies, policy documents, academic literature, and records of non-governmental organisations (NGOS). Topics covered included the prevalence of autism, institutional and housing infrastructures, availability of day centres and residential homes; governmental and NGO involvement, public programs, and transition initiatives. The target groups included: young adults with high-functioning autism (aged 18+); parents/caregivers and professionals (educators, social workers, clinicians).

The survey consisted of both closed-ended and Likert-scale items focusing on:

- Housing status and satisfaction
- Daily living skills and independence
- Access to mental health support
- Experiences of stress, anxiety, and sensory processing challenges
- Financial management and employability
- Perceptions of autonomy and self-determination

The data collection was conducted online with Google Forms through local partner organisations, ensuring accessibility for individuals with communication challenges.

Quantitative data from the questionnaires were coded and analysed. Descriptive statistics, including frequencies and percentages, were used to summarise the responses.

Qualitative responses were subjected to thematic analysis to identify recurrent patterns in participants' narratives regarding barriers to independence, the role of families, and experiences with institutional support. All participants were informed about the nature of the study and provided informed consent. Data was anonymised to maintain confidentiality, and local partners ensured that the language and format of the questionnaires were culturally and linguistically appropriate. The study adhered to GDPR concerning the use of personal data within EU-funded projects. While the survey provides rich comparative data, some limitations must be acknowledged:

- Varying degrees of available national statistics made country-level comparisons occasionally difficult.
- Limited self-reporting from autistic adults due to communication barriers.
- Reliance on non-probability sampling in some partner countries limits the generalizability of the findings.

Findings

Participant Demographics

The study collected data from 72 participants across the five countries: Irish survey (n=20), Danish survey (n=10), Greek survey (n=21), Italian survey (n=11), and North Macedonian survey (n=10). All participants self-identified as having high-functioning autism.

Age distribution was concentrated in the 18-34 range, with the 25-34 age group being the most prominent (36-55% across surveys). Gender distribution varied significantly by country. Males comprised 55% in the Irish survey, 40% in the Danish survey, 71.4% in the Greek survey, 27.27% in the Italian survey, and 60% in the North Macedonian survey. Females represented 15% in the Irish survey, 50% in the Danish survey, 28.6% in the Greek survey, 54.55% in the Italian survey, and 40% in the North Macedonian survey. "Other" or "prefer not to say" gender responses were selected by 30% of Irish respondents, 10% of Danish respondents, 18.18% of Italian respondents, and 0% of respondents in both the Greek and North Macedonian surveys.

Educational attainment was relatively high across all countries, with university or college-level education reported by 55% of Irish respondents, 40% of Danish respondents, 52.3% of Greek respondents, 81.81% of Italian respondents, and 50% of North Macedonian respondents.

Living Arrangements

The data revealed limited independent living among participants across all countries. Living alone was reported by 30% of Irish respondents, 20% of Danish respondents, 14.3% of Greek respondents, 45.45% of Italian respondents, and 20% of North Macedonian respondents. Living with family members was more common, reported by 20% of Irish respondents, 30% of Danish respondents, 42.9% of Greek respondents, 36.36% of Italian respondents, and 50% of North Macedonian respondents. Living with a spouse or partner was indicated by 20% of Irish respondents, 30% of Danish respondents, 28.6% of Greek respondents, 18.18% of Italian respondents, and 30% of North Macedonian respondents. Living with friends was reported by 10% of Irish respondents, 10% of Danish respondents, 4.8% of Greek respondents, 0% of Italian respondents, and 0% of North Macedonian respondents. Other living arrangements were indicated by 20% of Irish respondents, 10% of Danish respondents, 9.5% of Greek respondents, 0% of Italian respondents, and 0% of North Macedonian respondents.

Table 1: Current Living Statuses of Individuals with HFA

Current Living Arrangement	Irish (n=20)	Danish (n=10)	Greek (n=21)	Italian (n=11)	Macedonian (n=10)
Living alone	30%	20%	14.3%	45.45%	20%
With family members	20%	30%	42.9%	36.36%	50%
With spouse/partner	20%	30%	28.6%	18.18%	30%
With friends	10%	10%	4.8%	0%	0%
Other arrangements	20%	10%	9.5%	0%	0%

Experience with independent living was limited across all surveys. Having lived independently for only 0-1 years was reported by 45% of Irish respondents, 50% of Danish respondents, 47.6% of Greek respondents, 45.45% of Italian respondents, and 50% of North Macedonian respondents. Independent living for 1-5 years was indicated by 40% of Irish respondents, 20% of Danish respondents, 14.3% of Greek respondents, 45.45% of Italian respondents, and 20% of North Macedonian respondents. Experience of 5-10 years of independent living was reported by 10% of Irish respondents, 10% of Danish respondents, 28.6% of Greek respondents, 9.09% of Italian respondents, and 10% of North Macedonian respondents. More than 10 years of independent living experience was indicated by 5% of Irish respondents, 20% of Danish respondents, 9.5% of Greek respondents, 0% of Italian respondents, and 20% of North Macedonian respondents.

Table 2: Time spent living independently among individuals with HFA

Years Living Independently	Irish (n=20)	Danish (n=10)	Greek (n=21)	Italian (n=11)	Macedonia n (n=10)
0–1 years	45%	50%	47.6%	45.45%	50%
1–5 years	40%	20%	14.3%	45.45%	20%
5–10 years	10%	10%	28.6%	9.09%	10%
More than 10 years	5%	20%	9.5%	0%	20%

Stress and Anxiety

Daily stress and anxiety were consistently reported across all surveys as significant barriers to independent living. High frequencies of stress/anxiety (daily or multiple times weekly) were reported by 70% of Irish respondents, 70% of Danish respondents, 61.9% of Greek respondents, 63.63% of Italian respondents, and 90% of Macedonian respondents.

Table 3: Frequency of Experiences of Stress/Anxiety among Individuals with HFA

Stress/Anxiety Measure	Irish (n=20)	Danish (n=10)	Greek (n=21)	Italian (n=11)	Macedonian (n=10)
Multiple times daily	45%	50%	19%	18.18%	0%
Once daily	10%	0%	14.3%	9.09%	10%
3-4 times weekly	15%	20%	28.6%	36.36%	10%
1-2 times weekly	30%	10%	33.3%	36.36%	70%
Never	0%	20%	4.8%	0%	10%

When explicitly asked about stress related to independent living, significant percentages reported feeling "a little" or "very" stressed/anxious: 70% in the Irish survey, 77.7% in the Danish survey, 61.9% in the Greek survey, 63.63% in the Italian survey, and 70% in the Macedonian survey.

Table 4: Perceived Stress About Living Independently among Individuals with HFA

Stress/Anxiety Measure	Irish (n=20)	Danish (n=10)	Greek (n=21)	Italian (n=11)	Macedonian (n=10)
Very stressed/anxious	25%	33.3%	19%	36.36%	30%
A little stressed/anxious	45%	44.4%	42.9%	27.27%	40%
Not stressed/anxious	30%	22.2%	38.1%	36.36%	30%

The most effective strategies for managing stress/anxiety reported across all surveys included:

- Help from family and friends (40-85%)
- Physical activity (33-70%)
- Professional support (33-70%)
- Following routines (19-70%)
- Building self-confidence (14-65%)

Social Isolation and Loneliness

Despite reporting regular social interaction (40-65% interacting daily across surveys), anticipated loneliness when living independently was a significant concern.

Table 5: Frequency of Social Interaction

Social Measure	Irish (n=20)	Danish (n=10)	Greek (n=21)	Italian (n=11)	Macedonia n (n=10)
Daily	65%	30%	47.6%	54.55%	40%
4-5 times weekly	15%	20%	19%	0%	0%
2-3 times weekly	20%	20%	28.6%	45.45%	40%
Once weekly	0%	30%	4.8%	0%	20%

Between 60-90% of respondents across all countries indicated they would feel lonely "sometimes," "most of the time," or "almost always" if living alone without support.

Table 6: Anticipated Loneliness When Living Alone

Social Measure	Irish (n=20)	Danish (n=10)	Greek (n=21)	Italian (n=11)	Macedonian (n=10)
Almost always/Most of the time lonely	30%	30%	33.3%	45.45%	50%
Lonely some of the time	50%	30%	42.9%	18.18%	40%
Almost never/Never lonely	20%	40%	23.8%	36.36%	10%

The most effective strategies identified to reduce feelings of isolation included:

- Building greater self-confidence (27-75%)
- Training in social skills (30-50%)
- Increasing motivation to socialize (38-60%)
- Developing greater empathy and social awareness (27-40%)

Sensory Overload

Sensory processing challenges were identified as significant across all countries. Multiple instances of sensory overload daily were reported by 20% of Irish respondents, 30% of Danish respondents, 9.5% of Greek respondents, 0% of Italian respondents, and 0% of North Macedonian respondents. Once-daily sensory overload was indicated by 25% of Irish respondents, 10% of Danish respondents, 9.5% of Greek respondents, 9.09% of Italian respondents, and 20% of North Macedonian respondents. Experiencing sensory overload 3-4 times weekly was reported by 5% of Irish respondents, 30% of Danish respondents, 28.6% of Greek respondents, 9.09% of Italian respondents, and 0% of North Macedonian respondents. Sensory overload 1-2 times weekly was indicated by 25% of Irish respondents, 10% of Danish respondents, 47.6% of Greek respondents, 63.64% of Italian respondents, and 70% of North Macedonian respondents. Never experiencing sensory overload was reported by 25% of Irish respondents, 20% of

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Danish respondents, 4.8% of Greek respondents, 18.18% of Italian respondents, and 10% of North Macedonian respondents.

Among those experiencing sensory overload, various environmental factors were identified as triggers. Loud noises were reported as triggers by 82.4% of Irish respondents, 66.7% of Danish respondents, 75% of Greek respondents, and 70% of North Macedonian respondents, with Italian respondents also identifying noise as a high-priority trigger without specific percentages provided. Brightness or light sensitivity was indicated as a trigger by 58.8% of Irish respondents, 66.7% of Danish respondents, 30% of Greek respondents, and 60% of North Macedonian respondents, with Italian respondents similarly noting brightness as a significant trigger. Bad smells were reported as triggers by a varying proportion of respondents: 64.7% of Irish respondents, 33.3% of Danish respondents, 45% of Greek respondents, and 50% of North Macedonian respondents, with Italian respondents also indicating smells as a trigger. Texture sensitivity was noted by 58.8% of Irish respondents, 22.2% of Danish respondents, 25% of Greek respondents, and 30% of North Macedonian respondents, with Italian respondents also noting textures as a trigger factor. Proximity to other people was identified as a trigger by 58.8% of Irish respondents and 44.4% of Danish respondents, while being away from other people was noted as triggering by a smaller percentage of respondents across surveys.

Controlling these environmental factors was reported as crucial for independent living success. The ability to control noise was identified as important by 82.4% of Irish respondents, 66.7% of Danish respondents, 75% of Greek respondents, a high percentage of Italian respondents, and 70% of North Macedonian respondents. Light management was valued by 58.8% of Irish respondents, 66.7% of Danish respondents, 30% of Greek respondents, a significant percentage of Italian respondents, and 60% of North Macedonian respondents. Odour control was noted as important by 64.7% of Irish respondents, 33.3% of Danish respondents, 45% of Greek respondents, and 50% of North Macedonian respondents.

Navigation of Public Services

Accessing and utilising essential public services presented considerable challenges across all countries. Finding public services "very difficult or stressful" was reported by 20% of Irish respondents, 30% of Danish respondents, 33.3% of Greek respondents, a low percentage of Italian respondents (exact figure not provided), and 30% of North Macedonian respondents. Finding services "somewhat difficult or stressful" was indicated by 65% of Irish respondents, 50% of Danish respondents, 47.6% of Greek respondents, 54.55% of Italian respondents, and 50% of North Macedonian respondents. Not finding public services difficult or stressful was reported by 15% of Irish respondents, 20% of Danish respondents, 19% of Greek respondents, 45.45% of Italian respondents, and 20% of North Macedonian respondents.

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When dealing with healthcare scenarios specifically, various challenges were identified. Difficulty visiting medical facilities or hospitals was reported by 55% of Irish respondents, 40% of Danish respondents, 38.1% of Greek respondents, 18.18% of Italian respondents, and 50% of North Macedonian respondents. Challenges interacting with health professionals were indicated by 55% of Irish respondents, 60% of Danish respondents, 28.6% of Greek respondents, 18.18% of Italian respondents, and 30% of North Macedonian respondents. Difficulty coping with health issues themselves was reported by 50% of Irish respondents, 50% of Danish respondents, 28.6% of Greek respondents, 18.18% of Italian respondents, and 70% of North Macedonian respondents. Reporting no particular difficulties with healthcare scenarios was indicated by 25% of Irish respondents, 20% of Danish respondents, 28.6% of Greek respondents, 45.45% of Italian respondents, and 40% of North Macedonian respondents.

Independent Living Challenges

Managing everyday household activities independently was reported as challenging by participants across all countries. Finding household management "very difficult or stressful" was reported by 15% of Irish respondents, 30% of Danish respondents, 14.3% of Greek respondents, 36.36% of Italian respondents, and 20% of North Macedonian respondents. Finding it "somewhat difficult or stressful" was indicated by 50% of Irish respondents, 50% of Danish respondents, 57.1% of Greek respondents, 18.18% of Italian respondents, and 50% of North Macedonian respondents. Not finding household management difficult or stressful was reported by 35% of Irish respondents, 20% of Danish respondents, 28.6% of Greek respondents, 45.45% of Italian respondents, and 30% of North Macedonian respondents.

The specific areas of independent living that presented the greatest challenges varied across countries. Managing social life and interactions was difficult for 60% of Irish respondents, 40% of Danish respondents, 47.6% of Greek respondents, and a significant percentage of respondents in the Italian and North Macedonian surveys. Financial management was challenging for 60% of Irish respondents, 50% of Danish respondents, 42.9% of Greek respondents, 27.3% of Italian respondents, and 60% of North Macedonian respondents. Mental health management presented difficulties for 60% of Irish respondents, 40% of Danish respondents, 42.9% of Greek respondents, 54.5% of Italian respondents, and 50% of North Macedonian respondents. Daily activities were challenging for 35% of Irish respondents, 20% of Danish respondents, 23.8% of Greek respondents, 36.4% of Italian respondents, and 40% of North Macedonian respondents. Sensory overload management was difficult for 45% of Irish respondents, 70% of Danish respondents, 28.6% of Greek respondents, and high percentages of Italian and North Macedonian respondents. Organization was challenging for 50% of Irish respondents, 30% of Danish respondents, 14.3% of Greek respondents, and moderate percentages of Italian and North Macedonian respondents. Navigating services presented difficulties for 45% of Irish respondents, 60% of Danish

respondents, 42.9% of Greek respondents, 18.2% of Italian respondents, and 40% of North Macedonian respondents.

Professional Support Needs

A significant proportion of respondents across all five countries indicated that greater professional support would be beneficial for independent living. Professional support was considered "essential" by 20% of Irish respondents, 30% of Danish respondents, 33.3% of Greek respondents, 18.18% of Italian respondents, and 10% of North Macedonian respondents. It was deemed "very important" by 35% of Irish respondents, 30% of Danish respondents, 28.6% of Greek respondents, 27.27% of Italian respondents, and 70% of North Macedonian respondents. Professional support was considered "somewhat important" by 25% of Irish respondents, 20% of Danish respondents, 33.3% of Greek respondents, 27.27% of Italian respondents, and 10% of North Macedonian respondents. It was viewed as "not important" by 20% of Irish respondents, 20% of Danish respondents, 4.8% of Greek respondents, 27.27% of Italian respondents, and 10% of North Macedonian respondents.

When asked if they would benefit from more professional support, "greatly" was indicated by 45% of Irish respondents, 50% of Danish respondents, 47.6% of Greek respondents, 54.55% of Italian respondents, and 50% of North Macedonian respondents. "Somewhat" benefiting was expected by 45% of Irish respondents, 40% of Danish respondents, 38.1% of Greek respondents, 36.36% of Italian respondents, and 30% of North Macedonian respondents. "Not at all" benefiting was indicated by 10% of Irish respondents, 10% of Danish respondents, 14.3% of Greek respondents, 9.09% of Italian respondents, and 20% of North Macedonian respondents.

The vast majority of respondents believed that greater awareness and understanding of autism would help professionals provide more effective support. "Yes" was reported by 75% of Irish respondents, 80% of Danish respondents, 66.7% of Greek respondents, 63.64% of Italian respondents, and 70% of North Macedonian respondents. "Somewhat" was indicated by 25% of Irish respondents, 10% of Danish respondents, 19% of Greek respondents, 36.36% of Italian respondents, and 20% of North Macedonian respondents. "No" was reported by 0% of Irish respondents, 10% of Danish respondents, 14.3% of Greek respondents, 0% of Italian respondents, and 10% of North Macedonian respondents.

The types of support identified as most helpful for independent living varied across countries. Support with navigating services was valued by 55% of Irish respondents, 30% of Danish respondents, 66.7% of Greek respondents, a lower percentage of Italian respondents, and 50% of North Macedonian respondents. Financial management assistance was considered helpful by 50% of Irish respondents, 50% of Danish respondents, 57.1% of Greek respondents, 18.2% of Italian respondents, and 60% of North Macedonian respondents. Mental health support was valued by 35% of Irish respondents, comparable

percentages of Danish respondents, 28.6% of Greek respondents, 54.5% of Italian respondents, and 50% of North Macedonian respondents. Daily life management assistance was considered helpful by 30% of Irish respondents, 40% of Danish respondents, 38.1% of Greek respondents, 72.7% of Italian respondents, and 40% of North Macedonian respondents. Professional development for support providers was valued by 75% of Irish respondents, 50% of Danish respondents, 52.4% of Greek respondents, 27.3% of Italian respondents, and 40% of North Macedonian respondents. Social skills training was considered helpful by 45% of Irish respondents, 30% of Danish respondents, 33.3% of Greek respondents, a lower percentage of Italian respondents, and 30% of North Macedonian respondents. Organizational skills training was valued by 50% of Irish respondents, 40% of Danish respondents, 33.3% of Greek respondents, a lower percentage of Italian respondents, and 40% of North Macedonian respondents.

Additional Barriers

The open-ended responses revealed several additional barriers across all five countries:

Irish survey responses:

- "Loneliness & managing mental health"
- "Financial, sensory and social activities at work affects ability to work longer hours"

Danish survey responses:

- "I have difficulty keeping track of time and tasks"
- "I find it difficult to understand social signals and rules"
- "Mental Health problems"
- "My sensitivity to sounds and light can make it difficult to be in certain environments without becoming overwhelmed"

Greek survey responses:

- "My parents"
- "Fear of exploitation by others. Support from trained educators helps with this"
- "Difficulty with orientation and getting lost"

Italian survey responses:

- "Difficulties in daily management"
- "Disorder or clutter"
- "Lack of motivation"

Macedonian survey responses:

- "Paying bills, cooking"

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- "People"
- "Adapted space for my sensory problems, awareness of others about autism and acceptance of it, jobs for people with autism and appropriately paid, adapted education according to my interests and possibilities, support from society such as a personal assistant..."

Suggestions for additional support included:

- From the Irish survey: "More affordable housing so can afford to live closer to family, healthcare services, wellbeing activities etc"
- From the Danish survey: "Tools or apps to organize my day"
- From the Greek survey: "Having an occasional companion"; "A trial period to help reduce anxiety"
- From the Italian survey: "Regular encouragement to leave the apartment and see people"
- From the Macedonian survey: "Meeting people with autism who live alone and are successful at it, i.e., successful examples"; "Supervision from another person"; "Love"

Discussion

Our research identified five consistent barriers to independent living across all five surveyed European countries: stress and anxiety, social isolation and loneliness, sensory overload, difficulty navigating public services, and challenges with daily living activities. The consistency of these barriers across culturally diverse European contexts suggests they represent fundamental challenges for adults with high-functioning autism, regardless of national context.

A striking finding from our research is the contrast between relatively high educational attainment across all surveyed countries and the limited experience with independent living. While 55-82% of participants reported college or university-level education, only 14-45% were living independently, with 45-50% having less than one year of independent living experience. Educational systems across Europe appear successful in supporting academic achievement for young adults with autism but may fall short in preparing them for the practical aspects of independent living. This reflects findings from Ghanouni et al. (2021), noting that educational programs often fail to incorporate practical life skills training alongside academic development. Pace (2024) further reinforces this finding, noting that school communities often overlook independent living instruction for high-functioning students, based on the flawed assumption that their cognitive abilities automatically translate to practical competence. The pattern of strong academic achievement coupled with limited independent living experience appears consistent across all five countries surveyed, suggesting this is a pan-European challenge rather than specific to any single national context. This may be particularly problematic in societies where late departure from parental

homes is common, as young adults with autism may have limited understanding of what independent living practically entails (Eurostat, 2022).

Primary Barriers to Independent Living Across Europe Stress and Anxiety

The high prevalence of daily or weekly stress and anxiety (61-90% across countries) represents a significant psychological barrier to independent living. With 61-78% of respondents reporting feelings of stress or anxiety specifically about living independently, this anxiety may function as a self-reinforcing barrier that prevents individuals from taking steps toward greater autonomy. These findings align with research by Mason et al. (2023), which found that autistic people's independence is significantly affected by mental health challenges. The identified stress management strategies from our study—predominantly help from family and friends (33-85%), physical activity (33-70%), and professional support (33-70%)—indicate the importance of both informal and formal support networks in managing this barrier. The notable variation in effectiveness ratings across countries reflects differences in the availability of support, which were identified during the desk research.

Social Isolation and Loneliness

A notable finding emerged regarding anticipated loneliness when living independently. While 40-65% of respondents reported currently enjoying daily social interaction, 60-90% anticipated feeling lonely if or when living independently. This reflects concerns about diminished social opportunities when transitioning away from more structured or supported living environments. This perspective complements Mason et al.'s (2023) observations about the challenges autistic adults face in initiating and maintaining relationships without external facilitation, particularly when navigating predominantly neurotypical social contexts.

Our identified coping strategies—building self-confidence (33-75%), social skills training (30-50%), and increasing socialisation motivation (38-60%)—indicate that fostering these psychological factors among individuals with HFA could actively address their social isolation. The notable cross-cultural variations in anticipated loneliness, particularly among Italian (45.45%) and North Macedonian (50%) respondents reporting loneliness "most/all of the time," merit further investigation into how cultural contexts, family systems, and community support structures differentially impact the social experiences of autistic adults pursuing independent living.

Sensory Overload

Sensory processing challenges were consistent across all countries, with 75-90% of respondents experiencing sensory overload at some frequency. The specific sensory triggers identified—loud noises (67-82%), brightness (30-67%), and bad smells (33-65%)—provide concrete targets for environmental modifications that could support independent living. The prominence of these sensory barriers suggests that independence could be improved not only through coping mechanisms to combat sensory overload but also by developing skills among HFA individuals to make environmental modifications to mitigate these sensory sensitivities.

Navigation of Public Services

The difficulty in navigating public services, reported by 50-80% of respondents across countries, represents a significant practical barrier to independent living. Services essential for independent living—healthcare, banking, financial services, insurance—pose considerable challenges for many individuals with high-functioning autism. This aligns well with current research, particularly in Ghanouni et al. (2021), where it is emphasised that autistic adults' ability to access integrated community living settings is central to their independence.

The specific difficulties reported in healthcare scenarios from our survey—visiting medical facilities (38-55%), interacting with health professionals (28-60%), and coping with health issues (28-70%)—highlight the multifaceted nature of service accessibility challenges. The strong consensus across countries (63-80%) that greater autism awareness would improve professional support suggests a need for better training for service providers across various sectors.

Daily Living Activities

The challenges with daily living activities reported by 50-70% of respondents highlight the importance of practical skills for independent living. Specific areas of difficulty identified—managing social life (40-60%), mental health management (30-60%), and organisation (14-50%)—encompass both practical tasks and psychological self-regulation. Another challenging aspect of independent living is financial management (27-60%), which aligns with Nagib & Williams' (2019) emphasis on daily financial management as a critical factor influencing independent living capabilities.

Cultural Variations in Barriers and Supports

While many barriers to independent living were consistent across all five countries, notable variations emerged that may reflect different cultural contexts. Italian respondents reported the highest rates of living alone (45.45%), compared to only 14.3% of Greek respondents, potentially reflecting different

cultural norms regarding family living arrangements. North Macedonian respondents reported lower daily stress (10% experiencing stress daily compared to 45-50% in Irish and Danish surveys) but higher weekly stress (70% experiencing stress 1-2 times weekly). Danish respondents reported particularly high challenges with sensory overload management (70%) compared to other countries. North Macedonian respondents showed the highest valuation of professional support (70% rating it "very important") compared to other countries (28-35%). These variations highlight the importance of contextualising support programs within specific cultural frameworks while addressing the universal barriers identified.

The Gap Between Capability and Practical Independence

Our findings reveal a significant gap between capability and practical independence for young adults with high-functioning autism. Despite having the intellectual capacity to pursue higher education, many participants struggled with the practical and psychological aspects of independent living. This gap manifests in several areas: the high educational attainment (55-82% with university/college education) contrasts with limited independent living experience (45-50% having less than one year); regular social interaction (40-65% interacting daily) does not prevent anticipated loneliness (60-90% expecting to feel lonely); despite educational achievements, 50-80% reported difficulties navigating essential public services; and 50-70% found everyday household activities challenging despite cognitive capabilities.

These gaps support Chiappini et al.'s (2024) research, highlighting the disconnect between cognitive abilities and functional independence. They suggest that independent living support must focus not only on developing practical skills but also on addressing psychological barriers and environmental challenges. As Bhattacharya et al. (2023) noted, independence is multi-dimensional, encompassing emotional, cognitive, social, and psychological aspects that go beyond functional abilities.

Conclusion

Our research was focused on the barriers to independent living faced by young people across all five European countries. Through a review of recent literature from each country and around the world, as well as a survey, and our descriptive data analysis, we identified several challenges, including stress and anxiety, social isolation and loneliness, sensory overload, difficulties navigating public services, and challenges with daily living activities. Findings indicate that despite relatively high educational attainment among participants (ranging from 40-82% with university or college-level education), a significant gap exists between cognitive capabilities and practical independence. Only 14-45% of

respondents across countries reported living alone, with 45-50% having less than one year of independent living experience. Five primary barriers emerged consistently across all surveyed countries: (1) pervasive stress and anxiety, with 61-90% reporting daily or weekly stress; (2) anticipated social isolation and loneliness, with 60-90% expecting to feel lonely when living independently; (3) sensory processing challenges, with 75-90% experiencing sensory overload at some frequency; (4) difficulties navigating public services, reported by 50-80% of respondents; and (5) challenges with daily living activities, including financial management (27-60%) and organisation (14-50%).

The study revealed that the greatest barrier to independent living was not any single factor but rather the lack of an accessible, comprehensive support system that could empower, support, and sustain independent living. Participants identified specific needs for such a support system, including assistance with navigating complex public and social services, managing stress and mental health issues, financial management, household activities, social skills development, organisational skills training, and strategies for managing sensory issues.

Our findings have several important implications for supporting independent living among young adults with high-functioning autism across Europe. Support programs should more holistically address all five identified barriers simultaneously — stress and anxiety, social isolation, sensory challenges, service navigation, and daily living skills —rather than focusing on isolated areas, to achieve meaningful change. Educational institutions should incorporate practical life skills alongside academic education, with a particular focus on the areas identified as challenging for individuals with High-Functioning Autism (HFA). Given the prevalence of stress and anxiety, dedicated mental health supports should be integrated into independent living programs. Housing design should accommodate sensory sensitivities, with particular attention to sound insulation, lighting control, and ventilation, aligning with Nagib & Williams' (2019) findings on the importance of psychophysical stability in housing environments. Support with navigating essential public services should be prioritised, either through advocacy, trained support workers, or modification of service delivery to be more autism-friendly. The strong consensus across countries (63-80%) that greater autism awareness would improve professional support suggests a need for training programs for service providers across sectors. Support programs should be adapted to specific cultural contexts while addressing universal barriers. The high reliance on family support (33-85% identifying it as helpful for stress management) suggests families should be included in transition planning while fostering appropriate independence. The concept of supportive housing—providing secure environments tailored to specific requirements and bundled with support services—represents a promising approach aligned with our findings (Owen & McCann, 2018).

Several limitations should be acknowledged when interpreting these findings. First, the sample sizes for each country were relatively small (n=10-21), potentially limiting the generalizability of country-specific findings. Second, the self-selection of participants may have resulted in samples not fully representative of the broader population of young adults with high-functioning autism in each country. Third, variations in survey administration and translation may have introduced subtle differences in how questions were interpreted across countries. Future research should expand sample sizes and employ mixed-methods approaches to develop deeper understanding of the barriers identified. Comparative studies examining the effectiveness of different support models across countries could help identify best practices that might be transferable across cultural contexts. Additionally, longitudinal studies tracking the transition to independent living over time would provide valuable insights into how support needs evolve and which interventions yield sustainable outcomes.

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Towards Inclusive Practices and Positive Behavior Support in Education and Social Work: A Comparative Analysis of V4 Countries, Ukraine, and North Macedonia

Teuta Ramadani Rasimi⁴¹, Nataliia Zavarova⁴², Lenka Zakova⁴³

Abstract

Inclusive education is a concept and way of life that modern society is striving to embrace, although some countries are more successful in this effort than others. For this purpose, as part of the Visegrad+ project "Towards Inclusive Practices and Positive Behavior Support in Education and Social Work," research was conducted among the Visegrad (V4) countries, Ukraine, and North Macedonia. The study aimed to investigate the best practice in inclusive education through desktop analysis and interviews with specialists in inclusive education, with a special emphasis on the use of applied behavior analysis (ABA). The results show that all these countries have adopted legislation regarding inclusion in primary education, though with limited implementation, and all of them offer studies at universities for specialists in inclusive education. In the V4 countries, a significant progress in establishing legal frameworks for ABA education and the profession of behavior analysts has been observed. However the same does not apply for North Macedonia, where the lacking legal framework has been limiting the quality and availability of behavioral support in inclusive education.

The research also confirmed the expected negative impact of the war in Ukraine on the education of behavior analysts. Interviews with professionals working in inclusive schools were a complementary part of the research methodology, highlighting the lack of accessibility to ABA education and the need to develop behavioral skills to address the challenging behavior of students.

This report identified gaps and needs in inclusive education implementing ABA, leading to the creation of an online training curriculum for school professionals.

Keywords: inclusive education, applied behavior analysis, project, curriculum, training

Introduction

The inclusion process exists in all countries that claim membership in the European Union. When discussing inclusion, we refer to the definition provided by Ainscow and Booth (2006), who describe inclusion as a phenomenon that encompasses issues of equity, participation, community, entitlement,

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compassion, respect for diversity, and sustainability. This paper focuses on the inclusion of children with disabilities, extending beyond merely addressing the inclusion process as a system to also incorporate the mechanisms utilized for children with special needs, such as those practiced in applied behavior analysis. The inclusion of students with disabilities in regular schools can be considered one of the most pressing challenges in education for the 21st century. Some countries are facing it with greater success, while others are less successful. The Visegrad countries (Czech Republic, Slovakia, and Poland) and Ukraine exhibit different levels of implementation compared to countries outside this group, such as the Republic of North Macedonia, despite all of these countries being signatories to the UNESCO Salamanca Statement and Framework for Action on Special Needs Education, adopted in 1994. Additionally, applied behavior analysis, although established in the USA, began influencing Europe around 1960. Its implementation varies across European countries (Keenan et al., 2022). Similarly, the Experimental Analysis of Behavior Group (EABG), established in the United Kingdom, initially focused on operant conditioning research involving animals. As the field evolved, the group's focus broadened to include human operant behavior, applied behavior analysis, and the development of professional training standards (Arntzen & Pellón, 2021). Considering that the Visegrad countries, as part of the European Union, have made various efforts to keep pace with global trends in education and applied behavior analysis (Trellová & Bourland, 2024), while North Macedonia is not in the European Union and Ukraine is operating under a wartime system, the need for inter-institutional cooperation led to the formation of a project later called "Towards Inclusive Practices and Positive Behavior Support in Education and Social Work." The first output of this project is a report on the current state of the inclusion process in all the aforementioned countries, with additional focus on the use of applied behavior analysis.

The purpose of this paper is to conduct a desktop analysis of legislation related to the inclusion process, study programs that provide professional preparation in the inclusion process and legislation related to applied behavior analysis and study programs aimed at applied behavior analysis, all of these supported by responses from respondents in semi-structured interviews.

Methodology

This research was based on a qualitative research approach, emphasizing a desktop analysis of the legislation related to the inclusion process in each country. It examined the types of educational programs designed to prepare staff for work in inclusive schools, as well as programs aimed at training for future behavior analysts. The study also reviewed legislation concerning the use of behavior analysis in each country. Additionally, the study explored the experiences of specialists in the field regarding the inclusion process and the application of applied behavior analysis (ABA), based on their education, work, experiences, and the challenges they face when working with students with disabilities. Within the desktop analysis, official documents published in the official press and on the websites of governmental

institutions in each country were reviewed. This included documents from the websites of the governments, the ministries of education, the ministries of labor and social policy, the offices for the development of education as well as other specific institutions characteristic of each country. To understand participants' experiences, a semi-structured interview was conducted with 35 specialists in the sample, including special educators, psychologists, social workers and teachers. The data were then processed through the interview process, where the responses were coded and grouped according to the category of the topic to which they belonged.

Findings

This section presents the data divided into two sections: data from desktop analysis and data from the analysis of specialists' interview responses. The first section analyzes the legislation related to the inclusion process, as well as study programs designed to prepare specialists working within this process. It also examines the legislation concerning ABA and training programs for behavior analysts. The second section presents the responses of interviewees regarding their education, experience in the inclusion process and the use of ABA.

Desktop analysis

Legislation on inclusion

Starting from the first goal of this paper, the comparison of legislation on the representation of inclusion in official documents, the data are not very diverse across the countries. Namely, if we refer to the countries that are in the European Union, starting from the Czech Republic, we can say that inclusive education in this country, according to the legislation, functions on the principle of non-discrimination and recognition of individual diversity, guaranteeing equal rights for people with disabilities, and at the same time promoting their integration in all spheres of life (Ivanenko et al., 2024). This is enabled by the Anti-Discrimination Act (Collection No. 198/2009) which prohibits discrimination on the basis of abilities, while on the other hand the Social Services Act (Collection No. 108/2006) ensures their integration by providing support services such as personal assistance and sheltered housing. Regarding education, their comprehensive right is ensured by the Education Act (Collection No. 561/2004) referring to points for the development of Individual Education Plans (IEPs) as well as adaptations for students with disabilities. In addition to the legal provisions on inclusion in schools, the Czech Republic has also adopted legal provisions that help people with mental disabilities in employment. That said, it has also changed the guardianship laws to promote autonomy and support decision-making. Respectively, through continuous changes in Mental Health Care, the process of deinstitutionalization is being enabled and services are being provided in the community. Also, the Czech Republic, as a signatory to the UN Convention on the

Rights of Persons with Disabilities, in an attempt to align its national strategies, adopted the Decree No. 27/2016 and Law No. 82/2015 introducing key changes and giving more administrative responsibilities to school counseling centers. This reflects the Czech Republic's long-term commitment to inclusive education and mental health support.

On the other hand, Slovakia does not have legislation that specifically emphasizes non-discrimination; instead, it focuses on individualized support, equal opportunities and lifelong learning. This is enabled by Act No. 245/2008 (School Act), which ensures equal access to education and the implementation of IEP and specialized services. In this context, the importance of the Pedagogical Act (No. 139/2019) can be highlighted, which clearly defines the teacher qualifications, and promotes inclusive teaching practices associated with their professional development.. In the first sentence, it was mentioned that Slovakia may not be characterized by a non-discriminatory approach the emphasizes other features. However, this does not imply that there are no official documents to support non-discrimination. In particular, Slovakia has the Anti-Discrimination Act (No. 365/2004) which ensures non-discrimination based on individual abilities. This act also mandates reasonable accommodations for schools to include students with disabilities, thereby promoting inclusive educational policies. Educational support in Slovakia is also provided by the Family Act (No. 36/2005) and the Act on Legal Social Protection (No. 305/2005), which guarantee educational and social support for students with disabilities. These documents are important because they require cross-sectoral cooperation between education, health, and social services, including interventions for children at risk. The presented legislation only confirms Slovakia's efforts to promote the inclusion process.

The third Visegrad country, Poland, also ensures the right for education for all through its constitution, namely the 1997 Constitution as well as the Education Acts (2016) and the Teachers' Charter (1982). Educational institutions, based on these laws, maintain legal autonomy, but parents are the ones who have the right to choose between public and private institutions. As a result, many students study in separate environments, in special classes or special schools. Poland, as one of the newest members of the European Union, is trying to follow the recent reforms supported by the European Commission and the European Agency for Special Needs and Inclusive Education, which aim to improve the quality of inclusive education by focusing on early intervention, specialized teacher training and needs-based assessments. The inclusion of international guidelines into the national guidelines gives hope for the country's commitment to the fight against reducing the segregation of students with special needs (Ivanenko et al., 2024).

As for Ukraine and North Macedonia, although they are not in the European Union, the situation is not much different. Namely, Ukraine, which is currently also in a war process, had previously made significant legal changes to approach the standards of inclusive education, especially since 2016.

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Respectively, the Law on Education of 2017, revised, is the official document that defines equal access for all students and inclusive education, but other legal provisions such as the Law on Preschool (2023), General (2017), Secondary (2020), Vocational (1998), Higher (2002) and Out-of-School Education (2000) ensure inclusion at all educational levels. On the other hand, the Law on Social Services (2019) supports social protection included in educational services adapted for students with disabilities. In addition to these provisions, Ukraine can also boast a range of government resolutions that provide procedural guidelines for the implementation of inclusive education, such as frameworks for early intervention, curriculum adaptation, and teacher training provided by the National Strategy for Creating a Barrier-Free Space (until 2030) and the Action Plan for Early Intervention. The Ministry of Education and Science has also developed guidelines to standardize inclusive teaching practices and to define criteria for inclusive infrastructure and services. In Ukraine, an important institutional component of inclusive education is the Inclusive Resource Centers (IRCs), established in accordance with Cabinet of Ministers Resolution No. 545 (2017). IRCs conduct comprehensive assessments of child development, determine the need for support, and participate in the development of Individual Development Programs (IDPs). They ensure interdisciplinary collaboration between schools, specialists, and parents. As of today, more than 600 IRCs operate across all regions of Ukraine. Despite the ongoing conflict in Ukraine, the country is demonstrating a solid legal basis for inclusive policies.

North Macedonia, on the other hand, made a drastic change in inclusive education with the adoption of the Law on Primary Education in 2019, while before it was known for segregated education of students with special needs. This law ensures full participation of all students with special needs in the regular education system with the support of resource centers, making it impossible for parents to make a choice whether they want to be in mainstream classes or special schools, therefore, as of 2023, special schools, now transformed into resource centers, have not registered any students. It also clarifies and emphasizes the importance of systematic cooperation between schools and professional teams such as pedagogues, psychologists, special educators and graduate social workers. In addition to the law, many sub-legal acts have been adopted that help implement inclusiveness, namely regulations on student assessment and the role of educational assistants. Although its implementation is relatively new, this approach characterizes North Macedonia as one of the states that claims to follow European strategies, even though there are practical challenges, such as adapting infrastructure and providing adequate support services in all schools.

Study programs comparison

As it can be seen, inclusive education is a key process taking place in Central and Eastern Europe, and in addition to legislation, frontline workers, namely teachers, psychologists, special educators and social

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workers, are also important. Through this analysis, we will highlight the forms of preparation of these specialists in each country. Starting with the Czech Republic, the legislation on inclusion itself enables the preparation of teachers for work in these environments. It has ensured that universities such as Charles University in Prague, Masaryk University in Brno and Palacký University in Olomouc offer programs on inclusion that combine theoretical teaching with practical experience such as adaptive teaching and curriculum development for diverse learners and assessment techniques. On the other hand, fields such as psychology and social work focus on professional preparation for inclusive environments with aspects of developmental psychology, counseling and advocacy for students with disabilities. Slovakia, by legally ensuring the existence of inclusive teams through Law No. 139/2019, obliges study programs for relevant profiles to include content that prepares future professionals for inclusive practices in preschool and school settings. They are characterized by master's study programmes preparing students for inclusive education, counseling and inclusive teaching. The preparation of social workers relies on interdisciplinary approaches, focusing on young children at risk and services for people with disabilities. In contrast, psychologists are trained specifically for intervention and counseling with students with disabilities. This model of specialized training ensures that staff members are equipped with the necessary skills to address the diverse needs presented in school (Ivanenko et al., 2024). In North Macedonia, professional preparation of teachers is provided at four public universities. Although they offer some subjects in noninclusive education, gaps remain in their consistency and depth. What makes North Macedonia specific is the bachelor's program in special and rehabilitation education, which is part of the inclusive team, and which is offered at two state universities, the University of Tetovo and the University "Ss. Cyril and Methodius". This profile, however, does not qualify its attendees for a profession of a teacher in regular schools. As for the study programs of psychology and social work, a minimal inclusion of the remaining sources for inclusive content is also observed.

In Poland, with respect to the new regulations introduced by the Ministry of Education and Science in 2022, all the qualification requirements that an inclusive teacher must possess have been clarified. This process required the provision of specialized studies and qualification courses in inclusive teaching, which are provided either at public or private universities. Ukraine, via the Ministry of Education and Science, has promoted specialized programs in 314 higher education institutions by integrating inclusive education into the curricula of psychology and social work. The same institutions offer specialized master's study programmes with a choice of fields such as assistive technologies or inclusive classroom support. From the above stated facts, it is evident that all the examined countries recognize the need to prepare specialists capable of working in inclusive schools.

ABA legislation and study program comparison

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Regarding ABA studies and qualifications, considering that the concept had been introduced in Europe only after the 1960s, the current situation in the countries mentioned is understandable. Namely, the best situation from these five countries, represented both in terms of law and qualifications, is the Czech Republic, where ABA approach was introduced and has been implemented since 2015. The initiative to provide scientifically based techniques for autistic kids was launched by the parents and it was adopted by universities such as Charles and Masaryk which started to offer ABA in their education and psychology study programs. The government allocated financial support for education of first generation of behavior analysts in a 5 years project. Persons trained within this program then joined the Czech Society for Applied Behavior Analysis (CSABA), which was founded in 2016, for further development of this profession in the Czech context. It was this year that forced the government to take measures to officially integrate behavioral services into the national and healthcare system (Kingsdorf, S. & Pancocha, K. 2023). The Czech Republic can be proud of the official recognition of behavior analysts as a profession through amendments to Act No. 201/2017 Coll. What was observed from the analysis is that the majority of ABA services provided remain private. Slovakia began the journey towards ABA inclusion in 2013, when professionals trained abroad returned to their country to provide these services in a private form. By 2022, the country had nine certified analysts, partly due to lack of formal recognition and limited career prospects. The Ministry of Health recognizes ABA techniques as effective early intervention methods, and the Ministry of Education also endorses these techniques for inclusive practice (Ivanenko et al., 2024). However, the inclusion of ABA content in university curricula is left to the discretion of individual institutions. The University of Presov offers some courses in ABA, although the profession itself is not officially recognized in Slovakia (Trellová & Bourland, 2024). In North Macedonia, the situation is more critical, since the profession of behavior analyst is not recognized and there are no studies that offer such qualifications. There are also no behavior analysts licensed from abroad who would have returned and provided services in the country, even privately. There are some centers that declare that they provide ABA services, but they are certified in some of the unofficial ABA institutions in neighboring countries. Although this limits the effectiveness of successful interventions, academic institutions have not developed formal ABA courses yet and there are no verified training paths at the moment.

Poland on the other hand provides a different picture, showing consistency in the education and qualification of ABA analysts for more than two decades, but officially as of 2021, 22 analysts are registered as holding Board Certified Behavior Analyst (BCBA) certifications. This supported ABA principles to be implemented in kindergartens, schools and special centers, enabling professional preparation with postgraduate programs available at some of the Polish universities. There are two officially registered associations, the Polish Society of Behavioral Psychology (PSBP) and the Polish Association of Behavioral Therapy (PABT), which have been promoting professional development and

training since 2002. Although considerable efforts have been made, there are still difficulties on the way to certification and provision of ABA services in Poland (Keenan et al., 2022).

Ukraine, as a country with a relatively large population, developed ABA support with the help of parental initiative. Namely, the first certified analysts graduated in 2012, and as a result the Ukrainian Association of Behavioral Analysts (UABA) was established. ABA centers were established in several cities of Ukraine, but services were provided for a fee. However, the war significantly disrupted the expansion of services, forcing many professionals to continue their work remotely. Specifically, there are no studies to prepare ABA therapists in Ukraine, which makes it difficult to create new staff. As it can be seen, a major concern in all contexts is the lack of standardized regulations and certifications.

Results from the interviews

The interview research aimed to find out how desktop analysis is experienced in real life by professionals who live their work every day. A structured interview approach was therefore used, involving 20 professionals - including psychologists, special educators and social workers, as well as teachers from each partner country. The interviews explored their professional preparation, ABA training and various challenges when working with ABA principles.

The results revealed trends in the inclusion of ABA in their work, namely while some participants reported having ABA training, a third of them had not even encountered the terminology during their studies. The majority of those who had received ABA training reported that some of the training had been fragmented, not systematic, which left gaps in their professional preparation. To fill this gap, a good number of them have sought training abroad, such as in various probationary institutions and non-government organizations (NGOs). Notable examples mentioned by participants included programs such as "Behavior Therapy in Theory and Practice" and trainings conducted by the Step by Step Foundation. Most identified significant gaps in both theoretical and practical training and expressed a particular interest and need for advancing knowledge of ABA techniques (Ivanenko et al., 2024).

In terms of professional and challenging experience, most reported having between 2 and 13 years of work experience. They have mainly worked with neurodiverse children, especially children with autism. The most common behavioral challenges they have encountered and had difficulty managing have been aggression, self-injurious behaviors, refusal to follow instructions, and severe emotional disorders. Some participants also highlighted challenges with children with eating disorders.

Conclusion

From a desktop analysis and interviews conducted, it can be observed that there are significant disparities

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in awareness, access and integration of Applied Behavior Analysis education across partner countries. Although legal frameworks appear to be increasingly in line with international standards, success in its implementation depends on political will, professional capacity and different socio-economic conditions (Keenan et al., 2022). Overall, although there is a clear recognition from the five countries of the need to prepare educators, psychologists and social workers to effectively support inclusion, the Czech Republic, Poland and Slovakia demonstrated a more robust integration of theory and practice, while North Macedonia and Ukraine are on track to actively change university curricula to address the gaps. Regarding ABA preparation and education and certification, the introduction of national qualification frameworks, the provision of validated education programmes and codes of ethics are essential to support the development of ABA in each country (Kingsdorf, & Pancocha, 2023; Trellová & Bourland, 2024). The presence of these elements varied across countries.

Regarding the experiences of professionals, although most had formal ABA education, they reported that their education was not ongoing, indicating gaps in continuing education. In response to these findings, our project will create a comprehensive curriculum with the inclusion of ABA training, which will be tailored to teachers, psychologists and social workers during their studies and for those already working. The curriculum will cover the main areas of ABA principles, such as behavioural assessment, intervention planning, ethical practice and inclusion. To make it more accessible to all, the training will be offered in an e-learning format, including audio-visual lectures, reading materials, practical examples, quizzes and guidance notes. This model will enable all professionals, wherever they work, to have access to free ABA training. This report enabled us as university institutions to strive to strengthen inclusive education systems.

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Corporate Culture In Herman Melville's *Bartleby The Scrivener*

Sezen Ismail ⁴⁴

Abstract

Herman Melville's 1856 short story *Bartleby, the Scrivener*, reflects on corporate society in relation to the development of capitalism in America during the 19th century. Melville mirrors the concepts of isolation, passive resistance, and the effects of mechanized work alienation through the cold and rigid setting a Wall Street law office's. Bartleby can be seen fiercely resisting the oppression of office life with his "I would prefer not to" refrain. The narrator, a lawyer who is efficient, submissive, and chronically compliant, exemplifies the erosion of compassion and support in the corporate system by participating in and witnessing the spectacle. Bartleby is not just a critique of modern capitalism; his plight brings forth considerations about workplace ethics, emotional and mental stress incurred by repetitive tasks, and modern emotional laden workspaces. Through Melville's story, we are called to reflect on the issue of becoming morally blind concerning the cost to human beings behind the institutional frameworks governing needs surrendering.

Key words: corporate culture, Bartleby, passive resistance, office.

Introduction: Corporate Culture and Capitalism in 1850s America

During the mid-19th century, America dominated the global economy which was a result of its growing industrial capitalism. Wall Street was the financial center of the country; as such, it began to shape the corporate spirit of efficiency, productivity, and hierarchy. The corporate culture began to reflect the philosophy of organizational bureaucracy, profit maximization, and lack of personal connection. Human labor became turned into commodity, the idea of individualism was shaped according to the needs of the market as a result of the abstract and systematized economic trade. As Kuebrich (1996) asserts:

Melville was aware of the material conditions and social forces that were transforming New York, and he skillfully incorporates many of these factors into "Bartleby." For instance, the story's setting reflects the city's lightning transformation into an industrial, commercial, and financial center. Rapid growth (New York's population increased from 124,000 to 814,000 between 1820 and 1860) and the attendant rise in real estate prices pushed buildings upward, like those that hem in the office of Bartleby's employer. (p.384)

It is that within this context Melville's *Bartleby the Scrivener* (1835)⁴⁵ rises as a symbol of the

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⁴⁵ This text is taken from Eben Moglen's *The Lawyer's Conscience: A Reading of Melville's "Bartleby the Scrivener"*. For full publication details and the link to the original PDF, see the references. All other direct quotations from this article are taken from the same source.

dehumanizing currents of corporate capitalism, as much as it is a story of a weird copyist who refuses to get the job done.

The legal office on Wall Street serves as a microcosm through which Melville portrays the corporate culture of 1850s. Through his characters: Bartleby, Turkey, and Nippers, Melville shows the repetitive order of the working organization and the psychological effect of such a system. The lawyer, on the other hand, acts as a facilitator of the system, whose role is to keep the structure working by pushing the productivity to its maximum levels. However, Bartleby breaks the order and displays the moral emptiness of the system through his polite refusal to give into conformity.

The Wall Street Office

Herman Melville sets his story within a legal office on Wall Street, which stands as a symbol of the corporate system of the emerging capitalist power. The unnamed narrator, who describes himself as an “unambitious lawyer” (Bartleby the Scrivener p.2) ⁴⁶ talks about the stability and profit of his establishment, priding “in the cool tranquility of a snug retreat, do a snug business among rich men’s bonds and mortgages and title-deeds.” Here, Melville highlights the professional life on Wall Street as represented through the financial and legal documentation and the profit gained through not-so-risky work. Daily routine and focus on paperwork replace ambition, giving way to the office to become a space for capitalist rituals, where law serves as a tool to manage money, not justice. Sjoberg (2004) observes that wall Street financial actors construct a culture through prevailing discourses and their self-perception, influencing money transactions and maintaining prestige through moneymaking as a strong value orientation.

The physical design of the office reflects the dry and impersonal characteristic of the corporate world. The firm’s “chambers were up stairs at No. – Wall-street. At one end they looked upon the white wall of the interior of a spacious sky-light shaft, penetrating the building from top to bottom... my windows commanded an unobstructed view of a lofty brick wall, black by age and everlasting shade.” (B.S. p.2) The imagery created through the description of the office represents a workplace that is lacking natural light and a sense of life altogether. “Huge square cistern” (B.S. p.2) serves as a metaphor that separates the office from the world outside and creates a feeling of entrapment and seclusion, one that is typical for bureaucratic office life. The space is an architectural representation of a sterile environment that is entrapped within its walls.

When the lawyer describes the job of his employees as “copying law papers being proverbially dry, husky sort of business” (B.S. p.5) he explicitly acknowledges the repetitiveness of their work which is devoid of excitement. The workers’ mechanical copying is a reflection of the modern labor within the capitalist

⁴⁶ All following direct quotations from the short story will be referred as (B.S. p.X)

system. In this system, the workers are a human version of instruments that serve for the production whose value is measured on the basis of their output. As a result, the story lays bare the *soul-sucking* effects the corporate office work, echoing the notion of alienation and alienated labor identified by Karl Marx in the same era.

Gerald Greenberg's (1988) study looks at the physical separation as a symbol of hierarchy. Based on his field study, office size, location, and features (such as large offices, carpeting, and window access) are widely recognized as symbols of higher organizational status, reinforcing the social order and hierarchy within companies. These physical markers act as rewards for higher-status individuals and visually communicate their position in the corporate structure to others. The office is physically separated, which reflects the hierarchical and detached order of the corporate institution. The lawyer/narrator puts Bartleby "by the folding doors, but on my side of them, so as to have this quiet man within easy call." (B.S. p. 6) This type of arrangement creates a physical separation between the lawyer and his staff, emphasizing on his status as a manager. The folding doors represent a symbol of seemingly not fixed borders, suggesting that the lawyer is close enough to control Bartleby, despite the image of seclusion. This feeling of isolation is not limited to the working hours. The lawyer says that "Of a Sunday, Wall-Street is deserted as Petra; and every night of every day it is an emptiness." (B.S. p.13) This comparison portrays the financial district to the ruins of an ancient city, implying that this place, which is the heart of commerce, has been drained of vitality and human life. As Bartleby decides to live in the office outside of his working hours, the sense of ghostly solitude is fortified: "Here Bartleby makes his home; sole spectator of a solitude which he has seen all populous—a sort of innocent and transformed Marius brooding among the ruins of Carthage!" (B.S. p.13) Melville's allusion portrays Bartleby as a tragic figure who is surrounded by the ruins of capitalist storm, he is haunting the office like a trace of human emotion in a space that has no place for it.

The most dramatic reflection of Bartleby's alienation is portrayed in the image of the *dead brick wall* where "he would stand looking out, at this pale window behind the screen, upon the dead brick wall." (B.S. p.14) This "view" is a metaphor for the psychological aspect of the office. The wall becomes Bartleby's reflection of his inner despair and also a symbol of the emotional and spiritual decay caused by modern capitalist labor. Eventually, all these elements create a microcosm of corporate capitalism set in Melville's Wall Street office. Its workers are efficient but impersonal, the hierarchical order creates isolation, as the productivity raises the decline in humanity. The order of space and the physical atmosphere are orderly and rational, yet spiritually hollow. While Bartleby's silent resistance destabilizes this order, It also unveils its deep and inherent inhumanity.

Turkey and Nippers as Embodiments of Corporate Strain

The story is most often read through the lens of Bartleby's passive resistance, it is also important to look

into the actions of the other scriveners, Turkey and Nippers, who also serve as figures that fortify Melville's critique of the capitalist system in the 1850s. Unlike Bartleby, who is entirely disconnected from the system, Turkey and Nippers have internalized the hierarchical and monotonous corporate culture, they also reflect the strain of adaptation to the same. Their eccentric behavior not only reflect their weird characters, they are as well symptoms of the environment in which they work. They are like office machines that has body and mind that simulate the rhythm of life. As Lori Dui Kelly (2017) contends, when asked to, these employees participate unquestioningly in what their employer has described as the "common usages" (B.S. p.8) of the office, the most important of which is checking legal copies for accuracy.

Turkey, the older scrivener, is physically exhausted, leading to the decline of workers who experience burnout as a result of the years spent in monotonous labor. Johnson (2002) proposes that employers can reduce burnout by fostering a sense of community, strong social relationships, manageable workloads, and ensuring fair and equitable treatment. As the narrator reveals, "In the morning, one might say, his face was of a fine florid hue, but after twelve o'clock, meridian—his dinner hour—it blazed like a grate full of Christmas coals." (B.S. p.2) Instead of recharging, the noon break further inflames his attitude as: "There was a strange, inflamed, flurried, flighty recklessness of activity about him." Since he is not able focus after the glucose spike caused by the lunch, thus he, "dropped blots upon my documents", (B.S. p.2) a circumstance that makes him useless in the afternoon. In order to avoid stagnations in the workflow, the lawyer suggests to reduce Turkey's workloag in the afternoon, "but no; he insisted upon his afternoon devotions", (B.S. p.3) a reaction that highlights an important element of the corporate culture, that is: even as employees manifest a breakdown, they insist on holding on to the routines that oppress them, a behavior that reflects the internalized system of constant labor. Turkey's refusal to rest, mirrors the spirit of conformism, a system that has no compassion for age and fatigue.

Nippers, on the other hand, given his younger age, is more ambitious, but he struggles with the idea of being entrapped into the same office. His discomfort with the office environment can bee seen through his constant battle to adjust his desk: "Though of a very ingenious mechanical turn, Nippers could never get this table to suit him." (B.S. p.4) His caricaturized effort to fix the table becomes a metaphor for the discomfort of adapting to a system that does not correlate to the nature and spirit of the human body. Furthermore, he is not content with his position; as the narrator asserts, "The ambition was evinced by a certain impatience of the duties of a mere copyist." (B.S. p.3) His desire to exceed his role creates irritability, "an unwarrantable usurpation of strictly professional affairs." (B.S. p.3) Such symptoms of professional ambition are rarely satisfied, instead, they lead to frustration.

Looking at Turkey and Nippers as a pair, we see that their daily routine is in a way scheduled in a subsequent manner "The irritability and consequent nervousness of Nippers, were mainly observable in

the morning, while in the afternoon he was comparatively mild.” (B.S. p.5) On the contrary, “Turkey’s paroxysms only coming on about twelve o’clock.” (B.S. p.5) In a humorous manner the narrator adds that: “Their fits relieved each other like guards.” (B.S. p.5) This statement symbolically refers to the idea that Turkey and Nippers do not serve the office only, but they serve the system, shifting their disfunctions rhythmically so that productivity is not disturbed despite the fact that both of them are not content.

Turkey and Nippers, serve as a personification of the duality of the human cost in the 19th century capitalist order. One is experiencing burnout because of overwork and impersonal routine; the other one is young and ambitious but frustrated by the limited opportunities. They are like the two sides of a coin. Eventually, both are victims of a system that focuses on value by productivity and treats personal traits as something that should be managed or scheduled. Unlike Bartleby, who silently refuses to get the job done, Turkey and Nippers are absolute conformists, as a result they carry the psychological and physical burden of the system. Their personal failures are not a result of their breakdowns, but the outcome of a culture that worships productivity and hierarchy over the well-being of the individual.

Bartleby: The Epitome of Resistance

Bartleby enters the corporate structure as the ideal employee. The narrator is fascinated by his diligence and productivity noting that: “At first Bartleby did an extraordinary quantity of writing. As if long famishing for something to copy, he seemed to gorge himself on my documents.” (B.S. p.6) The *gorging* metaphor alluding to the notion of consumption vividly reflects the capitalist appetite for endless productivity. However, Bartleby soon starts to demonstrate resistance in such a way that his actions unexpectedly disrupt the flow of the office order. When the lawyer asks him to perform a different job other than copying, he simply but surprisingly says “I would prefer not to.” (B.S. p.7) Seemingly mild, this phrase initiates a fundamental disruption to the corporate office order. As Woo-kyu Kang (2020) observes, Bartleby's gesture of inaction offers a new political resistance in a micro-fascist system of capitalism, challenging the separation of passive resistance from its textual and cultural context.

Bartleby’s resistance is powerful not because it exhibits some kind of spectacularity or violence, but for its passivity and consistency. His “I would prefer not to”⁴⁷ does not provoke argument or negotiation; he doesn’t even justify his refusal. He simply prefers not to engage with the office obligations. This type of withdrawal is much more potent than any type of rebellious objection; such a subversion renders the system impotent, as the narrator comments: “nothing so aggravates an earnest person as a passive resistance.” Bartleby’s nonconformity is disturbing because it does not follow the common behavior of protest and defiance. As Edelman (2013) observes:

For the people must implicitly supplement the collective presentation of their personhood with a

⁴⁷ This phrase is uttered 30 times throughout the story

figure whose pathos can underscore their subordination to corporate interests, a figure, that is, in which “the people,” as collective abstraction, could incorporate themselves. (p.100)

Even though Bartleby stops fulfilling his duties, his presence in the office continues, thus challenging the logic of capitalist utility and productivity. He feeds himself with ginger-nuts, also challenging the norms of consumption. As Kobayashi's (2016) study on the international kinship between Melville's Bartleby and Kafka's Samsa observes that Bartleby's occupation of the law office turns the place into a house, and Samsa's transformation into the monstrous vermin turns his apartment into an office. These dual settings render each protagonist uncanny and ghostly. The discovery of parallels between the protagonists who embody work-life integration stems from incorporating not only elements typical of the Gothic, such as supernatural happenings and closed-room settings, but also other elements, especially work-life balance. The imagery of the bizarre isolation is dramatically reflected as Bartleby further withdraws. The image of him spending hours staring at the “dead brick wall” (B.S. p.14) reflect the dehumanizing dimension of his existence. As the narrator observes “He seemed alone, absolutely alone in the universe. A bit of wreck in the mid-Atlantic” (B.S. p.18) mirrors Kobayashi's parallel. Like Gregor Samsa, Bartleby is not only disengaged, he is also existentially lost.

The Lawyer as a facilitator of corporate values

The lawyer, who is also the narrator of the story, is through his perspective that we learn about the workers in the office. He presents himself as a mild and reasonable man, who is more than a passive observer of Bartleby's downfall. His figure is central in maintaining and facilitating the corporate order in the company. Through his calmness and politeness, he establishes a working environment that nourishes order over empathy and predictability over disruption. From the very beginning he points out that he prefers a calm and controlled environment. He describes his office as a “snug retreat” (B.S. p.1) where he does “a snug business among rich men's bonds and mortgages and title-deeds,” (B.S. p.1) alluding to a working environment that promotes quiet comfort and minimal risk.

When Bartleby shows signs of resistance, the narrator's response reflects patience, saying “I believe that this wise and blessed frame of mind would have continued with me, had it not been for the unsolicited and uncharitable remarks obtruded upon me by my professional friends.” Obviously, he presents himself as a tolerant manager, who is not disturbed by his employee's reaction, he is rather worried about the reaction of the other employees. Perhaps, his concern is not related to Bartleby's wellbeing but rather with keeping the social image and functionality of his establishment.

However, the lawyer's composure dissolves when he “resolved to gather all my faculties together, and forever rid me of this intolerable incubus.” (B.S. p.23) In his study about Neutered Narration (1986) David Randall interprets the lawyer's beliefs about human nature are challenged by Bartleby, who is stubborn, disruptive, and, in a legal sense, already “dead.” As the lawyer puts it, “It was hardly possible

that Bartleby could withstand such an application of the doctrine of assumptions.” (B.S. p.20) This “doctrine” is really about the lawyer’s need to feel in control and confident in his handling of Bartleby. Randall further comments that the lawyer sees himself as a calm and rational figure, someone who manages difficult situations with composure. He believes Bartleby, being “incurably forlorn,” (B.S. p.6) should recognize the need to leave because he no longer fits within the expected norms of productive work. But this belief assumes Bartleby shares the lawyer’s view of the world—one rooted in professionalism, reason, and routine life on Wall Street. As the story continues, it becomes clear that the lawyer’s assumptions are also tied to a particular view of Christian charity. But in this case, charity is used more to protect the lawyer’s image of himself as generous and reasonable, rather than to truly help Bartleby. His kindness becomes a way of reinforcing his own self-worth, rather than offering genuine compassion.

Conclusion

Bartleby the Scrivener’s peculiar story is a multidimensional critique of the corporate culture of mid 19th century America. It explores the human consequences of a system that pushes profit, order and efficacy. Through the office setting and the lawyers point of view Melville mirrors a microcosm of the capitalist values embodied in the narrators managerial style that reflects order, functionality and stability above all. Turkey and Nippers, who also serve as figures that fortify Melville’s critique of the capitalist system in the 1850s. Unlike Bartleby, who is entirely disconnected from the system, Turkey and Nippers have internalized the hierarchical and monotonous corporate culture, they also reflect the strain of adaptation to the same. Their eccentric behavior not only reflect their weird characters, they are as well symptoms of the environment in which they work. They are like office machines that has body and mind that simulate the rhythm of life

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**Literature Review On The Internationalization Of Universities That Form Higher
Education Institutions**
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Abstract

In today's life, the definition of internationalization is that individuals, institutions operating in various fields, companies and universities that constitute higher education institutions continue their activities in the international arena by exceeding national borders. The internationalization of universities occurs when they operate in an international dimension in the fields of education, research and development activities and services. Student, academic and administrative staff exchange programs, international project collaborations, and foreign language-based education constitute important steps in the internationalization of universities.

Universities can increase the level of education through student and academic exchange programs in different countries. It provides positive discrimination in terms of universities reaching the top ranks and recognition in international rankings. Collaborations, projects and academic activities that universities will carry out with their international stakeholders accelerate the knowledge production processes. International students make positive contributions to the institution and the country's economy.

The aim of this study is to examine the postgraduate studies conducted in the field of internationalization of universities; to reveal the internationalization process in universities, the difficulties encountered and the suggested solutions. In line with this purpose, the study was designed as a limited literature review covering open access postgraduate theses completed on the internationalization of universities operating in Türkiye.

Internationalization is the set of activities carried out by higher education institutions to increase their competitiveness on a global scale, support knowledge sharing and encourage intercultural interaction. In recent years, universities in Türkiye have been making efforts to increase their visibility by implementing the strategies they adopted in accordance with the Higher Education Internationalization Strategy Document (2025) prepared within the framework of the 12th Development Plan of the Republic of Turkey (2023).

As a result of this study, it is aimed to suggest strategies that should be implemented against the difficulties experienced in the internationalization processes of our universities, which are representatives of our country in the fields of higher education, education and science.

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Keywords: Higher education, university, internationalization.

Entrance

The internationalization of higher education institutions is a multidimensional process that has become increasingly important with globalization. The efforts of universities to carry their educational activities, research activities and community service missions beyond national borders constitute the basis of this process. Internationalization encompasses not only the acceptance of foreign students but also academic collaborations, curriculum development, staff mobility and intercultural interaction. In this context, there are different definitions and approaches to internationalization in the literature.

Today, when we look at the concept of internationalization, it constitutes one of the most important agendas that higher education prioritizes on a universal scale (Tight, 2022).

When it comes to internationalization in higher education, it has been seen as a contemporary approach and progress offered by western countries. It can be said that education supported by English curricula in a universal dimension directly affects the concept and goals of internationalization. This progress has manifested itself with the contribution of international students and academic staff to the workforce and education life and the fact that higher education institutions in the West have different representations in developed and developing countries (Tight, 2022).

Internationalization in higher education is of great importance for increasing both academic quality and the country's level of scientific development and interaction (Knight 2007).

The internationalization of higher education has been defined from different perspectives and at different levels (e.g., institutional and national). At the national level, it has been defined as *“the process of integrating an international, intercultural, or global dimension into the purpose, functions, or delivery of postsecondary education”* (Knight, 2004; Albusaidi and Nugroho, 2022: 228). At the institutional level, Hudzik (2011: 6) defined internationalization as *“the infusion of international and comparative perspectives throughout the teaching, research, and service missions of higher education institutions”* (Albusaidi and Nugroho, 2022: 229).

When viewed globally, the concept of internationalization in higher education has become a fundamental goal and element. The international identity of universities, which are one of the most important parts of higher education, depends on the increase in their interactions with international institutions.

In today's century, as economic, political and social factors are effective in increasing the internationalization efforts of higher education institutions (Altbach and Knight 2007), universities are increasingly adopting internationalization strategies due to their efforts to gain competitive advantage at national and international levels (Chan and Dimmock, 2008).

Knight (2004) defined internationalization as *“the integration of international, intercultural or global*

dimensions into policies, programs and processes in higher education .” Altbach and Knight (2007) explained the process with various dimensions such as student and staff mobility, cross-border education programs, research collaborations, multilingual curricula. Brandenburg and De Wit (2011) emphasized that internationalization should not only carry quantitative but also qualitative goals.

The definition made by Elkin and his colleagues also emphasized the qualitative aspect of university internationalization (Elkin et al., 2003): *“internationalization should aim to create values, beliefs and intellectual insights that domestic and international students and faculty can equally participate and benefit from”* (Yee, 2014). They should develop global perspectives, international, cultural and ethical sensitivity, as well as useful knowledge, skills and attitudes for globalized markets (Yee, 2014: 260).

According to Knight (2004: 11), internationalization, which means *“the process of integrating an international, intercultural and global dimension into the educational purpose, functions and service delivery of universities”* , has existed in various forms since the birth of universities. However, it has come to the forefront as a systematic process in its current meaning since the 1980s. The European Bologna Process, the Erasmus program and similar initiatives have supported this development. Countries such as the USA, the United Kingdom and Australia are among the pioneers of this process. Countries such as China, South Korea and Singapore have also attracted attention in recent years with their policies of attracting international students.

Alex Cheung, LH (2021) explains in his study based on extensive literature review, analyzing historical trends and experiences of higher education institutions in different countries; “Two common elements that are always referred to in the internationalization of higher education institutions are; “student and academic staff mobility and reforms in curriculum or program structure” (Cheung., 2021: 111). Higher education institutions continue to promote student or staff mobility worldwide and restructure the curriculum by pursuing ways to increase the international recognition of students and staff or partnerships with foreign higher education institutions.

If we accept the Bologna process, which is a mutual agreement between different countries with the priority of increasing student and staff mobility, as a milestone in the internationalization of universities (Süngü and Bayrakçı, 2010: 899), the tools used to measure and evaluate internationalization in higher education today (for example , IMPI: indicators for mapping and profiling or MINT: internationalization mapping) offer universities a global self-assessment opportunity in their internationalization journey and thus provide the opportunity to monitor and evaluate where they stand in world, regional or country university rankings (for example, THE-QS: times higher education, URAP: university ranking by academic performance).

Purpose and Methodology

The aim of this study is to examine postgraduate studies in the field of internationalization of universities and to determine the internationalization processes, difficulties encountered and suggested solutions.

In this context, in order to analyze the efforts put by the academy in the discussions on the internationalization of higher education in Turkey (Cheung, 2021: 113), systematic literature review was adopted as the research method in the study. Systematic literature review allows researchers to obtain a comprehensive picture of what they already know and what they do not yet know, and therefore helps to identify areas that require further study (Mertens, 2005; Newman and Gough, 2020; Cited in: Cheung, 2021).

For the literature review, a search was conducted on YÖKTEZ with terms such as “Internationalization in Higher Education Institutions” and “Internationalization in Universities”. The study was designed as a limited literature review covering postgraduate theses written on the internationalization of universities operating in Türkiye. As a result of this study, it is aimed to reveal the strategies that our universities, which are representatives of our country in the fields of higher education, education and science, should implement for internationalization.

According to the criterion of “accessing the full text” of postgraduate studies on the internationalization of universities, 10 postgraduate theses published between 2016 and 2024 were accessed through YÖKTEZ. The full texts of the theses accessed were subjected to detailed qualitative content analysis between April 15, 2025 and May 15, 2025 (Creswell, 2013) . The data of the 10 theses, which were read and examined in detail, were extracted, simplified and tried to be made meaningful by carefully and analytically examining them with inductive reasoning.

In this context, the implications for the internationalization challenges and solution strategies of universities were evaluated based on the common points of the analyzed theses in terms of purpose, findings and results (Albusaidi and Nugroho, 2022).

Given the growing interest in studying the internationalization of higher education (Chan and Dimmock, 2008), *“it is important to clarify it as an area of research that reflects its increasing strategic importance”* (de Wit, 2002, cited in: Chan and Dimmock, 2008).

the results of the study will provide valuable information for researchers interested in the internationalization of higher education and will be important in terms of the policies and strategies that our universities will follow in the internationalization process.

This study does not require ethics committee approval.

Dimensions of Internationalization

Alex Cheung, LH (2021) explains in his study based on extensive literature review, analyzing historical

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trends and experiences of higher education institutions in different countries (Cheung, 2021); “There are two common elements that are always referred to in the internationalization of higher education institutions: The first is student and academic staff mobility, and the second is reforms in the curriculum or program structure” (Cheung, 2021: 111).

The internationalization process is shaped around the following basic dimensions:

- **Academic Mobility:** It is aimed to increase international experiences with student and faculty exchange programs such as Erasmus+, Mevlana and Farabi (European Commission, 2022).
- **International Student Admission:** In recent years, Turkey has become a center of attraction for students, especially from Central Asia, Africa and the Middle East (YÖK, 2023).
- **Education in a Foreign Language:** Increasing English-language programs makes it easier to appeal to international students (British Council, 2019).
- **Bilateral Agreements and Joint Programs:** Dual degree programs are created through collaborations with foreign universities (Knight, 2004).
- **International Academic Staff:** Scientific diversity is encouraged by the employment of foreign faculty members (OECD, 2022).

Higher education institutions internationalize in three different ways. First, at the human resources level, they encourage their students and academic staff to visit, study or work at higher education institutions in other countries. Second, at the institutional level, they provide cross-border programs or establish cross-border branch campuses. Third, at the national level, countries engage in transnational cooperation by opening dialogue, signing regional agreements or even launching transnational platforms to enable higher education institutions to work with other overseas peer institutions (Cheung, 2021: 111).

Higher education institutions that manage internationalization with a holistic outward perspective in terms of student dimension, faculty dimension, cooperation, accreditation, equivalence dimension, and promotion and branding dimensions (Gülşah and Kenan, 2021) contribute to qualified employment, scientific diversity and socio-economic conditions worldwide by encouraging student and staff mobility, increasing the international recognition of the institution, students and staff, and establishing collaborations and partnerships with international higher education institutions.

Internationalization, based on regional, national and international distance education and integrative, collaborative arrangements with a multitude of surrounding organizations, requires a strong and outward-looking university culture in implementing the relevant strategic initiatives and goals (Bartell, 2003: 65).

The Internationalization Process of Universities in Türkiye

The 2000s and beyond have been a turning point in terms of growth and transformation in higher education. Factors such as the inclusion of foreign students in education, staff and student mobility and

exchange programs, joint diploma programs, and the employment of foreign academic staff have led to an increase in internationalization levels (Kaya, 2021).

Internationalization is one of the strategic focuses of higher education institutions and will continue to be seen as strategically important in the foreseeable future. On the other hand, the flow of international students continues to increase and grow worldwide (Yee, 2014). As stated in Türkiye's 2024-2028 Internationalization in Higher Education Strategy Document (YÖK, 2025), Turkey "aims to become a center of attraction by raising higher education to universal standards" (Özvar, 2025: 1). According to the policy and strategic objectives in the 12th Development Plan, which is the higher policy document on which this goal is based (Presidency of the Republic of Turkey Strategy and Budget Presidency, 12th Development Plan, 2023: 158);

“ The level of internationalization of higher education will be increased, and our country will be transformed into a center of attraction for qualified international students and academics. The quality of programs providing education in foreign languages will be improved. The number of qualified international students will be increased. International cooperation between higher education institutions will be increased. International recognition of the higher education system will be ensured with international graduates and effective promotional activities. Universities will be encouraged to open joint doctoral programs with competent universities abroad.”

The internationalization of the university (Bartell, 2003: 43) *“depends on institutionalizing a participatory strategic planning process that recognizes and uses the culture in which it takes place”* (Chan and Dimmock, 2008: 187). In this context, the use of data-based policy development processes and big data will be expanded in the YÖK and universities in Turkey, and the “internationalization targets” included in the strategic plans of universities will be monitored with performance indicators and performance evaluation reports will be shared at regular intervals. Thus, the integration of quality assurance, strategic planning, performance management and data management systems will be ensured (12th Development Plan, 2025).

According to 2023 data, approximately 300 thousand international students are studying in Türkiye (YÖK Academic, 2023; UNESCO, 2020). This number puts Türkiye among the top 10 countries in the world that attract the most international students.

In recent years, universities in Türkiye have begun to measure, monitor and evaluate their strategies for achieving the internationalization goals and objectives in their strategic plans with concrete indicators. The incentives of the Council of Higher Education, the Mevlana and Erasmus programs, and the increase in the acceptance of foreign students and academic staff support this process. While the number of international students in Türkiye was around 25,000 in 2010, it has exceeded 300,000 by 2023. With this number, Turkey has entered the top 10 countries in the world that attract the most international students

for education purposes (YÖK, 2023). In 2023, the most international students came from Syria, Azerbaijan, Turkmenistan, Iran and Iraq, respectively. Istanbul, Ankara and Konya are among the cities with the most international students.

Findings

Within the scope of the purpose of the study, the findings obtained from the theses, the full texts of which were analyzed in detail, are given below separately for each theses:

In Şişmanoğlu Kaymaz's thesis study (2018), in line with the data and analyses obtained, the main obstacles faced by the internationalization process in higher education were classified in academic, bureaucratic, economic, institutional, demographic and socio-cultural dimensions. The study emphasizes that a special unit should be established within the Council of Higher Education (YÖK) to focus on this area and that the current regulations should be reviewed and updated. It is suggested that public and university personnel should have a certain level of foreign language proficiency as a criterion in the appointment processes. In addition, it is stated that academic staff working in universities should receive comprehensive foreign language education; grammar and reading skills measured by central exams in the current system are not sufficient on their own, and speaking, listening and writing skills should also be evaluated. It is stated that this approach is mandatory for Türkiye to achieve its internationalization goals. In addition, it is suggested that legal regulations should be reviewed, personal rights should be improved and thus Türkiye should be made an attractive working environment for foreign academics. Other important points underlined in the study include simplifying the legislation regarding residence and work permits for foreign students and creating social environments where they feel their cultural identities are respected (Şişmanoğlu Kaymaz, 2018).

In Yeniay Hatipoğlu's thesis study (2021), one of the main problems encountered in the internationalization process in higher education is the lack of foreign language proficiency. Participant views reveal that the political developments Türkiye has experienced in recent years have negatively affected this process. Physical infrastructure and the opportunities provided are considered important for both international students and academic/administrative staff. Especially on university campuses, the long distances between units make the operation difficult and can disrupt internationalization initiatives. For this reason, it is recommended to improve physical conditions and increase opportunities for guest students and staff. In addition, it is stated that local stakeholders should also be actively involved in internationalization policies for the success of the process. Hatipoğlu suggests that internal institutional control mechanisms may be insufficient in this context, and therefore, the implementation of an external expert evaluation process may yield more effective results (Yeniay Hatipoğlu, 2021)

In Aybar's thesis study (2016), it was determined that students who went to Western European countries

had higher perceptions of foreign language development compared to students who went to other regions. This finding reveals that foreign language education in Turkey should start at an earlier age. Focusing on speaking practice as much as grammar knowledge will ensure that students complete their language proficiency to a large extent when they come to higher education and can go abroad more effectively for academic, cultural or professional purposes. Within the framework of the Erasmus Student Mobility program, it is recommended that special support be provided to students with academic career goals. In this context, it is possible for universities to prioritize these students by allocating a share from their own research budgets. In addition, more mobility quotas should be offered to students at the postgraduate level; appropriate academic environments should be created where young academics returning from their experiences abroad can put the knowledge and skills they have acquired into practice, contributing to their individual development and encouraging them to add value to the institution and academic field they work in. (Aybar, 2016).

In Küçük's thesis study (2024), the findings obtained indicate that long-term strategic approaches should be adopted in order for internationalization in higher education to progress healthily. The research revealed that the level of awareness regarding internationalization as well as the difficulties encountered vary according to the students' foreign language proficiency, the type of university they study at and the field of science they are affiliated with. In addition, it was determined that students face various obstacles, especially due to bureaucratic processes and insufficient financial resources. It was stated that the participation rates of Turkish students who want to go abroad for educational purposes are low in international exchange programs, and similarly, the number of foreign faculty members and researchers who come to Türkiye to conduct academic activities is limited and no significant increase is observed in this area. Based on this situation, considering that academic mobility covers both students and academics going abroad from Türkiye and foreign academic staff coming to Türkiye; it is recommended to increase international collaborations, develop new exchange programs and expand existing scholarship and support programs in terms of both scope and quota. (Küçük, 2024).

In Çalışkan's thesis (2019), it is revealed that one of the most fundamental problems Turkey faces in the internationalization process in higher education is the lack of a comprehensive and integrated national policy. Although some steps have been taken in this direction, it is noted that a stable and institutionalized structure has not yet been established. In order to increase competitiveness in the international arena, this deficiency must be eliminated and a long-term, planned system must be built. In this context, it is recommended that strategic institutions such as YÖK, Ministry of Development, and TÜBİTAK develop a common national vision and act in coordination in this direction. Considering Turkey's unique socio-cultural and economic conditions, it is also deemed necessary to create new and original policies in addition to existing national goals. For example, although improving the quality of Turkish textbooks

does not have a direct impact on international rankings, it is considered a critical element in terms of local academic development and the importance of decision-makers focusing on such neglected areas is pointed out (Çalışkan, 2019).

In Kurt Keskin's thesis study (2022), the question "In what dimensions does internationalization occur at the undergraduate level?" was presented as one of the main findings. In this context, it is emphasized that more emphasis should be given to foreign language education in programs. Students should be able to access free language support upon request. It is recommended that courses covering international issues and intercultural awareness be added to the curriculum and the variety of courses in this area be increased. In addition, it is stated that internationalization elements should be included more systematically in course content and teaching processes; program components should be integrated in harmony with these dimensions. Expanding opportunities that will encourage participation in student exchange programs, increasing financial support for the international academic activities of faculty members, and organizing social and cultural events that will strengthen the interaction of local and foreign students in the campus environment are also among the suggestions. (Kurt Keskin, 2022)

In Ömer's thesis (2020), it was mentioned that international students studying abroad often face uncertainties in Türkiye. Having difficulty in predicting what they will learn and what kind of educational environment they will encounter causes their expectations to be unmet, and this situation can negatively affect the internationalization process in higher education. For this process to work more healthily, it is of great importance to develop students' foreign language proficiency. At the same time, more comprehensive and effective orientation programs should be implemented. The establishment of strong social and academic ties between international students and Turkish and other foreign students should also be supported in terms of creating an inclusive campus environment. (Ömer, 2020).

Challenges and Problems Encountered

If the basic policy priorities that have emerged with globalization in higher education are to be listed, they are globalization and internationalization in higher education, accreditation and quality assurance, and demographic changes (Vural Yılmaz, 2013).

Universities face various challenges in the internationalization process. Language barriers, lack of funding, cultural adaptation problems, bureaucratic obstacles and political uncertainties are the most important of these challenges. In addition, some critics believe that internationalization can damage institutional identity and harm local values. The concern of “national brain drain” is especially common in developing countries.

Conclusion and Recommendations: Strategies to be Followed by Universities in the

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Internationalization Process

The internationalization of universities in Turkey has strategic importance not only in academic terms but also in parallel with this in cultural and socio-economic terms. As a result of this study, it is stated in the literature that the internationalization process is wide-ranging and variable, and that the management of the process will be effective with planning and sustainability. It is possible to accelerate the internationalization process with institutional innovations and a strong academic structure.

Considering development goals is of great importance for universities, which constitute higher education institutions. Sustainability should be taken into account in academic collaborations that gain an international dimension. The aim should be to encourage academic partnerships in the long term. International students studying in Turkey should be evaluated not only in terms of quantity but also in terms of their contributions during and after graduation. When determining their internationalization goals and strategies, universities should prioritize investments that will increase the living standards of students who will study within their institutions, strengthen the digital infrastructure needed for education and training activities, and increase the quality of academic support.

Some structural or systemic difficulties negatively affect the process that emerges as a result of the steps taken by universities in Turkey towards their internationalization goals. It would be wrong to evaluate the concept of internationalization only with the number of students today. In addition, it should be evaluated with qualitative criteria such as academic quality and scientific productivity. For this reason, a vision of internationalization that is continuous and has a wide range is of great importance for the future of universities and their progress towards their goals.

Source

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Trade wars and the global supply chain: The Impact of Past and Present Economic Conflicts

Asena BOZTAŞ

Abstract

Throughout history, global trade has been shaped by political, economic and technological changes. Trade wars have emerged as a result of economic protectionist policies and have caused major fluctuations in the global trading system. This study examines the evolution of trade wars in the historical process and analyses their impact on the global supply chain using examples such as the current US-China rivalry.

The origins of trade wars can be traced back to the UK-China Opium Wars in the 19th century, the US Smoot-Hawley tariffs in the 20th century and the US-China trade tensions in the 21st century. As globalisation accelerates, the impact of trade wars is not only between two countries but also causes major disruptions in global supply chains. Particularly in the post-pandemic period, the increased vulnerability of supply chains has led to a resurgence of economic protectionism.

The study examines the historical background of trade wars, their impact on the global economic order and the ongoing trade tensions today, and analyses how the global supply chain has been reshaped. Through a literature review and data analysis, the study explores the implications of trade wars for economic policy and concludes the future.

Keywords: Trade wars, global supply chain, US-China trade war, globalisation, economic power struggle.

Gel Codes: F13, F51, F62

Introduction

Trade wars have been an important tool of economic and political hegemony struggles throughout history. States have implemented various protectionist policies to protect their economic interests and gain a competitive advantage in global trade, and this process has occasionally led to major economic conflicts. The origins of trade wars have been shaped by the struggle between protectionism and free trade, which started with the Anglo-Chinese Opium Wars in the 19th century and escalated throughout the 20th century. In the 21st century, with the impact of globalisation, the effects of trade wars have not only

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remained between two countries, but also deeply affected global supply chains and the world economy.

In particular, the Smoot-Hawley Tariffs imposed by the US after the Great Depression in the 1930s led to a contraction in trade and economic recession worldwide, showing how protectionist policies can cause large-scale economic problems. Towards the end of the 20th century, such policies declined with the spread of globalisation and free trade agreements, but in the 21st century, competition between major economic powers, such as the US-China Trade War, has brought protectionism back to the agenda.

Today, it is observed that trade wars are not limited to tariffs, but there is also intense competition in areas such as technology transfers, intellectual property rights, sanctions on the digital economy and industrial policies. The trade wars between the US and China have not only been limited to these two countries, but have also caused large-scale disruptions in global supply chains, and the economies of Europe, Asia and other regions have also been affected by this process. Especially in the post-COVID-19 pandemic period, vulnerabilities in supply chains have increased, and countries have started to increase their own production capacities and turn to localisation policies.

In this study, the historical development of trade wars, their root causes and their effects on the global supply chain will be discussed. By examining the process from the historical perspective to the current trade wars, the effects of these conflicts on economic growth, industrialisation, employment and global economic stability will be analysed. In addition, how the current trade wars may take shape in the future and their long-term effects on the global economy will be discussed.

1. Research Method

In this section, the research methods, data sources and hypotheses used in the study will be detailed. Since the aim of the study is to analyse the historical development of trade wars and their effects on global supply chains today, a multidimensional approach is adopted using qualitative methods.

In this study, descriptive analysis and comparative historical method will be used. By analysing the historical process of trade wars, past and present economic protectionism policies will be compared. In addition, the impact of today's trade wars on supply chains will be evaluated through data analysis.

In order to build the theoretical framework of the study, academic articles, books, official reports and data published by international organisations were analysed. Reports of institutions such as the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank (WB) and the United Nations Conference on Trade and Development (UNCTAD) are analysed. In addition, the similarities and differences between the past examples of trade wars and today's trade wars will be revealed. From the 19th century to the 21st century, major trade wars will be compared. In addition, issues such as changes in global trade volume, the effects of tariffs, import and export figures, supply chain disruptions will be

analysed with data obtained from statistics published by institutions such as the IMF and the World Bank. Finally, current trade wars such as the US-China trade war, post-Brexit trade relations and trade restrictions after the Russia-Ukraine war will also be analysed.

1.2. Hypotheses

The research hypotheses of the study were determined as follows:

H1: Throughout history, trade wars have caused lasting changes in global supply chains. From the Great Depression-era tariffs to the current US-China trade wars, economic protectionism policies are creating structural transformations in global trade.

H2: Today's trade wars are waged not only through tariffs but also through sanctions on technology, energy and digital economy. With the impact of globalisation, the scale of trade wars has expanded.

H3: In the post-pandemic period, the effects of trade wars have become more pronounced and countries have turned towards more localisation in their supply chains.

H4: Trade wars create a domino effect not only between two countries but also affect other countries and regional trade blocs globally.

In line with these hypotheses, the study will examine the effects of trade wars on the global economy from a broad perspective and make predictions for the future.

2. Historical Background of Trade Wars

Trade wars have been one of the most important tools of economic and political power struggles. Throughout the history of the global economy, states have adopted different trade policies in order to achieve economic superiority, sometimes resulting in protectionism and sometimes in favour of free trade.

2.1. Trade Wars in the 19th Century: Opium Wars and the British Free Trade Model

The tension that started with Britain's opium sales to China turned into a war when China banned this trade. In the First Opium War that started in 1839, China was defeated thanks to Britain's superior navy and China had to give Hong Kong to Britain with the Treaty of Nanking signed in 1842 (Fairbank & Goldman, 2006). Upon China's attempt to reorganise the opium trade, a second war broke out between China and the alliance of Britain and France. Signed in 1860, the Treaty of Peking led to the opening of the Chinese economy to the outside world and Western states gained privileged trade rights in the Chinese market (Findlay & O'Rourke, 2007).

2.2. Trade Wars in the 20th Century: Smoot-Hawley Tariffs and the Great Depression

In the aftermath of the Great Depression of 1929, the USA's turn towards protectionist policies was epitomised by the Smoot-Hawley Tariff Act of 1930. With this law, import tariffs were raised up to 40 per cent and similar protectionist policies spread around the world in retaliation (Eichengreen, 1992). As a result, worldwide trade volume contracted rapidly and the global economic recession deepened. In particular, Canada, European countries and Japan, the main trading partners of the US, imposed counter-tariffs in retaliation to trade restrictions, causing world trade to contract by 66 per cent (Krugman & Obstfeld, 2014).

2.3. Trade Blocs in the Cold War Period

During the Cold War, Western countries imposed export restrictions on socialist bloc countries. With the COCOM (Coordinating Committee for Multilateral Export Controls) list, the US and its allies banned the sale of advanced technology products and strategic industrial equipment to the Soviet Union and Eastern Bloc countries (Gaddis, 2005). On the other hand, the General Agreement on Tariffs and Trade (GATT) was established in 1947 to promote free trade during the Cold War and introduced rules to reduce trade barriers worldwide. The European Economic Community (EEC), established in 1957, aimed to liberalise trade within Europe (Hoekman & Kostecki, 2009).

2.4. Trade Wars and Global Supply Chain in the 21st Century

US-China Trade War (2018-2023): The trade war, which started in 2018 when US President Donald Trump imposed additional tariffs on China, shook the global economy. While the US imposed billions of dollars of additional taxes on technology and industrial products imported from China, China retaliated with tariffs on US agricultural products and the automotive sector (Bown, 2020). As a result, there were major disruptions in global supply chains, multinational companies started to shift their production facilities from China to other countries, and global technology wars gained momentum (Bown & Kolb, 2022).

3. Globalisation and the Rise of Free Trade

Globalisation has been one of the most important processes shaping world trade since the second half of the 20th century. The expansion of free trade has accelerated the integration of global production and supply chains and has become the main driver of economic growth. Globalisation, which accelerated especially after the 1990s, was supported by the expansion of free trade agreements and the reduction of trade barriers.

3.1. Bretton Woods System and Foundations of Global Trade

Established in 1944, the Bretton Woods System was one of the first major global arrangements that led to

the liberalisation of international trade. Institutions such as the IMF and the World Bank were at the centre of this system and supported the removal of barriers to trade (Krugman & Obstfeld, 2014). Similarly, under the Bretton Woods agreements, the General Agreement on Tariffs and Trade (GATT) was signed by 23 countries, aiming to reduce barriers to free trade (Hoekman & Kostecki, 2009). In 1995, the World Trade Organisation (WTO), which is the successor of GATT, was established and became the most important institution determining international trade policies.

3.2. Free Trade Agreements and Regional Economic Integrations

Free trade agreements have encouraged international trade by reducing trade restrictions of countries in the process of globalisation. Some prominent regional integrations are as follows:

Transition from the European Economic Community (EEC) to the European Union (EU) (1957-1993): The European Economic Community (EEC) was established with the Treaty of Rome (1957) aiming at economic integration in the European continent, and transformed into the European Union (EU) with the Maastricht Treaty in 1993 (Baldwin & Wyplosz, 2019).

Transition from NAFTA to USMCA (1994-2020): The North American Free Trade Agreement (NAFTA) signed between the US, Canada and Mexico in 1994 was revised in 2020 and renamed the US-Mexico-Canada Agreement (USMCA) (Hufbauer & Schott, 2020).

Asia-Pacific Free Trade Agreements: Agreements such as the Trans-Pacific Partnership (TPP) and the Regional Comprehensive Economic Partnership (RCEP) have strengthened trade integration in the Asia-Pacific region.

3.3. China's Accession to the World Trade Organisation and Its Transformation into a Global Production Centre

In 2001, China's accession to the World Trade Organisation (WTO) was one of the most important turning points in global trade. China has rapidly risen in the world economy by becoming a global production and export centre (Rodrik, 2011). One of the most important reasons for this is that China has become an indispensable part of global supply chains by utilising its low-cost production advantage. On the other hand, China's rise in the global economy has deepened its trade relations with the US, but has led to an escalation of US-China rivalry over time.

3.4. Reactions to Globalisation and the Return of Protective Policies

The 2008 Global Financial Crisis and the Brexit referendum in 2016 increased criticism of globalisation and led many countries to return to economic protectionism (Rodrik, 2011). As of 2017, US President

Donald Trump launched trade wars within the framework of the "America First" policy and increased anti-free trade rhetoric (Bown, 2020). On the other hand, the COVID-19 pandemic has caused countries to question their dependence on global supply chains and highlighted localisation policies (Evenett & Baldwin, 2020).

4. Trade Wars and Global Supply Chain in the 21st Century

In the 21st century, trade wars have evolved into a structure that involves competition not only over tariffs and quotas, but also in areas such as technology, energy and data economy. While the economic integration brought about by globalisation has increased economic interdependence among states, it has also sharpened geopolitical competition in strategic sectors. In this section, the dynamics of trade wars in the 21st century and their effects on the global supply chain will be analysed.

4.1. The US-China Trade War and its Effects on the Global Economy

The US-China Trade War has created one of the biggest shock waves in the global trade system in the 21st century. Started in 2018 when US President Donald Trump imposed additional tariffs on products imported from China, this war has severely affected global production processes and supply chains (Bown, 2020).

The US imposed tariffs of up to 25% on products such as technology, steel and aluminium imported from China, while China retaliated by imposing high tariffs on agricultural and automotive products imported from the US (Bown & Kolb, 2022). Due to the US-China tension, many multinational companies started to shift their production processes from China to Southeast Asian countries, with countries such as Vietnam, India and Mexico emerging as new production centres (UNCTAD, 2021). Policies such as China's sanctions against technology companies such as Huawei and ZTE, and the US restricting the export of chips and advanced technology to China-based companies have expanded trade wars from just trade in goods to the digital economy (Evenett, 2021).

4.2. Brexit and Trade Policies of the European Union

The United Kingdom's Exit from the EU: The 2016 referendum on the UK's exit from the European Union changed trade dynamics in Europe. As of 2021, new trade agreements have reshaped the UK's trade with the EU (Baldwin & Wyplosz, 2019). The prospect of the UK leaving the EU without a free trade agreement has caused major disruptions in the automotive, pharmaceutical and food supply chains.

4.3. Post-Pandemic Trade Policies and Supply Chain Crises

The COVID-19 pandemic has exposed the fragility of global supply chains. Production disruptions in China due to the pandemic caused major disruptions in the production and logistics sectors worldwide

(Evenett & Baldwin, 2020). Disruptions in global maritime transport after the pandemic caused container prices to increase by more than 400% in the 2020-2021 period. In addition, the production of semiconductor chips, which are critical for electric vehicles, smartphones and the defence industry, has been greatly disrupted in the post-pandemic period (IMF, 2021).

4.4. Geopolitical Tensions and Strengthening of Trade Blocs

The Russia-Ukraine war that started in 2022 created global shock waves in energy prices and many countries imposed trade sanctions against Russia (IMF, 2022). In order to mitigate the effects of trade wars in the global economy, regional trade blocs are implementing stronger economic integration policies. Economic unions such as the EU, RCEP and USMCA have become important actors changing the direction of global trade (World Bank, 2022).

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Artificial Intelligence and International Trade: Global Transformation from the Perspective of Industry 4.0 and Society 5.0

Asena BOZTAŞ

Abstract

Artificial intelligence (AI) is playing a crucial role in reshaping global trade. The digitalisation process, accelerated by Industry 4.0, has led to the widespread use of artificial intelligence-based systems in production, logistics and supply chain management. Artificial intelligence solutions are being used in a wide range of areas, from personalised customer experiences to smart logistics and automated delivery processes on e-commerce platforms. However, this transformation is not only a technology-based innovation but is also evolving towards a human-centred commerce model from a Society 5.0 perspective.

This study analyses the impact of artificial intelligence on global markets in the context of Industry 4.0 and Society 5.0. It first analyses the transformative role of AI in international trade processes, followed by its innovative applications in smart logistics, supply chain management and e-commerce. At the same time, digital inequality, data monopolisation and the impact of AI on the global economy are discussed. Finally, recommendations are made on how trade policy can be shaped by new technologies and how AI can be used effectively for sustainable trade.

Keywords: Artificial Intelligence (AI), International Trade, Industry 4.0, Society 5.0, Smart Logistics.

Gel Codes: F13, O33, L81

Introduction

Technological advances have radically changed the nature of global trade. In particular, Industry 4.0 is reshaping the international trade system as a transformation process involving digital technologies such as automation, big data analytics and the Internet of Things (IoT). In this context, artificial intelligence has become a critical element in optimising international trade, supply chain management, accelerating logistics processes and personalising the customer experience.

However, this transformation offered by Industry 4.0 should not only focus on economic gain and technological progress. The Society 5.0 vision developed by Japan proposes a sustainable and inclusive economic model by promoting the human-centred use of artificial intelligence. Society 5.0 considers

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artificial intelligence not only as a tool that accelerates production processes, but also as a technology that increases social welfare and reduces inequalities.

Artificial intelligence-enabled trading systems are also causing major changes in the international labour market. Intelligent logistics, autonomous vehicles, blockchain-enabled supply chains and digital trading platforms are defining the new normal of the global economy. However, along with the opportunities brought by this transformation, problems such as data monopolisation, digital inequality and AI ethics are also emerging. For example, global technology firms' increasing access to large data repositories may reduce the competitiveness of small and medium-sized enterprises (SMEs) and lead to commercial monopolisation.

The study aims to evaluate the effects of artificial intelligence on global trade from the perspective of Industry 4.0 and Society 5.0 and to evaluate the social dimensions as well as economic benefits. By analysing how artificial intelligence is used in international trade in terms of supply chain management, logistics processes, e-commerce platforms and digital trade policies, it offers predictions on how the technology may be shaped in the future. In the rest of the study, the role of artificial intelligence in international trade and the effects of this transformation on economic policies will be analysed in detail.

Artificial Intelligence and Industry 4.0: Digital Transformation in International Trade

Industry 4.0 has emerged as a paradigm that increases efficiency by digitalising production processes. It reshapes international trade processes by working integrated with technologies such as artificial intelligence, big data analytics and the Internet of Things. Innovations such as AI-supported supply chain management, logistics optimisation and automation in production processes enable companies to gain global competitive advantage. In particular, smart logistics systems improve inventory management by forecasting demand and minimise delays in supply processes. In addition, artificial intelligence solutions combined with blockchain technology increase transparency and reliability in trade (Schwab, 2016).

Artificial intelligence is creating a data-driven transformation in global trade. E-commerce platforms offer functions such as dynamic pricing, personalised marketing and automated order management by analysing customer behaviour. In particular, large platforms such as Amazon and Alibaba optimise the user experience through AI-supported algorithms and create a more effective trade network in the global market (Brynjolfsson & McAfee, 2017). However, the automation process brought by artificial intelligence causes radical changes in traditional business models and transforms the labour market.

While the artificial intelligence-supported systems offered by Industry 4.0 increase efficiency in global trade, they should be handled with a human-centred approach within the framework of Society 5.0. With the increase in automation, problems such as the deepening of the digital divide and the loss of

competitiveness of small-scale enterprises against large technology firms arise (Tapscott & Tapscott, 2018). Therefore, international trade policies need to include strategies to mainstream the economic opportunities of AI and reduce inequalities.

The digitalisation of global trade will determine how AI-enabled systems will be used effectively in international trade. However, the ethical, social and economic aspects of this transformation process should be taken into account and supported by sustainable trade policies.

Society 5.0 and the Role of Human Centred Technologies in Trade

Society 5.0 is a concept that argues that technology should be used not only for economic growth and production efficiency, but also to increase social welfare with a human-centred approach. This vision, developed under the leadership of Japan, emphasises that artificial intelligence and digital technologies should be used not only for large companies and industrial production, but also to improve the quality of life of individuals and societies. In this context, Society 5.0 analyses how AI can be used in international trade systems in a more inclusive and sustainable manner (Fukuyama, 2018).

Traditional trade models have rapidly transformed into a digitalised and automation-based structure with Industry 4.0. However, the technological inequalities that emerged in this process have led to criticisms that trade only provides advantages for certain actors and reduces the competitiveness of small-scale enterprises. The Society 5.0 vision aims to reduce these inequalities and make trade more fair, transparent and accessible. AI-enabled platforms enable SMEs to access global markets more easily, while also making market analyses more effective through big data and algorithms (Schwab, 2016).

In particular, smart trading systems are revolutionising trade processes by integrating artificial intelligence with digital platforms. AI-based payment systems, fraud prevention software and blockchain technology enhance the security of international trade and facilitate cross-border transactions. In addition, the combination of AI with big data analytics is helping companies optimise supply chains, reduce logistics costs and improve energy efficiency (Brynjolfsson & McAfee, 2017). These developments allow not only large companies but also entrepreneurs and SMEs to be more competitive in the global market.

In the context of Society 5.0, the impact of artificial intelligence on trade is not limited to economic gains. Issues such as ethical use of technology, data privacy and cyber security are also an important part of this transformation. The uncontrolled development of artificial intelligence carries the risk of data monopolisation and increasing the market dominance of large technology companies. This may lead to reduced transparency in trade decision-making and the emergence of market imbalances. Therefore, international trade policies need to develop regulations for the ethical use of digital technologies and

produce policies to make the use of artificial intelligence more inclusive (Tapscott & Tapscott, 2018).

In addition, AI-supported trade models need to offer solutions to reduce carbon emissions in order to contribute to sustainability goals. AI-based logistics systems minimise the environmental impact of trade with route optimisation and energy efficient storage solutions. In particular, the trade policies developed by the European Union within the framework of the Green Deal encourage sustainable trade models integrated with artificial intelligence (European Commission, 2021). In this context, from the perspective of Society 5.0, it is clear that artificial intelligence should be evaluated not only for economic growth in international trade, but also for social welfare and sustainable development goals.

Shaping the relationship between artificial intelligence and international trade with a sustainable and inclusive model is a critical factor determining the future of the global economic system. The Society 5.0 approach aims to maximise the positive impacts of this technological transformation on society, while at the same time proposing to build a more balanced trading system by addressing ethical and social issues.

Artificial Intelligence Based International Trade Policies and Regulations

Artificial intelligence has led to a reshaping of global trade policies, requiring governments to align their trade regulations with the technology. A large part of international trade policies focus on issues such as liberalisation of data flows, regulation of AI-enabled trading platforms and supervision of cross-border transactions of digital services. In particular, economic powerhouses such as the European Union (EU), the United States of America (USA) and China have established new laws and standards to regulate AI-enabled trading practices (European Commission, 2021).

The European Union aims to ensure competitive, transparent and fair digital trade through regulations such as the Digital Markets Act (DMA) and the Digital Services Act (DSA). These laws aim to prevent data monopolisation by large technology companies and facilitate access to global markets for small and medium-sized enterprises. AI-enabled trading systems are shaped with an approach that prioritises consumer rights and data privacy within the framework of EU regulations (European Parliament, 2022).

The US, on the other hand, produces policies to ensure the safe and sustainable development of AI-based trade with regulations such as the AI Executive Order. The main issues that the US focuses on include the integration of AI-supported production processes into export policies, the protection of intellectual property rights and the transparency of commercial algorithms. Policies on the use of artificial intelligence algorithms in trade are shaped especially within the framework of trade competition with China (Brynjolfsson & McAfee, 2017).

China is one of the largest economies promoting AI-powered digital trade practices. China's Digital Silk Road initiative is a project that aims to expand AI-based trade policies on a global scale. Investments in

AI-enabled trading systems by major technology firms such as Alibaba and Tencent are increasing China's influence on global e-commerce platforms. However, China's data security policies and cyber surveillance mechanisms have occasionally led to tensions with its global trading partners (Tapscott & Tapscott, 2018).

Another critical point of AI-based trade policies is how blockchain and digital currencies will be regulated in international trade. The widespread use of cryptocurrencies and digital payments in trade has led governments to introduce new regulations to their monetary policies and trade legislation. In particular, the development of new financial instruments such as Central Bank Digital Currencies (CBDC) accelerates international payments and makes trade processes more efficient. However, strict regulations have been introduced by international organisations due to concerns that these technologies may increase risks such as money laundering and financial fraud (Schwab, 2016).

The establishment of AI-based regulations in international trade is directly linked to key issues such as cybersecurity, data protection, intellectual property rights and ethical use. Trade policies should ensure that AI-enabled trading systems are secure and transparent. In this context, international organisations such as the World Trade Organisation (WTO) and the United Nations Conference on Trade and Development (UNCTAD) are leading the creation of digital trade policies on a global scale. For example, the 2022 WTO Digital Trade Framework has developed a protocol regulating cross-border transactions of AI-enabled trade processes (World Trade Organization, 2022).

The future of AI-enabled trade policies will largely be shaped by international cooperation. States should ensure the stability of global trade by developing common regulations on issues such as data sharing, cyber security and algorithmic transparency. At the same time, the sustainability of AI-enabled trade policies should be integrated with climate change policies and green trade practices to reduce carbon emissions. The European Union's Green Deal programme and the US sustainable trade strategies include steps to minimise the environmental impacts of AI-enabled trade policies (European Green Deal, 2022). In conclusion, while AI-based international trade policies create new opportunities in the global economy, regulatory frameworks need to be harmonised and inclusive.

Conclusion and Recommendations

Artificial intelligence has created a radical transformation in the global trade system and has a wide range of effects from trade policies to logistics processes, from e-commerce models to data management. The digitalisation process that started with Industry 4.0 has accelerated with the integration of artificial intelligence-supported systems, leading to an increase in efficiency throughout the entire supply chain, from production to distribution. However, the vision of Society 5.0 developed by Japan reveals how

technology can be used not only for economic growth but also for social welfare and sustainable development. In this context, it is clear that new regulatory frameworks and ethical principles need to be developed as much as the opportunities created by artificial intelligence in international trade.

Firstly, it is important to assess how AI-enabled trading systems affect global competition. Big data analytics and machine learning techniques accelerate commercial decision-making processes and change the competitive balance between SMEs and large-scale companies. In particular, data monopolisation and the dominance of large technology companies over commercial algorithms may lead to reduced competition in the market and small businesses may struggle in international trade. Therefore, global regulatory bodies need to develop policies to ensure that AI-based trade models have an equitable and fair structure.

In addition, new regulations regarding the ethical use of artificial intelligence in trade should be established. In particular, the European Union's initiatives such as the Digital Services Act and the Digital Market Act aim to make AI-enabled trade transparent and accountable. However, unless a common ethical framework is established at the global level, incompatibilities may arise in the AI-based trade policies of different countries. Therefore, it is of great importance that organisations such as the World Trade Organisation (WTO) and the United Nations Conference on Trade and Development (UNCTAD) develop common standards for the use of AI at the international level.

On the other hand, AI-supported supply chains and logistics processes should be developed in line with sustainability goals while increasing efficiency in trade. AI-based logistics systems to reduce carbon emissions can minimise environmental impacts and transform trade into a greener and more sustainable structure. Initiatives such as the European Green Deal aim to ensure that AI-enabled trade models are compatible with environmental sustainability principles. At this point, governments and the private sector should support projects to reduce the environmental impacts of AI in trade.

In the future, the role of artificial intelligence in international trade will further expand. In particular, the integration of technologies such as blockchain and digital currencies into trade processes will accelerate cross-border transactions and increase the reliability of trade. However, these technologies need to be regulated and secured. With the proliferation of AI-based trading systems, cybersecurity risks are increasing and the protection of commercial data is becoming more critical. Therefore, international trade policies should include new regulations to ensure AI security and protect data privacy.

In conclusion, while artificial intelligence and digitalisation create new opportunities in international trade, they also pose regulatory challenges and ethical issues. In order for the global trade system to progress in a sustainable, fair and inclusive manner, AI-based trade models need to be developed in line

with transparent, secure and ethical principles. It is a critical requirement that future trade policies include mechanisms that prevent market imbalances and support sustainable development while promoting the use of artificial intelligence. International organisations, governments and the private sector should work in cooperation to develop regulations that maximise the long-term benefits of AI-enabled trade.

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Factors Affecting Voters' Voting Behavior: A Literature Review

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Abstract

This study presents a literature review on the factors that determine voters' voting behavior. The factors affecting voter decisions are discussed under three main headings: (1) voter-related factors, (2) candidate-related factors and (3) party-related factors. Voter-related factors include age, gender, education level, occupation, financial status, identity (ethnic, religious, political and social), level of voter participation, and level of political interest and knowledge. Candidate-related factors include the candidate's personal characteristics, the organizations he/she is a member of and his/her election promises. Party-related factors are examined through the party's program, its position in politics, its establishment date and temporal development. The factors listed are selected among the most discussed factors in the literature and each factor is analyzed in depth and supported by academic studies. The aim of this study is to bring together the factors affecting voting behavior of voters and to make sense of voter behavior. Voters' participation in voting changes national and international balances. Therefore, by identifying the factors that influence voters in the voting process and internalizing these factors, it is aimed to achieve a better position socially, politically and socially through voters, candidates and party members. The result of the study shows that the dynamics determining voter preferences are multidimensional and contextual. Therefore, discussing voter preferences based on a single factor may not yield rational results. This study is expected to provide guidance for political scientists, policy makers and electoral strategists but since each society has its own characteristics, it should be well analyzed which factors are more effective in voter behavior.

Keywords: Voting behavior, voter preferences, election factors, political parties, candidate image...

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1.INTRODUCTION

Elections and voting are more prominent in countries governed by democracy. By voting, rational individuals, who make choices in order to maximize their expected returns and/or the benefits they will obtain from the candidate/party they vote for, bring their personal preferences to a collective outcome

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(Sigdya, 2020). In this respect, it is possible to say that citizens' voting decisions do not only affect themselves. While voting behaviors shape governments, ruling and opposition parties, they also affect the social structure. As a result of the votes of individuals, the policies implemented in the country in question vary and this situation directly concerns the social, economic and political structure. The fact that the current situation of countries is associated with voter behavior is one of the reasons why we examine the factors that voters are influenced by when making voting decisions.

Voters are influenced by their personal characteristics, environmental influences, media, personal characteristics of candidates, factors related to the party to which the candidate belongs, the electoral environment, and the economic and social atmosphere of the country.

2. FACTORS AFFECTING VOTING DECISIONS

2.1. Voter Related Factors

The voter's gender, age, educational level, occupation, marital status, financial status, ethnic, religious and political identity, participation in elections, and level of political interest and knowledge have an impact on voting decisions and are instructive in terms of revealing the similarities and differences in the voting motives of voters with certain characteristics.

2.1.1. Voter's Age

Age is an significant factor in the decision-making processes of individuals about their political behavior. All political, social or personal decisions taken by individuals may differ according to the age of the individual.

During election periods, it can be observed that voters in certain age groups or generations vote for the same candidate/party. Studies suggest that young voters are generally inclined to support left-leaning parties and candidates (Kulachai, Lerdtomornsakul, & Homyamyen, 2023). (Kulachai, Lerdtomornsakul, & Homyamyen, 2023) Voters' expectations of government may vary according to their age, and studies in the literature indicate that the expectation of a strong government focused on stability and order increases with increasing voter age. (Köse, Kezer, Yılmaz, & Arslan, 2025) It is also common for young voters to favor change when it comes to political authorities. Verba and Nie state that the rate of voters' participation in the political process increases with age (Verba & Nie, 1972). This finding is explained by the fact that older individuals have more leisure time and political experience. However, Franklin disagrees with this view and argues that the low turnout of young voters is due to the fact that politics does not appeal to the interests of new generations (Franklin, 2004). In terms of party preferences, it is observed that young voters generally favor innovative and change-oriented parties (Converse, 1976), while older voters support traditional and stability-oriented parties (Tabiullah & Shahid, 2024). However, this generalization is not always valid.

In research on the factors affecting voters' voting behavior, there have been many studies on the effects of television, newspapers, internet, social media applications and various digital platforms. When these studies are analyzed in general terms, it is concluded that digital platforms have a say in voting decisions of voters in election processes as much as traditional media. Election campaigns on social media attract the attention of young people, and some campaigns even increase the voting participation rate of young people (Ektiren, 2024). It is evident that the social media platforms that young people integrate into their lives influence their voting decisions as much as they influence their voting decisions. The reasons why younger voters make voting decisions in line with the information obtained from the platforms in question are that they tend to accept the views on the digital platform in question, they tend to directly adopt the opinions of the users they interact with, and they mostly follow the country's agenda and election processes on digital platforms (Sajid, Javed, & Warraich, 2024). There is a consensus in the literature that digital platforms have a provocative role in the voting decisions of educated and younger voters (Aktan, 2017) (Onwunyi, 2025). However, there are also studies in the literature, albeit rare, that argue that greater interaction of young people with online platforms does not directly support turnout rates.

In studies on the voting behavior of young voters, the possibility that voters have voting behaviors based on environmental concerns, which is rarely studied, should also be considered worth examining. Nowadays, environmental awareness is growing in popularity among young people. The reflexes of environmentally friendly behavior, which have become a trend, cause young voters to give more importance to environmentally friendly policies than older voters during voting (Mannoni, 2024).

2.1.2. Voter's Gender

Gender is one of the variables used to analyze voter behavior throughout the decision-making process, as voters of different gender groups have different voting motives. Inglehart and Norris (2000) argue that women tend to vote for social welfare and equality-oriented parties more than men (Inglehart, 1990). This tendency is associated with the transformation of gender roles, especially in post-industrial societies. Research shows that women are more likely to support left-leaning parties or candidates than men (Kulachai, Lerdtomornsakul, & Homiyamyen, 2023) (Landro, 2025). In addition, studies have shown that women are more likely to show voting behavior in support of candidates who emphasize environmentally friendly policies (Mannoni, 2024). However, Kaufmann argues that this gap is closing over time and the influence of gender on voting preferences is diminishing in modern democracies (Kaufmann, 2006). There are also articles in the literature suggesting that women are less in favor of change than men (Belknap, 2024). Women's more reserved attitude towards critical and high-profile social events such as major constitutional changes and national independence can be interpreted as a result of the roles attributed to them by the society they live in. Some of the studies in the literature on the impact of voters'

gender on voting behavior indicate that gender affects the level of political participation rather than direct party preferences and present findings that women vote less than men (Angus, Converse, Miller, & Stokes, 2008) (Nwapi, 2024) (Belschner, Ibenskas, & Weiler, 2024).

Women and men have different social roles when the countries they live in are taken into consideration. The view of gender roles in the geography in question can also determine the candidate/party that the majority of that society supports in the voting process.

2.1.3. Education Level of the Voter

Education level is one of the most researched factors that shape voting behavior of voters. The positive relationship between the level of political participation and the level of education is revealed by various studies (Özhan, 2019) and (Gümüş, 2006). In line with these studies, it is possible to say that voter behavior is also related to the level of education of the voter. It is inevitable that educated individuals are more responsible for voter participation than educationally disadvantaged individuals. In their classic study “The American Voter”, Campbell et al. (1960) argued that education increases political awareness and participation. More educated individuals have more knowledge and analytical skills to understand and evaluate political issues (Angus, Converse, Miller, & Stokes, 2008). This view is supported by the work of Verba and Nie (1972); educated voters are more likely to vote and make ideologically consistent choices (Verba & Nie, 1972). In addition, Kulachai, Lerdtomornsakul, and Homyamyen also argue in their studies that voters with higher levels of education are closer to more liberal or left-leaning political parties and candidates. (Kulachai, Lerdtomornsakul, & Homyamyen, 2023) However, Dalton disagrees with this view and argues that the effect of education is exaggerated. According to him, due to the diversification of information sources in modern societies, individuals with low levels of education can also access political information, which weakens the traditional advantage of education (Gutman, 2009). Moreover, in the US context, Gelman emphasizes that the effect of education depends on the context, showing that highly educated individuals vote for the Democratic Party in rich states and for the Republican Party in poor states (Gelman, Shor, Bafumi, & Park, 2007). In Mannoni's study, it is mentioned that individuals with higher levels of education are more likely to vote environmentally friendly. (Mannoni, 2024)

2.1.4. Voter's Occupation

Occupation is a factor that affects voters' voting preferences through class dynamics. Some occupational groups require a higher level of education. The fact that it is important for voters to be educated while making a voting decision shows that their occupation can also make a difference. Ahmet Tan and Abdulvahap Baydaş mention in their study that there is a statistically significant relationship between

voters' professions and the characteristics they look for in the political party they will vote for. (Tan & Baydaş, 2017) In addition, some professions stand out in society and members of these professions also constitute a certain social class. The social class that individuals are in resembles a community of individuals with similar political preferences. (Gökçe, 2022) In addition, Lipset and Rokkan (1967) argue that occupational groups are among the main social cleavages that shape party loyalties. For example, while the working class commonly supports left-wing parties, professional and managerial classes tend to favor right-wing parties (Lane, 2016). However, this influence of occupations in modern societies is controversial. Clark and Lipset (1991) argue that in the post-industrial era, class differences have diminished and occupation-based voting has been replaced by individual values (Clark & Lipset, 1991). All these show that voter occupation has an impact on voting behavior from various perspectives. On the other hand, some studies in the literature suggest that occupation continues to have an indirect effect and shapes voting behavior through factors such as income and social status.

2.1.5. Marital Status of the Voter

The marital status of individuals, whether they are married or single, can make a difference in the identity of the party and candidate they will support during the election period. Married and single people may have different expectations from life and these expectations may be decisive in voting decisions. Voters may be influenced by their families and tend to support the same candidate/party. Kenan Aydın and Volkan Özbek state in their study that the influence of families on voting behavior varies according to the voter's gender, age, education level, marital status, employment status and whether they live with their parents or not (Aydın & Özbek, 2004). Plutzer (2002) contributed to the literature with a study in which he stated that married individuals have higher voting rates compared to single individuals and tend to lean towards conservative parties (Plutzer, *Becoming a Habitual Voter: Inertia, Resources, and Growth in Young Adulthood*, 2002). This can be explained by the assumption that marriage makes individuals more stable and closer to traditional values. Kingston and Finkel (1987) argue that marital status affects the level of participation rather than voting preference and that this effect interacts with other factors such as age and gender (Kingston & Finkel, *Is There A Marriage Gap In Politics?*, 1987). For example, young single women tend to lean more towards liberal parties, while older married men tend to lean conservative.

2.1.6. Voter's Financial Situation

The material situation is a critical element for theories that focus on economic rationality in voting behavior. Downs' (1957) rational choice model predicts that voters will vote for parties that maximize their economic interests (Downs, *An Economic Theory of Democracy*, 1957). Whether the country in which the election takes place is experiencing economic problems or not changes the rate at which voters

are influenced by economic discourses in their voting preferences. In economically troubled countries, people may turn to candidates/parties that promise economic recovery or are knowledgeable or experienced in economic management during the election process. Kemal Görmez argues in his study that the issues that predominantly occupy the social agenda are economic-based. These issues can be considered as unemployment, inflation, and the cost of living. (Görmez, 1999) In his research, Lipset argues that voters in the lower income group tend to support left-wing parties, while voters in the upper income group tend to support right-wing parties. (Özhan, 2019) The reasons why low-income individuals turn to left-leaning parties can be explained as being influenced by the discourses and policies of these parties aimed at reducing income inequality and increasing social welfare. (Kulachai, Lerdtomornsakul, & Homyamyen, 2023)

Gelman (2008) shows that in the USA, low-income individuals support the Democratic Party while high-income individuals support the Republican Party (Gelman, Shor, Bafumi, & Park, 2007). However, this relationship is not universal. In Europe, the impact of material status varies according to the ideological context; for example, in Scandinavian countries, low-income voters tend to favor social democratic parties, while in Eastern Europe populist parties appeal to this group (Tavits & Letki, 2009). Furthermore, Brooks and Manza (1997) argue that rather than a direct effect of material status, it works in tandem with the perception of social class and this perception shapes party preference (Brooks & Manza, 1997). As an opposing view, Frank (2004), in his study, argues that low-income Americans vote for conservative parties against their economic interests and that this is due to cultural factors (Frank, 2004).

Income level is also related to voter turnout and political knowledge. The importance of the cost of voter participation varies according to the income level of voters. Although low-income individuals are willing to bear the costs of voting, low-income voters are more likely to cast invalid votes than high-income voters (Lindsey, 2024).

2.1.7. Voter's Identity (Ethnic, Religious, Political ve Social)

Identity is a strong determinant of voting behavior. When analyzing voter identity, we can consider the voter's ethnicity, religion, political and social identity together.

Numerous studies on voter behavior show that social identities such as race, ethnicity, gender and social class have an impact on voting. (Kulachai, Lerdtomornsakul, & Homyamyen, 2023) For example, in 2023, Fırat Gündem focused on the possibility that Kurdish voters in Turkey are more likely to engage in voting behavior based on the contribution of the parties they support to the struggle for identity rather than their discourses of peace, justice and equality. (Gündem, 2023)

In the sociological voting approach model, it is stated that voters make political preferences according to

their social identities. According to this approach, people within a certain group may show similar voting behaviors (Doğan & Tokgöz, 2022) (Zeedan, 2024) Political and social identity is also associated with party loyalty. For example, a US-based study shows that Democratic and Republican identities are passed down from generation to generation, which proves that party loyalty is a part of social and political identity (Campbell, Converse, Miller, & Stokes, 1960). On the other hand, Green, Palmquist, and Schickler (2002) contribute to the literature by arguing that these loyalties weaken over time and individual values come to the fore (Green, Palmquist, & Schickler, 2002).

However, Erdal Firat's study concluded that the voters examined were not affected by the religious, sectarian and ethnic majorities in the society they live in. (Firat, 2019)

In societies where beliefs are prominent, religious beliefs also affect voting preferences. While some people do not participate in voting because they find it religiously objectionable, others participate in voting in order to support the candidate they consider close to them from a religious perspective. It is known that some voters tend to ignore the political experience, credibility and ability of candidates and vote for candidates they support only because they share their religious beliefs (Kumo, et al., 2025).

People who have an interest or vested interest in politics are not prone to change in their voting preferences and vote for the same candidate/party despite any changing circumstances.

Voters' sexual identities can also be discriminatory in their voting preferences. “Insight into left-wing voting of lesbian, gay and bisexual citizens in Austria” focuses on this aspect of voter behavior. In the article written by Michael Hunklinger and Philipp Kleer, it is emphasized that lesbian, gay and bisexual individuals in Europe support left-wing, progressive parties and candidates. It is tried to prove that this voter group is a voter group that embraces social liberalism and progressive issues with the help of an online survey by sampling lesbian, gay and bisexual individuals before the 2019 national elections. (Hunklinger & Kleer, 2024)

Multifaceted voting processes are not expected to be explained solely by voter identity, but the identity effect comes to the fore in societies where voter groups adopting two different identity characteristics are polarized (Ünsal & Dinçer, 2025).

2.1.8. *Voter's Participation Status*

Elections in democracies give individuals the opportunity to participate politically. According to Negi, voter participation determines the political framework and strengthens people's sense of belonging. (Negi, 2005) Individuals' participation in voting is influenced by individual and systematic factors and may vary for various reasons. Our research on this subject leads us to the concept of political participation. Political participation can be explained as a set of actions taken by individuals within the political system, i.e.

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voters, to determine the political authorities in the society to which they belong. When we look at the factors affecting political participation, we see that they are similar to the factors affecting the decision to vote. These factors can be listed as gender, age, urbanization, education, occupation, following mass media, income and organization membership (Duran, 2005). Individuals participate in voting or avoid voting depending on their personal and social characteristics. Blais (2000) states that turnout is positively correlated with demographic characteristics such as age, education and income (Blais, 2000). However, in elections with low turnout, the influence and importance of committed voters and thus party ballot boxes increases. While some studies in the literature argue that turnout is related to systemic factors such as the electoral system and compulsory voting, others emphasize the importance of factors related to individual motivation such as civic consciousness on voter turnout. This discussion suggests that voter turnout shapes voting behavior, albeit indirectly.

Participation in voting has a certain cost. These costs can be diversified such as the cost of transportation to the place of voting, the time cost of the time allocated for voting. Nowadays, it is considered that the costs of voting are not as important as they used to be for voters to participate in voting. (Merivaki, Suttman-Lea, & Orey, 2025) This seems to be quite true for developing and emerging countries. The not-so-limited opportunities for voters to reach the voting position and the advantages of holding elections under certain rules and regulations have reached an undeniable point.

In addition, voters' perceptions of electoral security also have an impact on voter turnout. According to studies, the honest conduct of elections and accurate counting of votes are closely related to voter experience (Merivaki, Suttman-Lea, & Orey, 2025).

2.1.9. Voter's Political Interest and Knowledge

The level of political interest and knowledge affects voters' capacity to make informed choices during voting behavior. Education increases political interest and knowledge, and higher political interest and knowledge increases political participation. Austin Horng-En Wang' study based on the models he built based on the 2021 Taiwan referendum, states that individuals with lower levels of education have less political knowledge and that such individuals constitute the swing voter group. (Wang, 2023) Zaller (1992) contributes to the literature by stating that informed voters show ideological consistency and are less influenced by media messages. Delli Carpini and Keeter (1996) state that the level of political knowledge increases turnout and is generally linked to education. At the same time, it is expected that in societies with high political literacy, the quality of the implementation of democracy will be high (Revalina, Suryanef, Rafni, Putra, & Ockta, 2024).

Moreover, when voters have access to more information about how to participate in voting, the act of

voting translates into a more positive experience for that voter. Voters who have a positive experience may have a more confident view of voting (Merivaki, Suttman-Lea, & Orey, 2025). The number of invalid votes is also important in elections where voting can be participated with multi-candidate ballots. Studies in the literature suggest that voters having less information about voting participation may result in invalid votes (Lindsey, 2024).

On the other hand, there are studies suggesting that low-information voters can make rational choices by using information such as candidate charisma, which can be acquired with less political knowledge and relevance (Lupia, 1994). A similar view comes from Popkin, who argues that voters often make decisions with little information and that these intuitive decisions do not pose a problem in the democratic process (Popkin, 1991).

2.2. *Candidate Related Factors*

The personal characteristics of the candidates participating in the elections, the party they are affiliated with and their election promises appear as variables that will be associated with candidate image. Many studies reveal that these characteristics have significant effects on voting preferences of voters in election processes (Taydaş, 2021) (Çağlar & Gelir, 2014) (Aydın Kılıç, 2013) (Negiz & Akyıldız, 2012) (Dündar, 2011). In voting decisions of voters, a candidate may be supported independently of the party he/she participated in the election or may cause his/her party to lose votes due to his/her personal characteristics and image. Some of the studies on the factors affecting election results reveal that voters in Turkey behave for ideological reasons rather than candidates in voting decision processes, while others reveal that the candidate stands out in voting behavior.

2.2.1. *Candidate's Age*

Apart from the legal age requirements to run for election, the age of the candidates is also important for the preference of the candidate by the voters. While the older age of the candidate may lead to a more experienced and competent image for some voters, it may also cause another group of voters to think that the candidate will not be dynamic and will not be able to provide services in the conditions required by the time. Nilüfer Negiz and Funda Akyıldız mentioned that in societies where parties have a certain importance, the age of the candidate is also determinative in order to increase the likelihood of the candidates being adopted by the society. In addition, they emphasized that sociodemographic characteristics of the candidate such as age affect voters (Negiz & Akyıldız, 2012). When we look at the foreign literature, we find many studies indicating that young candidates are associated with dynamism and innovation, while older candidates are identified with experience and stability.

As both domestic and foreign sources show, the age of the candidate shapes the voters' perception of the

candidate and is important when examining the factors affecting voter behavior.

2.2.2. *Candidate's Education Level*

Voters may want the candidate they will vote for to be well educated. Since voters may have more confidence in candidates who are educated in the areas that will be subject to politics, it is possible that educated candidates may be more preferable by voters. In most studies in the literature, it is seen that the level of education provides clues about the competence and reliability of the candidate; it is reported that highly educated candidates generally receive more support (Hayes, 2005) (Firat, 2019) In addition, Erdal Firat states in his study that in some societies, individuals who stand out with their level of education stand out from the society and prefer to be candidates instead of voters. (Firat, 2019)

However, there are also elections in which candidates with low levels of education won. In this case, it is seen that, like all other variables, the education level of politicians is not the sole determinant of the votes they will receive.

2.2.3. *Candidate's Occupation*

The impact of candidates' professions on voting behavior can also be considered in combination with their educational attainment and income levels.

Some occupational groups may draw a more reliable candidate profile for the public. For instance, a candidate who is a teacher or a doctor may strengthen the perception of social service, and therefore candidates in these occupational groups may be more likely to win the vote. While this distinction is prominent in Turkish studies, it is also found in foreign literature. In the article written by Faruk Bilir, it is mentioned that people who are prominent and in the public eye due to their professions or public positions are more advantageous in terms of candidacy. (Bilir, 2008)

2.2.4. *Candidate's Marital Status*

The institution of family has an impact on voters' political preferences. In general terms, marital status reflects the personal stability of the candidate; married candidates are considered more reliable, especially by conservative voters (Plutzer, Becoming a Habitual Voter: Inertia, Resources, and Growth in Young Adulthood, 2002). In societies where family is prominent, political party leaders have the potential to win votes from voters by creating the impression of a good family. In some societies, the fact that a candidate is married and even has children is enough to gain the sympathy of voters (Aydın & Özbek, 2004).

The significance of the impact of this factor on voters may vary depending on the society in which the study is conducted, the sample of the survey and the period.

2.2.5. *Candidate's Financial Situation*

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The financial status of candidates can be decisive in determining whether they live a life detached from society or not. Candidates who portray the image of being sensitive to social and economic situations may increase their voting potential by making voters sympathize with them. On the other hand, voters may accept candidates with good financial status as a strong profile and may prefer to support the candidate in question for their own interests or because of their power-oriented approach.

A review of the literature emphasizes that the effect of financial status on voters' vote preferences yields contradictory results compared to the effects of other factors. Wealthy candidates, even if they have the advantage of resources, can create the perception of being “disconnected from the people”, whereas candidates from a modest background can empathize with voters more easily.

2.2.6. *Candidate's Identity (Ethnic, Religious, Political ve Social)*

The identity of the candidate is a strong determinant of voters' vote choice. The politically defined identity of candidates can increase or decrease their voting potential depending on the identity of voters. (Canöz, 2013)

Suci Ramadan, Adil Arifin and Indra Fauzan focused on the influence of dominant ethnicity and religion on voters' political preferences in Medan City, Indonesia. In addition, a survey on religious orientation and ethnic identity ahead of the 2024 elections shows that these factors are important on political preferences. According to the results of the survey, 41% of the respondents stated that they would not support parties with ideologies that do not coincide with their religious beliefs and that they would favor political parties that respect their traditions (Fauzan, Arifin, & Rahmadani, 2025). Horowitz (1985) also states that ethnic identity shapes voter-candidate alignment, especially in multicultural societies (Rothchild, 1989). For example, in India, the caste identity of candidates mobilizes the local voter base (Chandra, 2003). Religious identity has a similar effect; according to Layman's study, evangelical candidates in the US receive strong support from religious voters (Jelen, 2002). However, this effect is not always positive; a candidate's identity can trigger reaction votes among opposing groups.

Political identity is related to a candidate's party affiliation; long-term party membership attracts loyal voters, while independent candidates can attract swing voters (Geer, 1992). Lipset and Rokkan argue that social identity reflects a candidate's social status; for example, a working class candidate may connect with voters from the same class (Mochmann, 2002). However, some studies argue that in modern elections the effect of identity is balanced by ideological cohesion.

There are also studies in the literature suggesting that candidate image can override candidate identity. These studies argue that although candidate identity has an effect on voters, this effect can be eliminated

through various policies or practices (Taydaş, 2021).

2.2.7. *Candidate's Membership in Associations/Institutions*

A candidate's affiliation to an association or organization can influence voters' voting decisions, even if the association or organization does not have a political, religious or economic bias.

Studies in the literature indicate that a candidate's membership in associations and organizations signals credibility and social commitment. For example, a candidate who is active in charitable organizations may receive more support from voters as it will strengthen the perception of benevolence and leadership. Fenno (1978) argues that candidates' roles in local organizations play a decisive role in establishing a personal bond with voters (Brown). However, this effect is context-dependent; candidates who are members of organizations seen as elitist, such as private clubs, may be seen as disconnected from the public. This perception leads to a negative image of the candidate in the eyes of voters, which may lead to a decrease in vote percentages. In addition, the political orientation of the associations to which the candidate belongs should be in line with the ideological stance of the candidate; otherwise, this may be seen as inconsistency and insincerity, and voters' trust in the candidate may decrease (Hayes, 2005).

2.2.8. *Candidate's Local Ties*

A candidate's local roots are an influential factor in voters' choice of vote. The people where the candidate was born and raised or where the candidate lives may favor the candidate in the vote. Key calls this possibility the “friends and neighbors effect”. According to Key, candidates are more likely to succeed in elections in environments where they have local ties (Key Jr, 1949). Like Key, Hunt also mentions that voters who are connected to where they live tend to support candidates who are connected to their roots (Hunt, 2022). Like many similar studies in the literature, Fenno's Home Style study states that voters see local candidates as “one of us” and this increases trust (Brown). For example, when we look at the results of the US Congressional elections and the birthplaces of the candidates, candidates who were born and raised in the district generally seem to have an advantage.

In a study on the impact of political communication on election results based on local elections in Turkey, political communication is reinforced by the local recognition of the candidate (Cansever, 2023). The candidacy of people with recognition results in their success with the support of the masses. Most of the similar studies show that voters are highly influenced by the characteristics of the candidate, especially when voting in local elections. In this case, it is possible to say that individuals make candidate-oriented choices in local elections.

However, there are also studies in the literature suggesting that the candidate's status of being “one of us, friend or neighbor” is not universal, and that the local identity of the candidate has less impact on voters'

voting preferences in big cities or national elections compared to other factors (Key Jr, 1949). When the negative effects of a candidate's locality are considered, it can be argued that candidates who stand out with their locality may fail to master national issues. A candidate who is popular locally may be expected to be less intellectual. It is known that locality and citizenship status are considered as criteria in voting decisions by relatively less informed voters.

2.2.9. Candidate's Campaign Promises and Reliability

Electoral promises and candidate credibility are central to voting behavior. Downs' (1957) rational choice theory argues that voters are predisposed to vote for the candidate who offers promises that align with their interests (Downs, *An Economic Theory of Democracy*, 1957). For example, promises of economic welfare or social services attract groups of voters who are financially disadvantaged or who care about the welfare state. Candidates' pre-election promises may cause voters to change their voting preferences. However, Stokes (1963) argues that promises are ineffective without credibility (Stokes, 1963). As Stokes argues, voters attach importance to the past performance and consistency of the candidate. If the candidate has proven or supported his/her credibility, his/her new promises may be more effective on voters. Fiorina (1981) argues that voters focus on past actions rather than promises and engage in "retrospective voting" (Fiorina, 1978). Credibility, on the other hand, is related to the candidate's image; a negative atmosphere against the candidate during the election process or inconsistent rhetoric of the candidate undermines the candidate's image in the eyes of voters and weakens support for the candidate in question.

On the other hand, in some elections, the candidate that the voters will vote for is known before the election promises and propaganda begin, and the voters in question participate in the voting without being interested in the promises of the candidate. Lupia and McCubbins (1998) argue that low-information voters vote based on the charisma of the candidate rather than the content of the promises. While the candidate's appearance, projects, work experience, etc. have limited impact on voting, the candidate's credibility, honesty and fairness seem to be much more important.

To summarize the important factors related to the candidate; the candidate's experience, profession and image, recognition, physical and social characteristics, qualities such as oratorical power, party and ideology, election campaigns and promises of the candidate are the factors related to the candidate that voters are influenced in their voting preferences. (Cansever, 2023)

2.3. Party Related Factors

Political parties can have an impact on voter preferences through their activities during the election period, party programs, party leaders and their positions in the election atmosphere. Party identity is

defined as a framework that shapes a voter's general political attitudes, values and policy preferences and guides their voting behavior and affects voting decisions in various aspects. For example, information about the party is instructive when evaluating candidates' positions in politics. In addition, the study also reports that party identity has an impact on voters' electoral participation and loyalty. Since voters with strong party affiliations will have a high interest in elections, it can be said that party identification is related to the turnout rate (Kulachai, Lerdtomornsakul, & Homyamyen, 2023).

2.3.1. Party Program

Party programs include the goals, policies and core values of political parties. When the program of any party is examined, it is possible to analyze the process of the party in question from its foundation to the present day. In party programs, the party's mission, vision and core values are explained, goals and common views of party members on social events are mentioned, and policies on issues such as economy, technology, transportation, industrialization, development and transportation are explained. The party program is one of the main elements reflecting the ideological preferences of voters. In this respect, it is important to examine party programs before voting. However, in general, voters with higher levels of education follow party programs, and a large portion of voters, regardless of their level of education, participate in voting without examining these programs. (Gökçe, 2022)

Many studies in the literature suggest that the policies offered by parties directly affect voters' voting decisions. For example, programs that emphasize social welfare attract low-income voters, while market-oriented policies attract high-income voter groups. This view is consistent with Downs' (1957) rational choice theory, where voters are expected to choose the party program that maximizes their own interests (Downs, *An Economic Theory of Democracy*, 1957). However, there are also studies suggesting that the effect of party programs is limited to the level of information of voters. These studies argue that ideological complexity makes it difficult for low-information voters to understand party programs (Adams, Merrill, & Grofman, 2005). Furthermore, Kitschelt (1994) argues that in post-industrial societies, programs are replaced by charismatic leadership or cultural issues.

In addition, voters with strong ties to a political party usually support their party's candidates in the vote. Therefore, it may be thought that there is no need to convince the already loyal voters. Based on this idea, it can be argued that party programs are designed for swing voters who do not have strong ties with any party rather than reinforcing grassroots support (Kulachai, Lerdtomornsakul, & Homyamyen, 2023).

When we examine the studies in the literature, regardless of the perspective from which the study deals with voter behavior, the idea that the party program and therefore the party goals and promises are effective in voting behavior of voters is common.

2.3.2. *Party's Political Position (Ruling, Main Opposition, Opposition)*

The fact that the candidate party is already the ruling party can be evaluated by taking into account the situation of the country at that time, and this evaluation shapes the perception and preference of the voters and helps them decide whether to vote for the same party or not. When voters are satisfied with the services of the party currently in power, the social, economic and political situation of the country, and the social and cultural atmosphere, they do not prefer to support a different candidate. However, there may be exceptions to this situation and citizens may not want to be governed by the same person or persons for a long time. The mindset of these people may lead them to support the ruling party even when the conditions in the country are bad. Such loyalty may arise from the ideology of the ruling party, the political stance of the voter and the personal benefits that the party/candidate would gain from winning.

Considering the voters who support the main opposition parties, they may expect the current government to change and prefer to vote for the main opposition party by prioritizing the expectation of change rather than voting for another opposition party. In addition, since the main opposition parties have the closest voter base to the ruling party, it can be assumed that a considerable number of people in the society in question support the ideology of the main opposition party.

There can be more than one opposition party in elections. These parties differ in terms of ideology. For this reason, it can be said that voters who do not lean towards the government and the main opposition are more likely to vote for ideological reasons than voters who support the government or the main opposition.

2.3.3. *Party Leader and Characteristics*

The party leader is decisive in voters' perceptions of parties. The gender, age, education level, financial status, marital status, religious beliefs, political achievements and experience of party leaders influence voters' vote preferences.

For example, it is quite possible that candidates who show success in municipal elections draw a more reliable portrait for voters, and this idea brings the candidate who wins in municipal elections to the forefront in general elections (Karagöl & Dama, 2015). Weber's theory of charismatic leadership reveals that leaders garner votes by establishing an emotional bond with voters (Weber, 1947). Bean (1993) argues that leader charisma increases party success in elections (McAllister, 2015).

However, Wattenberg (1991) argues that modern voters focus less on the individual characteristics of candidates and that party identity overshadows such factors. Voters vote for the party rather than the leader. Studies in the literature show that the leader plays a variable role depending on the context and voter perception, and it is not possible to speak of a purely positive or purely negative effect.

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2.3.4. Party's Establishment

When we look at the studies in the literature, we see that even in very old studies, there are two different sides arguing that old parties have more stable voter bases or that new parties have the potential to rise rapidly.

Parties with older founding dates have more loyal voter bases. For this reason, the vote rates of old parties fluctuate less. The fact that the AK Party's vote share in Turkey has changed so little that it can be considered stable is an example of this situation. In the literature, this stability is associated with institutionalization and leader influence (Özbudun, 2006).

The establishment of parties close to the elections may cause voters to be indifferent towards that party or to be insufficiently confident in its voting potential. In this respect, the preference rates of newly established parties may be low. While voters who do not want change do not reevaluate their voting decision, voters who want change do not go through an evaluation process since they would vote for the opposition party with the closest vote percentage to the current ruling party instead of voting for a new party whose vote potential they cannot predict.

2.3.5. Party's Vote Share Over Time

In addition to the defeats and victories of parties in the political arena, percentage changes in vote rates in the historical framework may indicate voter loyalty and party commitment, and may also affect the party's preferability by voters in the future. Parties that have failed to increase and/or decrease their vote potential over time may not be considered worth voting for. In such cases, voters, if they want change, will ignore a party with low voting potential. On the other hand, some parties have a bone constituency that they are able to retain despite the changing atmosphere in every election. This group of voters do not change the party they will vote for no matter what, and depending on the size of the group, they can cause the same party to win consecutive elections.

3. CONCLUSION AND RECOMMENDATIONS

It is known that voters are affected by many factors separately or simultaneously during the voting process. There are many domestic and foreign sources in the literature to examine and explain these factors. While some of these studies focus on specific factors, others deal with all the factors affecting voting behavior of voters. While studies can be supported by completed election results and surveys of voters, they can also only shed light on the literature. Even though the way in which these studies emerge varies, they all provide guidance for voting processes to be more efficient for voters, candidates and

parties.

In this study, in which we examine the factors affecting voters' voting behavior in three separate groups as voter-related factors, candidate-related factors and party-related factors, it is concluded that almost all influential issues may be related to each other, even though they are examined in separate groups. However, when we look at the literature, it is seen that studies focusing on the factors affecting voters' voting decisions are rare, and most of the studies focus on the personal and demographic characteristics of voters such as age, gender, occupation, education level or the rate of influence from family, media and election campaigns.

Since the subject of the study is human-oriented and open to interaction, the prevalence of surveys in research is not surprising, but it is seen that different answers are obtained from studies in which the same questions are asked due to the differentiation of the samples. Due to the differences in the conditions of each election period and the characteristics of each voter group, it is considered normal that the data obtained do not match.

Future research could examine the impact of digital media and artificial intelligence on voting behavior, the transformation of identity politics and micro-targeting strategies. Moreover, voter behavior in emerging democracies can offer new perspectives to the Western-oriented literature. In conclusion, voting behavior is a complex dance of individual and systemic factors, and understanding this dance illuminates the future of democratic processes.

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Laboratory Teaching Effective Method for Students of Faculty of Engineering

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Abstract

Laboratory teaching methods are key to quality teaching and learning in chemistry. In the chemistry laboratory, students can observe and manipulate different chemical substances, equipment, and materials to demonstrate certain aspects of the subject matter that were previously covered in theoretical lectures. However, traditional laboratory approaches often lack integration with theoretical concepts, which can lead to incomplete learning. This study aims to address this gap by introducing an innovative teaching method that effectively integrates theory and practice in the laboratory setting for engineering students. The method also emphasizes the importance of laboratory safety protocols, which are crucial for students' future work in laboratory environments. The study employed a combination of Information and Communication Technology (ICT) tools and live demonstrations of equipment within the laboratory. This approach allowed students to directly engage with laboratory materials while reinforcing safety procedures and theoretical knowledge. The results of the lab entrance colloquium showed a very positive outcome with students demonstrating improved understanding of safety signs, laboratory equipment, and their applications. Students performed better on quizzes measuring their retention of key concepts, including hazard identification and equipment usage. These findings suggest that combining ICT tools with real-time demonstrations in the laboratory significantly enhances student learning and retention. By embedding theoretical instruction within the laboratory setting, students not only better understand the concepts but also retain critical safety information for future practical work. The approach was effective in preparing students for real-world laboratory conditions while promoting safe and knowledgeable practices.

Keywords: *Lab teaching, teaching method, university students, education, safety protocols.*

JEL Codes: *JEL code 1, JEL code 2, JEL code 3*

INTRODUCTION

Chemistry education frequently presents instructional challenges due to the abstract nature of many chemical phenomena. Concepts such as molecular structure, atomic interactions, and stoichiometric relationships are not directly observable and often remain intangible to learners unless linked to real-world contexts. Although digital platforms now provide broad access to theoretical resources, this ease of access has not consistently led to improved student comprehension or retention (Hofstein & Lunetta,

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1982; Johnstone & Al-Shuaili, 2001). Traditional lecture-based methods, which tend to isolate theory from practice, often fail to cultivate the kind of conceptual fluency necessary for scientific literacy (Reid & Shah, 2007; Prince, 2004).

To bridge this gap, hands-on laboratory instruction has long been promoted as a critical element of effective science teaching. Laboratory environments foster active learning, encourage hypothesis testing, and reinforce core concepts through direct interaction with materials and apparatus (Domin, 1999; Hofstein et.al., 2007). These environments promote not only cognitive engagement but also social learning, as students work collaboratively to observe, analyze, and discuss outcomes.

This research exploring an innovative pedagogical model in which theoretical chemistry content is delivered entirely within a laboratory setting. Students in this model receive instruction amidst the materials and instruments they are learning about. This immersive approach is complemented by a structured mixed method teaching strategy and reflects growing consensus around multi-sensory learning in science education (Bybee, 2012). Research in educational neuroscience also supports these methods, that combining verbal, visual, and kinesthetic cues enhances neural engagement, working memory, and emotional investment in learning tasks (Kuzminov, et al., 2024; Seery, 2018; Zejnilagić-Hajrić, et al., 2020).

This instructional model was applied in a semester-long study conducted at the Faculty of Dental Medicine, International Balkan University, involving 120 first-year engineering students enrolled in a General Chemistry course. All instruction took place in a laboratory setting, eliminating the traditional separation between theoretical lectures and experimental practice. Students encountered key chemistry concepts through a mix of short, targeted explanations, live chemical demonstrations, and carefully selected visual tools. The study compared three instructional methods used within this lab-integrated setting: lecture and visual presentation only; lecture with selective live demonstrations; and a fully integrated format combining demonstration, visual presentation, and concise explanation. Student performance was evaluated through multiple-choice and open-ended assessments, designed to measure recall, conceptual understanding, and the ability to link theory with laboratory experience. The analysis revealed a clear trend: as the instructional approach became more integrated and interactive, student success rates improved markedly. Notably, more than 50% of students scored in the 91–100% range, and no student scored below 60%, indicating both improved engagement and equity in learning outcomes.

Beyond chemistry, this model responds to similar critiques within engineering education, where curricula often remain overly theoretical and disconnected from real-world problem-solving (Glaser, 1984). Multimodal and immersive instruction supports not only higher comprehension but also prepares students with the flexible thinking, confidence, and practical insight needed in professional environments (Cross, 1993). Moreover, practical constraints—such as limited access to reagents or safety concerns—sometimes prevent full student experimentation. In such contexts, live demonstrations function as high-impact

instructional alternatives that maintain engagement while reducing risk and cost (Seery, 2018).

It is necessary to plan the experiments and it is reasonable to assume that the outcome of an experiment depends on the experimental conditions (Samet et al., 2016), same is valid for teaching conditions at laboratory. When combined with visual and verbal explanations, they serve as shared experiences that unify learners' focus and strengthen conceptual anchors (Vinko et al., 2020).

In sum, this research examines whether relocating theoretical instruction to a hands-on, demonstration-rich laboratory environment can measurably improve academic performance and conceptual mastery in undergraduate chemistry. The results not only reinforce calls for multimodal teaching but also suggest that spatial integration—delivering theory where experimentation happens—may be key to fostering durable, transferable scientific understanding.

METHODOLOGY

Participants

The study was conducted during the 2024–2025 academic year at the International Balkan University. Participants were 120 first-year students from the Faculty of Engineering. Selection criteria included enrollment in the General Chemistry course and no prior university-level chemistry experience. None of the participants had taken university-level chemistry before this course, ensuring a consistent baseline of prior knowledge.

Data Collection

To assess learning outcomes, a comprehensive post-session quiz was administered one week after the laboratory lecture. The quiz consisted of 10, deliberately designed to align with the structure and instructional techniques used across the session:

- Multiple-choice questions (graphic-based): Tested recognition of lab equipment, hazard symbols, and safety practices
- Fill-in-the-blank: Focused on technical terminology and application of procedures
- Conceptual matching: Linked theoretical concepts to observed demonstrations
- Open-ended question: “What is a laboratory?” — aimed at capturing critical thinking, conceptual abstraction, and the influence of physical lab exposure

This combination allowed the quiz to evaluate both immediate comprehension and retained understanding, particularly in relation to the effectiveness of each teaching method. The inclusion of an open-ended question was intentionally served to measure students' ability to synthesize experiences and reflect on the epistemic and functional role of the laboratory in scientific practice.

In addition to the quiz, informal observations and post-session discussions were used to gauge

engagement and student response. These qualitative insights helped contextualize the assessment data and revealed spontaneous learning moments (“extra fancy moments”) that often occurred outside of the structured instruction.

Instructional Framework

The central pedagogical innovation in this study was the relocation of theoretical instruction from a traditional lecture hall to the chemistry laboratory itself. All teaching was conducted within the lab to promote a seamless integration of theory and practice. This immersive, hands-on environment allowed students to directly interact with chemical apparatus and materials as abstract concepts were introduced, promoting stronger cognitive associations and practical understanding.

To further enrich the learning process, a mixed method teaching strategy was applied. This approach blended three primary instructional techniques:

1. **Information and Communication Technology (ICT) Tools:** Visual presentations, slideshows, and multimedia animations were used to illustrate theoretical content, including the identification of hazardous chemicals, lab equipment usage, and personal protective measures. These tools were employed both as stand-alone instructional aids and in combination with other methods.
2. **Academic Explanation:** Structured verbal instruction was delivered in short, focused segments to avoid cognitive overload. The aim was to clarify foundational concepts and link them explicitly to real-time observations in the lab.
3. **Live Demonstrations:** Chemical procedures and safety practices were demonstrated in real-time. These demonstrations were synchronized with theoretical explanations and visual media to create a dynamic and multisensory instructional experience.

However, unlike conventional group splitting, all students experienced three distinct teaching methods, each applied to a specific thematic segment of the lecture:

- **Method 1: Passive Lab Exposure**
 - *Topic:* Emergency Procedures and First Aid in the Lab
 - *Delivery:* Traditional lecture-based teaching supported by ICT (e.g., slideshows), no demonstrations
 - *Engagement:* Minimal interactivity; questions taken only at the end of the session
- **Method 2: Passive Lab Exposure with Demonstration**
 - *Topic:* Laboratory Equipment Identification
 - *Delivery:* Lecture with ICT support, followed by selective live demonstrations of real lab tools

- *Engagement:* While the instructional structure remained primarily lecture-based, students were provided with visual reinforcement by observing the physical equipment and demonstration of handling procedures. Notably, not all equipment introduced during the lecture was demonstrated in the laboratory. This selective approach was intentional and strategically integrated into assessment design. One multiple-choice quiz item included only equipment that had been physically demonstrated, while another required identification of five tools, of which only two had been shown during the session. This design allowed for evaluation of the effect of partial demonstration on students' ability to recognize and retain both demonstrated and undemonstrated content.

- **Method 3: Streamlined Lab Exposure with Demonstration**

- *Topic:* Laboratory Hazards and Risk Awareness
- *Delivery:* Concise, minimalist instruction using keywords and short explanations, supported by ICT and targeted live demonstrations
- *Engagement:* Focused content delivery designed to reduce cognitive load and enhance clarity

Each of these methods was applied consecutively in a single instructional session, allowing students to encounter various pedagogical styles while remaining within the same physical lab space. ICT tools (e.g., annotated slides, hazard symbols, and equipment graphics) were used throughout, ensuring consistency in visual input and supporting the integration of theory with observable lab contexts.

Role of the Laboratory Environment

The laboratory functioned not only as a physical setting but as an active pedagogical agent. The lab enabled real-time application of knowledge, encouraged peer discussion, and facilitated immediate correction of misconceptions through visual and tactile reinforcement. The immersive atmosphere—complete with real tools, signage, and sensory stimuli—helped translate abstract instruction into concrete experience. By enabling the transition from abstract to concrete learning, the lab fostered deeper engagement and enhanced the development of critical thinking, problem-solving, and technical competence.

Beyond its didactic value, the lab also played a formative role in shaping professional behavior. Furthermore, the lab environment emphasized the importance of safety and precision, reinforcing the relevance of theoretical knowledge in a controlled, real-world context.

These behavioral expectations aligned closely with the instructional goals of each session segment and helped internalize both knowledge and scientific discipline.

Data Analysis

Quantitative data from the quiz were analyzed using descriptive statistical methods. Frequencies, mean

scores, and comparative trends were used to evaluate instructional effectiveness by method and question type. Microsoft Excel was used to generate visual representations of performance trends, highlighting key differences across methods and topics.

While quiz score averages provided a general metric of success, special attention was paid to questions that required applying theoretical knowledge in practical contexts, as these best reflected the impact of lab-based, experiential learning. Patterns of error were also reviewed to identify content areas requiring instructional refinement.

RESULTS AND DISCUSSION

This study employed a mixed-methods approach to investigate the effectiveness of integrating multiple teaching methods within a laboratory environment. The primary focus was on assessing student understanding, engagement, and retention of key chemistry concepts and safety protocols, with a particular emphasis on the in-situ impact of teaching chemistry within the laboratory itself. By combining quantitative data from assessments with qualitative feedback, the research aimed to capture both the cognitive and experiential outcomes of instructional strategies delivered directly in the lab.

Instructional Method Differentiation and Learning Outcomes

Each instructional method was applied to a specific content unit and evaluated via questions designed to test both recognition and conceptual understanding. These questions were embedded within a 10-question questions post-session quiz that included multiple-choice, fill-in-the-blank, and open-ended formats. The goal was to understand how the depth and modality of instruction influenced both recall and critical application of knowledge. To evaluate the instructional impact of varied teaching approaches within the chemistry laboratory environment, students' quiz performances were analyzed in connection with three predefined instructional methods:

Method 1: Lecture-based instruction supported by ICT visuals

9. If you got BURN injury from ACIDIC chemical you use DILUTED _____ for treatment.	10/___
10. Name a DISINFECTANT you can use if you got CUT injury.	10/___

Figure 1. Instruction supported by ICT visuals Question 9 and 10 of Lab test.

Method 1, applied to Questions 9 and 10 (Figure 1), followed a more traditional lecture-based structure, albeit supported by visual slides and ICT tools. This method did not include live demonstrations or hands-on interaction during instruction.

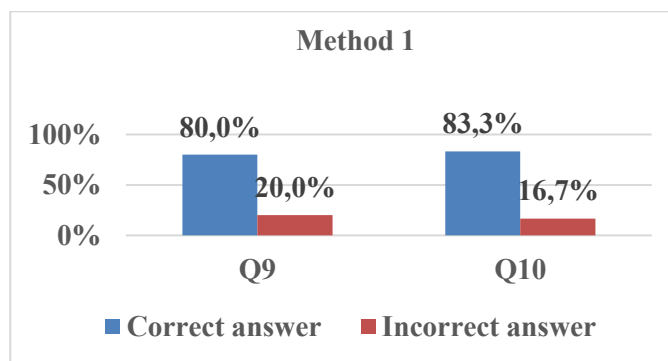


Figure 2. Comparison of student performance on question 9 and 10 on passive lab exposure with demonstration.

Figure 2 compares the performance outcomes for both questions: Question 9, which tested conceptual understanding of chemical hazard labels, resulted in a 20.0% error rate, while Question 10, focused on safety protocols and basic lab procedures, yielded a 16.7% error rate. Both questions were part of the traditional lecture-based approach, supported by visual slides and ICT tools, without live demonstrations or hands-on interaction.

These outcomes suggest that passive instruction, even when visually supported, is less effective in fostering the type of cognitive imprint required for practical application in a lab context. The higher error rates indicate gaps in understanding when content is delivered without direct engagement or contextual reinforcement. This aligns with literature indicating that lecture-only environments limit experiential learning, especially in applied disciplines like chemistry. The lack of real-world context and multisensory input may have led to fragmented conceptualization, affecting the students' ability to transfer knowledge to practical situations. (Bybee, 2012; Hofstein et.al., 2007)

Method 2: Lecture + ICT presentation, with selective live demonstrations

Method 2, used for the unit on laboratory equipment, introduced a blended instructional strategy incorporating lectures, ICT visuals, and selective live demonstrations. Demonstrations were intentionally limited to a subset of tools. The pedagogical intent was to increase student engagement and observational depth while managing cognitive load and time constraints.

2. Circle the right order of LAB EQUIPMENT



a. balance, asbestos, mortar and pestle, funnel, graduated cylinder, erlenmeyer
b. erlenmeyer, graduated cylinder, funnel, mortar and pestle, asbestos, balance
c. erlenmeyer, graduated cylinder, balance, mortar and pestle, funnel, asbestos
d. funnel, asbestos, graduated cylinder, erlenmeyer, asbestos, balance

15/

3. Circle the right order of LAB EQUIPMENT



a. thermometer, tripod, burette, beaker, watch glass, büchner funnel
b. tripod, burette, büchner funnel, thermometer, tripod, beaker
c. büchner funnel, tripod, burette, beaker, tripod, thermometer
d. thermometer, tripod, büchner funnel, watch glass, burette, beaker

15/

Figure 3. Question 2 and 3 of Lab test.

Question 2 (Figure 3)tested student recognition of five laboratory tools, all of which had been physically demonstrated during the session. It employed a graphic-based multiple-choice format, asking students to identify the tools visually. The question produced a 90.0% correct response rate and a 10.0% error rate.

The high performance illustrates the powerful influence of comprehensive physical exposure on visual recognition and memory consolidation. By engaging multiple sensory channel visual, auditory, and kinesthetic—the demonstrations helped anchor mental models of each item, enabling students to recall tool identities more confidently during assessment.

In contrast, Question 3 (Figure 3) tested the same skill—lab equipment recognition via graphic-based choices—but with only two out of five items having been demonstrated in real-time. The remaining three were presented through lecture and digital slides only. Students achieved an 85.8% correct rate and a 14.2% error rate.

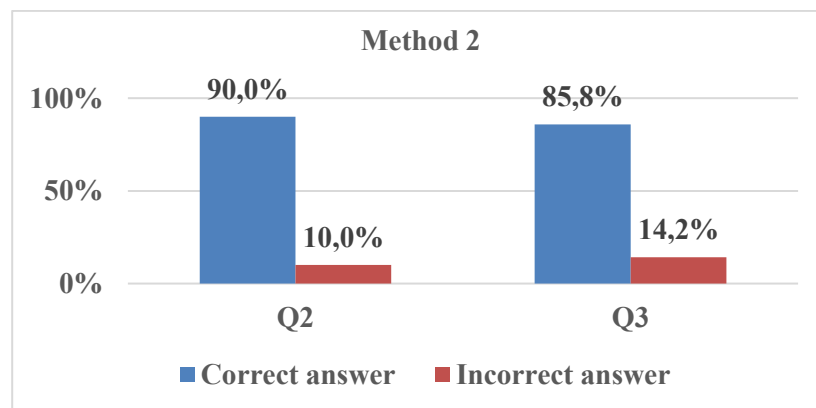


Figure 4. Comparison of student performance and impact of live demonstrations on students' ability to visually recognize lab tools

As seen in the Figure 4, the presence of live demonstrations significantly improved recognition accuracy, highlighting the value of hands-on exposure in learning. Question 2, which tested recognition of five laboratory tools, all of which had been physically demonstrated, resulted in a 90.0% correct response rate and a 10.0% error rate. Question 3, testing the same recognition skill but with only two out of five tools demonstrated, produced an 85.8% correct response rate and a 14.2% error rate. This comparison highlights the enhanced impact of live demonstrations on students' ability to visually recognize lab tools

While there is still a strong performance, the decrease in accuracy relative to Question 2 illustrates the significance of instructional completeness. Students were more confident in identifying items they had seen handled physically, and less accurately with those introduced abstractly. This reinforces evidence that demonstration is more effective than static visual aids alone in facilitating durable recognition, especially in tool-intensive environments like laboratories (Hofstein & Lunetta, 1982; Logar & Ferk Savec, 2011; Vinko, et.al. 2020; Zejnilagić-Hajrić & Nuić, 2020)

Furthermore, this comparison demonstrates how instructional design affects differentiated learning. Even when all tools were mentioned during instruction, the tools that were physically demonstrated were

retained with greater clarity. This outcome supports cognitive load theory, where more direct experience leads to deeper encoding and easier retrieval under assessment conditions.

Method 3: Fully integrated multimodal instruction—targeted minimalist verbal explanation, ICT visuals, and synchronized live demonstration

Method 3 represented the most robust instructional model, integrating brief, focused verbal explanations, real-time demonstrations, and synchronized ICT visuals. This method was applied to Question 4, which required students to classify chemical hazards using both images and associated terminology.

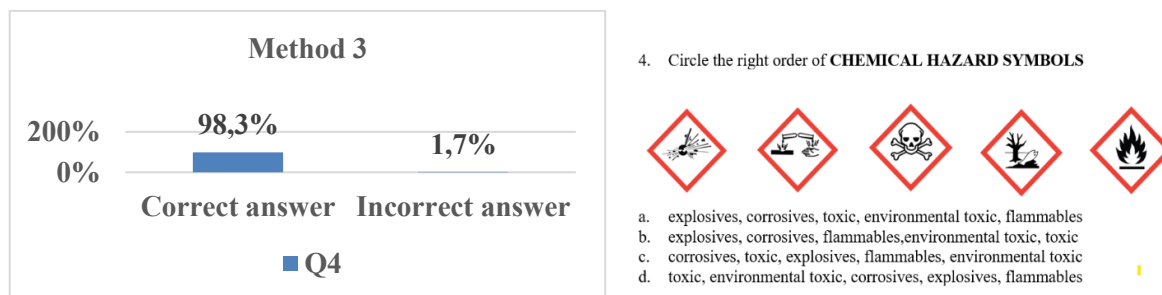


Figure 5. Student performance under Strelaine lab exposure with demonstration and Q4.

Students achieved an exceptional 98.3% correct rate with only a 1.7% error rate, the highest success level observed across all questions. The combination of instructional clarity, multisensory delivery, and contextual application contributed to this outcome. Figure 5 presents the performance results for Method 3, visually emphasizing the superiority of this multimodal instructional strategy compared to other methods in terms of accuracy and effectiveness.

In this method, each hazard symbol was explained succinctly, demonstrated on actual containers or labels, and shown again through digital projection. This convergent instructional approach allowed students to receive redundant cues—verbal, visual, and spatial—facilitating deeper learning.

The findings from Question 4 (Figure 5) support theories of dual coding and multimodal learning, which suggest that learning is strengthened when multiple representational channels are used in harmony. The minimalist teaching style further reduced extraneous load, directing attention precisely to core learning targets. (Glaser, 1984; Prince, 2004; Bybee, 2012).

Overall Performance Trends

Quiz score distribution across all methods reinforces the pedagogical benefits of combining lab-based instruction with multimodal teaching. Among 120 participating students:

- Over 75% scored in the 91–100% range
- No student scored below 60%
- Mean overall score: 93.2%
- Low standard deviation: indicating uniform learning outcomes

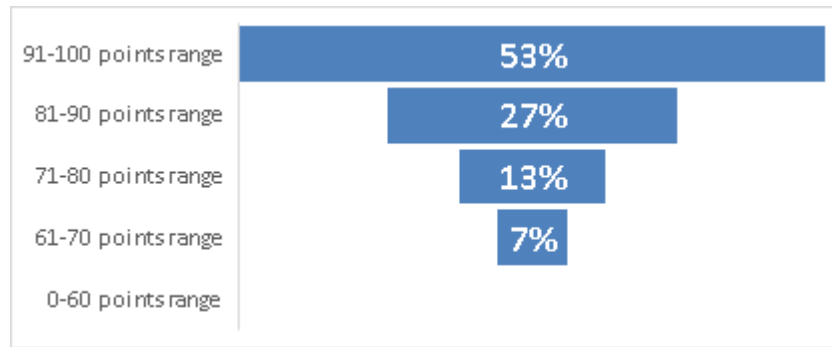


Figure 6. Overall quiz score distribution across all instructional methods (N = 120).

These figures suggest a notable increase in both achievement and equity compared to traditional models. The absence of academic failure is particularly striking and supports the idea that immersive, lab-based instruction levels the learning field—an especially important goal in early STEM education. Figure 6 illustrates this performance distribution and highlights the compressed score range and elevated mean achievement under the integrated instructional model.

The alignment of high scores with instructional complexity demonstrates that as the number of instructional modalities increased, so did student performance. Passive delivery (Method 1) produced relatively high error rates, while selective demonstration (Method 2) improved outcomes further, and fully integrated teaching (Method 3) produced near-universal success.

Open-Ended Responses as Evidence of Conceptual Internalization

Beyond multiple-choice metrics, Question 1 asked students to respond to an open-ended prompt: articulate a key laboratory safety principle in their own words, drawing on content discussed during the session. This item aimed to assess students' ability to internalize and articulate safety concepts rather than recall rote definitions.

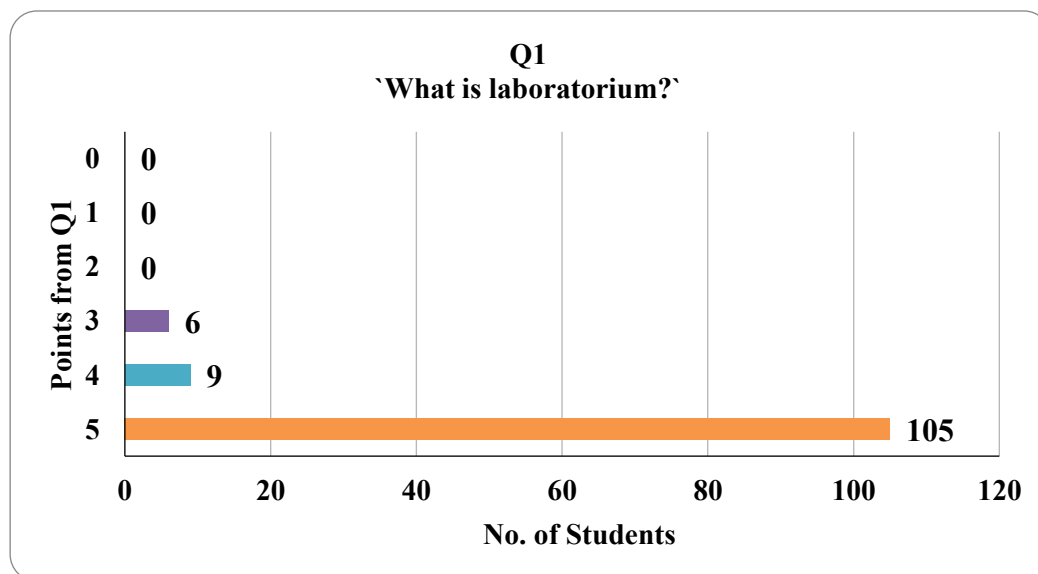


Figure 7. Distribution of student scores for the open-ended Question 1.

The outcomes were as follows:

- 105 students received the full 5 points

- 15 students scored between 3.0 and 4.0 points
- No score was below 3.0

This distribution suggests a high level of conceptual understanding and expressive competence, further supporting the cognitive benefits of immersive instruction. Figure 7 visually represents this scoring pattern, emphasizing Qualitative analysis of these responses revealed consistently thoughtful, accurate, and original reflections. Students not only cited correct principles but often illustrated them with real examples from the lab session. Many also referenced tools or procedures that had been demonstrated, suggesting active integration of theory with practice.

This result is significant because it confirms that the instructional model promoted not just surface learning but deep understanding and personalized articulation. When students can describe scientific concepts in their own words—rather than repeating textbook definitions, they demonstrate ownership of knowledge. Such fluency indicates that lab-based instruction created an environment conducive to critical thinking, creativity, and long-term memory formation. These are core educational goals that are often difficult to achieve through traditional didactic instruction alone.

The findings of this study provide strong evidence of two primary contributions to the field of STEM education: the role of hands-on, context-rich environments in improving student performance and the effectiveness of layered instructional strategies. These elements provide a framework for enhancing educational equity, cognitive engagement, and long-term retention in introductory general chemistry courses for first-year engineering students.

A defining outcome of this study was the complete elimination of scores below 60%, which is particularly noteworthy in the context of introductory chemistry education.. This result suggests that when theoretical instruction is situated within the laboratory environment. Students are better able to relate abstract concepts, reducing cognitive distance and enhancing their ability to retain and apply knowledge, which is compatible with previous literature data that underscores the value of immersive learning environments in promoting student success (Freeman et al., 2014; Prince, 2004).

Moreover, the physical presence of lab tools and chemicals alongside the theoretical instruction. Students were able to observe and manipulate the very materials they were studying. This form of active learning has been shown the notion that lab-based learning environments offer a more authentic and holistic approach to science education by bridging the gap between theoretical knowledge and real-world application (Samet, 2021; Land, et.al., 2000; Novak, 2010).

The integration of theoretical instruction directly within the laboratory environment proved to be a highly effective strategy, as illustrated in Figure 6, over 80% of students scored within the 81–100% range on the cumulative quiz, and no student scored below 60%. This outcome underscores the democratizing effect of lab-based learning. Students from diverse backgrounds (whether in terms of prior knowledge, language skills, or academic confidence) are able to achieve similar levels of success.

This result showed that when students are provided with context-rich environment, the disparity in performance often observed in traditional settings can be significantly reduced. This is particularly important in the context of STEM education, where many students face challenges due to the abstract nature of the material (Allan, et. al., 2009). The absence of low scores (Figure 7) suggests that immersive, hands-on learning experiences are crucial for engaging struggling learners and leveling the playing field for all students.

Further evidence of the transformative potential of lab-integrated instruction came from the students' responses to the open-ended assessment in Question 1 (Figure 7). This item required students to articulate a laboratory safety principle in their own words for '*What is Laboratorium?*'. A striking 105 of 120 students received full marks, and none scored below 3.0 points. This result indicating that students were able to internalize and synthesize the safety concepts taught. These results not only improved factual recall but also the ability to think critically about the content. Many of the responses exhibited original phrasing, contextual insight, and logical explanations. So, suggesting that students were able to construct a deep understanding of the material. This qualitative dimension shows that the learning process was not simply about memorizing facts but involved a more sophisticated level of cognitive processing, which is important of STEM education. (Bybee, 2012; Glaser, 1984; Subedi, 2022)

Long-Term Retention

5. Which of the statements is WRONG according to GENERAL SAFETY RULES ?	
a. Wear LAB COAT at all times!	
b. DO NOT taste or smell chemicals	
c. Report all accidents, injuries and breakages of equipment!	
d. Eat, drink and smoke in the Lab as you want!	5/___
6. Please write down 3 (three) GENERAL SAFETY RULES that u remembered.	

_____	10/___
7. Please list 3 (three) PERSONAL PROTECTIVE EQUIPMENT (PPE) .	

_____	10/___
8. Which DOESNT belong to ' NOT ALLOWED ' personal clothing in the Lab?	
a. skirt	
b. sandals	
c. pants	
d. high heels	5/___

Figure 8. Instruction supported by ICT visuals Question 5,6,7 and 8 of Lab test.

The laboratory environment, with its combination of verbal explanations, visual ICT presentations, and kinesthetic interactions, facilitated stronger memory encoding and improved long-term retention. Dual coding theory (Paivio, 1990) suggests that information processed through multiple sensory channels is more likely to be retained and recalled. (Bybee, 2012; Glaser, 1984) Method 3, which integrated streamlined verbal explanations, synchronized ICT visuals, and live demonstrations, emerged as the most effective instructional strategy in lab teaching. As shown in Figure 3, 98.3% correct response rate on Question 4, involved classifying chemical hazards using both symbolic imagery and textual terms. Otherwise, Method 1, which relied solely on lecture and ICT presentations (Figure 1 and 8), resulted in lower comprehension and higher error rates, (Questions 9 and 10) showed error rates of 20% and 16.7%, respectively. These findings suggest that passive instruction, is insufficient for deep understanding and

retention of complex concepts and reinforces the argument that hands-on learning and active engagement are essential for high-level cognitive outcomes in chemistry science education (Abu-Ali, A. 2024).

Demonstration-Based Learning

The comparison between Question 2 and Question 3, highlights the importance of live demonstrations in enhancing visual-spatial encoding. In Question 2, where all five tools were demonstrated, students achieved a high correct response rate of 90%. When only partial demonstrations were provided (two tools demonstrated), the correct response rate dropped to 85.8%, and the error rate increased to 14.2% (Figure 4). These results suggest that comprehensive visual and kinesthetic exposure is critical for strengthening students' ability and align with research on the role of modeling in learning. (Hofstein et.al., 2007; Seery, 2018; Vinko et.al., 2020)

Critical Thinking

The results also indicate that lab-integrated instruction fosters critical thinking. The high performance on open-ended assessments (Question 1), reflects not only factual recall but also the ability to apply and synthesize knowledge in a real context. This type of conceptual internalization is a key component of scientific literacy. Active learning environments, such as those provided in this study, encourage students to engage with material at a deeper level, moving beyond surface-level memorization to the application, synthesis, and evaluation of knowledge (Novak, 2010).

Self-efficacy theory provides an additional lens for understanding these results. Students who are actively involved in hands-on learning are more likely to develop a sense of competence and confidence in their scientific abilities. This increased self-efficacy translates into improved performance and enhances students' ability to tackle more complex problems in the future. (Bybee, 2012; Freeman, et al., 2014; Prince, 2004)

CONCLUSION

The findings of this study underline the significant impact of multimodal and laboratory-based instructional strategies on students' conceptual understanding and performance in chemistry education. Specifically, the data show that combining hands-on demonstrations with ICT tools and targeted verbal explanations (Method 3) was most effective, leading to nearly perfect performance from students in the experimental group. In totality, the data points to a strong correlation between instructional method richness and academic success. The progression of results across Methods 1 through 3 highlights a pedagogical gradient:

- **Method 1** (lecture + ICT): Higher error rates (16.7–20.0%) and lower retention
- **Method 2** (lecture + ICT + partial demonstration): Moderate success (85.8–90.0% correct)
- **Method 3** (fully integrated multimodal instruction): Highest achievement (98.3% correct)

Additionally, the outstanding performance in open-ended responses (with 87.5% of students scoring full marks) emphasizes that immersive, in-situ instruction supports both quantitative success and qualitative

learning depth.

The experimental group's superior performance validates the increasing recognition in the field that inquiry-based

and student-centered approaches, such as the ones employed in this study, are more effective than traditional lecture-based teaching. The results demonstrate the indispensable role of laboratory experiences in science education. Students who engaged in interactive learning environments, as observed in the experimental groups, were better able to connect theoretical knowledge with practical application, thus fostering long-term conceptual development.

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Women's Participation In The Labor Market And Obstacles To Women's Participation In The Labor Force In Turkey

Nermin Sude YILMAZ⁵⁴

Abstract

The main purpose of this research focuses on how the emotions, thoughts and behaviors that prevent women from participating in the workforce are shaped depending on factors such as age and marital status, and what the experiences of these women are. In the study, the participation of women in the Turkish labor market and the obstacles they face are discussed in detail. The research was created by random sampling method using a quantitative research model. Thus, 222 individuals over the age of 18 and under the age of 60, with varying characteristics such as different age groups, education levels, occupational groups, and residing in different geographical regions, were included in the sample. In the research, it was clearly observed that women are relegated to the background in business life and that they do not receive fair treatment. While young participants emphasized the difficulty of finding a job and personal preferences among the reasons why women do not participate in the workforce; Older participants stated that this situation was more related to family responsibilities. In addition, it is clear that women who wish to join the workforce but cannot benefit from this opportunity for various reasons demand support. In this context, it is of great importance to develop inclusive policies for women who do not participate in the workforce and to develop programs that will support the more active participation of these women in the workforce.

Keywords: Labor, Women, Gender, Discrimination

JEL CODE: J710

INTRODUCTION

Women's participation in the workforce in Turkey is an important component of social and economic development and is of great importance. Women's participation in economic life plays a very important role not only in terms of individual freedom and equality, but also for the sustainable development and welfare of the country. However, women's participation in the workforce in our country is extremely low compared to other developed and developing countries. Understanding the reasons behind this low participation rate and the solutions to these reasons is of great value for the future economic and social development of the country.

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This study, which investigates the status of women's participation in the workforce in Turkey and the obstacles they face in this participation, aims to provide a detailed examination in order to understand the historical development and current status of women's participation in the workforce in Turkey. The aim of the study is to determine the obstacles to increasing women's participation in the workforce in Turkey and to offer suggestions on how to take precautions against these obstacles.

The importance of this study is evaluated based on the contributions that increasing women's participation in the workforce will provide to Turkey's economic development and social equality. Women's more effective participation in the living standards in business life is important not only at the individual level but also at the social level. This situation will also create positive effects at the macroeconomic level. In this context, increasing women's participation in the workforce will add significant value to Turkey's overall economic growth, reducing inequalities in income distribution and preventing gender inequality, i.e. ensuring gender equality.

HISTORY AND EVOLUTION OF WOMEN'S PARTICIPATION IN THE WORKFORCE

A woman is a person who defines human beings who are biologically female. At the same time, women are individuals who are generally associated with certain roles, behaviors, responsibilities and expectations in a social and cultural sense.

The employment of women is a must. Because the indispensable condition for economic growth and prosperity is to increase women's employment (Levent and Aydın, 2021). Women's participation in the work force increases the diversity in business life. Different perspectives on women's participation in the work force allow talents and skills to emerge.

The male-dominant ideology, which is widespread in many societies, derives its legitimacy from defining women as "nature" and men as "culture". For this reason, while the male's sphere of life is explained by participation in production, women are naturally responsible for giving birth to children, raising them healthily and maintaining the order of the house (Gözener, 2012:3). This idea creates a pressure of thought that determines gender roles and restricts women to only certain tasks. This view prevents women from fully discovering their own talents and deepens the inequalities that exist in the social sphere. As a result, gender inequalities emerge.

Women have participated in various economic activities according to the economic and social structure of each period (Büyüknalbant, 2009). These various economic activities have enabled women not only to be limited to domestic duties but also to actively take part in various fields or sectors such as agriculture, trade and service sectors.

The history of women's participation in the workforce has changed equally with social, financial and

cultural changes in the process from the past to the present, and industrial developments in periods such as the Industrial Revolution have caused women to take more active roles in economic life. As a result, this has led to significant changes in the roles of women in the business world.

When we look at the historical process, women's participation in production, that is, the process of contribution to the economy, dates back to the division of labor within primitive societies. It is seen that with the first primitive societies living in groups, cooperation between the sexes called 'primitive communism' emerged (Bebel, 1975:30). With the formation of primitive societies, women's participation in production became increasingly evident and during these periods, women undertook important roles, especially in tasks such as food collection, plant cultivation and seed storage. In other words, during this process, women were in an important position contributing to the nutrition of families and communities.

With the emergence of slave society, slave labor, which was employed for the benefit of others, emerged alongside free producers. Slaves had no rights over the surplus product they created. Changing production relations also affected social relations over time. Society was divided into classes for the first time: Masters who owned the means of production and slaves, slaves who were deprived of property and worked for their masters, and free members who owned the means of production and produced with their own labor (Çakır, 2011).

During this period, women were not limited to certain household chores as in the primitive social order. They were also obliged to serve their owners.

The feudal order was a system dominated by noble families, that is, nobles, and women's roles were generally determined to be limited to family and household chores. Marriage was generally a plan in the economic and social context, and women were generally subject to these plans determined by their families.

The industrial revolution is very important in women's participation in employment. Women first started using their own labor for others in return for a wage with the Industrial Revolution. With the Industrial Revolution, it became easier for women who had lower levels of education than men and had difficulty in participating in the workforce to participate in the workforce (Akıncı, 2018:4). With the Industrial Revolution, women for the first time left the role of unpaid family workers and started to work for someone else in return for economic income (Aytaç et al., 2002:19-20). For this reason, the Industrial Revolution is stated as the most important development in history as the beginning of today's paid women's labor (Karan, 2014:12).

In Turkey, women's participation in the workforce is a very important element in terms of the country's economic and social development. This issue is shaped under the influence of many factors at national

and international levels. Women's participation in the workforce is directly related to our country's economic growth, gender equality and sustainable development goals.

Unlike many developed countries, Turkey has not been able to solve the problem of women's employment for years. This situation prevents women from taking the position they should be in society, especially in working life. Turkey, which lags behind all EU and OECD countries in women's employment and labor force participation rates, has high rates of women's unemployment rates compared to many EU and OECD countries (Ayta and Şen, 2023). This situation causes Türkiye's problems in women's employment to cause a serious loss of competitiveness in national and non-national areas. The infrastructure of this competitiveness stems from the fact that women's participation in the workforce is related to goals such as countries' welfare levels, economic development and gender equality.

The female individual is important in every sense, socially, culturally and historically. Women assume roles in different areas of society and these roles change over time. Women's rights, equality and gender roles are among the important issues that attract the attention of societies. Women are often in a disadvantaged group, whether in their daily, private or business lives. One of the most important areas where women experience gender inequality is undoubtedly the labor market. In this area, where women and men are kept separate from each other due to their characteristics such as gender, power and status, there are many factors that affect women's participation in the labor force, and these factors vary from country to country, from society to society, from city to city.

There are many empirical studies examining the factors that affect women's participation in the labor force. Research indicates that the determining factors in women's participation in the labor force are education and the economic conditions of the family (Akgeyik, 2017:36).

Women's participation in the workforce has the potential to reduce gender inequality while encouraging economic growth. For this reason, examining women's employment by sector is of great importance in terms of understanding the role of women in different industries and focusing on inequalities in the business world. According to statistics, it is thought that regular working hours, trust in the state and gender-related inequalities in the private sector play a role in the fact that the public sector is the most preferred sector by women in Turkey. Although there is a qualified female segment in the public sector in our country, it is observed that the rate of women in high-level decision-making mechanisms is very low (Özkaya, 2001: 1).

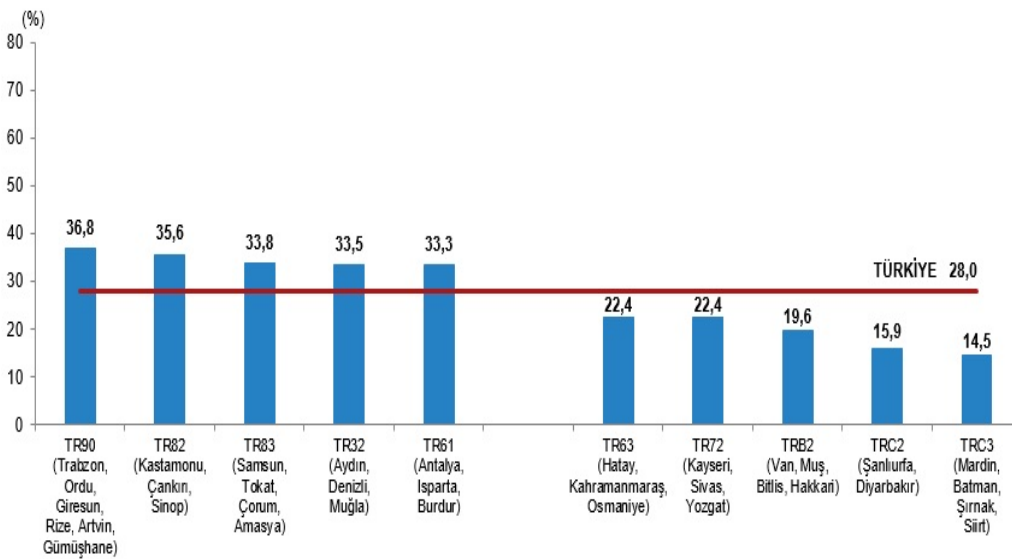
Education is a determining factor in women's participation in the workforce. In cities, women with high school and above education are generally more interested in the workforce. However, as the level of education decreases, women's desire to participate in the workforce decreases. Women generally tend to

participate in the workforce only in crisis situations or when men cannot participate in the workforce. (Günaydın, 2015:7). In addition, an increase in women's education levels not only increases career opportunities, but can also increase the competitiveness of the country's economy.

As a result, there is a clear parallel relationship between women's education levels and labor force participation rates. As women's education levels increase, the labor force participation rate increases, confirming the positive relationship between education and women's labor force participation rate; the composition of the workforce shifts towards more educated women with higher participation rates (Karabıyık, 2015)

According to marital status, women's participation in the workforce may be due to the fact that unmarried women are more free and effective in making individual decisions, while married women are working before marriage and have a higher level of education compared to unemployed married women. It can be argued that the low participation of women in the workforce whose spouses have died is due to the fact that they benefit from social security inherited from their deceased spouses (Karabıyık, 2015). Participation rates of married women in the workforce are particularly low compared to never married and divorced women. The reason for this situation is that women are given the responsibility of housework and care services along with marriage (Gençtürk, 2022).

Graph 1: Top and Bottom 5 Regions in Women's Employment in 2021, Based on 2nd Level Data of SIBBS



Source: TÜİK

According to TÜİK data, the 5 regions with the highest and lowest female labor force participation rates in our country are shown in the table. Thanks to this data, we can conclude that the highest rate among

these 5 regions is in the Black Sea Region. The main reasons for the high female labor force in the Black Sea Region are the economic structure of the region, the tradition of making a living through agriculture and animal husbandry, the continuation of rural life and cultural norms. These factors direct women in the region to participate in the labor force more intensively. Despite all the seasons in the region, women are intensively engaged in activities such as tea and hazelnut collection, grass cutting, and animal care in gardens, fields and vineyards, and they join the labor force during this process.

In this table, where we can see that women's employment is high in the Black Sea and Aegean regions, but women's employment is lower in the Mediterranean and Eastern regions compared to other regions, we can say that many factors such as economic structure, sectoral distribution and cultural dynamics are effective at the basis of regional differences. When we focus on the 5 regions with the lowest women's employment, we can observe that women's participation in the workforce remains in the background in cities in these regions such as Hatay, Kayseri, Van, Muş, Şanlıurfa and Mardin. The fact that the education level of women in the city is lower than that of men may suggest that this is related to the highest unemployment rates among women living in cities.

The factors affecting women's participation in the workforce in Türkiye are an important issue that reflects the complexity of our country's socioeconomic and cultural structure. Analyses on this issue emphasize the need to develop more effective policy measures to increase women's participation in economic life, ensure gender equality, and achieve economic development goals. Accordingly, it is very important to examine in depth the various factors affecting women's participation in the workforce. Among these factors, detailed consideration of factors such as education, family structure, labor market conditions, and cultural norms will help us better understand the situation of women in business life.

Among the economic reasons affecting women's participation in the labor market, there are many factors such as family economy, individual income needs and career goals. These reasons are the factors that enable women to enter the business world or advance in this field.

One of the most important factors among social factors is the level of education. The level of education of women is an important factor affecting their participation in the labor force. Access to educational opportunities allows women to develop their professional skills and participate more effectively in employment opportunities. Women's level of education directly affects their participation in the labor force.

Culture is an effective factor determining the role of women in business life, and in this respect, examining various cultural factors is of critical importance in understanding women's participation in the workforce. Among the cultural reasons, the meanings that societies give to gender roles are important. In

some cultures, factors such as traditional roles attributed to women and responsibilities within the home may limit women's participation in the workforce. At the same time, changing rules and social demands in some cultures may also allow women to expand their positions in business life.

Among the political and legal factors affecting women's participation in the labor market are many factors such as deficiencies in women's policies, inadequacy of legal regulations, deficiencies in preventing gender-based discrimination, wage inequality, uncertainty in flexible working conditions, low political participation, and insufficient awareness of gender equality.

In addition to all these, religion, traditions, the role assigned to women in the family, women's inadequate education level, income status, discriminatory practices experienced in workplaces (Tokol, 2011:245) are among the factors affecting women's participation in the workforce.

RESEARCH

Purpose of the Research: It is known that mostly men are included in the labor market in Turkey. In addition, it is a fairly clear issue that characteristics such as motherhood are seen as a great disadvantage for women. With the participation of women in the labor market, the mindset of the society has changed. The purpose of this research is to understand the situation of women who do not participate in the labor force in Türkiye and the reasons why these women do not actively participate in the labor force, to investigate and evaluate the importance of women's participation in the labor force, and to offer suggestions for the development of supportive policies.

Sample of the Research: The main universe of the research was conducted with a survey form with 80% female individuals born between 1964-2006 residing in Turkey. These individuals are included in the research as participants from different age groups, education levels, occupational groups and geographical regions. Individuals over the age of 18 and under the age of 60 were included in the sample.

Methodology and Method of the Research: This research is a comparative quantitative research based on age groups and gender, which will be applied to 222 people living in Türkiye with the help of a survey prepared to determine the attitudes of individuals in different regions and age groups in Türkiye towards women's participation in the workforce, and will determine their attitudes and thoughts towards participation in the workforce.

Research Findings and Analysis:

Table 1: Demographic Information

		Number	Percentage
GENDER	Women	171	77
	Men	51	23
AGE	18-24	67	30,2
	25-29	26	11,7
	30-35	44	19,8
	36-45	58	26,1
	45+	27	12,2
REGION OF RESIDENCE	Marmara Region	185	83,3
	İç Anadolu Region	23	10,4
	Karadeniz Region	11	5
	Ege Region	1	0,5
	Akdeniz Region	1	0,5
	Güneydoğu Anadolu Region	1	0,5
CIVIL STATUS	Married	128	57,7
	Single	94	42,3
HAVING CHILDREN	Yes	120	54,10
	No	102	45,9
EDUCATION LEVEL	Primary school	7	3,2
	Secondary school	14	6,3
	High school	78	35,1
	Associate degree	30	13,5
	Bachelor's degree	75	33,8
	Master's degree	16	7,2
	PhD	2	0,9

When the demographic characteristics of the participants in the study were examined, it was not possible to reach a similar number in terms of gender, and interviews were conducted with female individuals as

much as possible. The reason for this preference was to ask more women about themselves. A preference was made in this direction in order to make a comparison. It is noteworthy that the majority of these individuals are between the ages of 18-24 and 36-45. A balance is observed in both senses in terms of having children and marital status. When the level of education of the participants is examined, it is seen that the majority have high school and undergraduate education.

Participants emphasize that supportive policies need to be developed. Among these policies, measures such as increasing access to nursery and childcare services, encouraging flexible working models, and implementing policies that promote gender equality are prominent. These findings emphasize the importance of the perspectives of women and men in determining the reasons for not participating in the workforce and supportive policies, and how their ideas change according to the person's age group. It reveals that it is important to shape policies to be taken on gender equality and participation in the workforce by taking into account the views of different segments of society and encouraging women's participation. According to the survey results, the importance of the family factor in women's decisions not to participate in the workforce was determined in the research conducted, and it was concluded that it was important at 42.3% and very important at 47.3%. These results show that the family factor is of great importance among the factors affecting the participation of women in the workforce. Responsibilities within the family are seen as an important factor in shaping women's decisions to participate in the workforce. Therefore, many of the answers given emphasize the importance of policies and supportive measures that take family factors into account in order to increase women's participation in the workforce.

42 When asked what they see as the biggest differences between women who are in the workforce and women who are not, 49.5% of the respondents responded with economic independence and income. 23.4% said that women who are not working have difficulty in making decisions and having power, while 15.3% said that women who are not in the workforce have a lack of social development. One of the answers received was 'working women are more worn out'. These results increase awareness of the various factors that affect women's decisions to join or not join the workforce. Economic independence and income stand out as important factors in women's decisions to join the workforce. However, factors such as decision-making ability and power difficulties and lack of social development are also important factors affecting women's participation in the workforce. These results highlight the need to provide economic opportunities to increase women's participation in the workforce and to implement policies that support women's empowerment in social, economic and decision-making areas.

Table 2: Thoughts on Women Not Participating in the Labor Force

Question		Number	Percentage
What do you think are the main reasons why women do not participate in the workforce?	Family Responsibilities	132	59,5
	Gender-Based Discrimination	9	4,1
	Personal Preferences	41	18,5
	Continuity in Education	15	6,8
	Difficulty in Finding a Job	23	10,4
	I Don't Want My Spouse to Work	1	0,5
	All	1	0,5
How important do you think it is for women to be included in the workforce?	Very Important	139	28,4
	Important	63	62,6
	Neutral	20	9,1
How do you evaluate society's attitude towards women who do not participate in the workforce?	Positive	73	32,9
	Negative	149	67,1
What income status do you think women who are not in the workforce have?	Low Income Group	88	39,6
	Middle Income Group	105	47,3
	High Income Group	29	13,1

First of all, let's examine the views of female individuals between the ages of 18-24 and male participants in the same age group living in the Marmara Region, who are single and have no children, regarding the reasons for not participating in the workforce and supportive policies:

Although both groups share some similar ideas, differences are also observed. The majority of female individuals in this age group think that family responsibilities, difficulty in finding a job, gender-based discrimination in the workplace and personal preferences are effective in their decisions not to participate in the workforce. In addition, this group emphasizes the need to develop supportive policies for women

who do not participate in the workforce and the importance of policies that promote gender equality in particular..The findings suggest that women in this age group are mostly in the middle income group and that factors related to economic independence affect their decisions to participate in the workforce. On the other hand, male participants in the same age group also think that family responsibilities and gender-based discrimination in the workplace are the main reasons why women do not participate in the workforce. These participants, who emphasize that women's participation in the workforce is important, also argue that supportive policies should be developed for women who do not participate in the workforce. Among the policy suggestions of these participants, they argue that access to nursery and childcare services should be increased, education and professional development opportunities should be provided, and policies such as these that promote gender equality should be implemented.

When we compare the views of female and male participants aged 25-29 regarding the reasons for not participating in the workforce and supportive policies, similar trends and significant differences emerge.

Among the reasons for not participating in the workforce for both genders, family responsibilities (especially caring for children and elderly family members), difficulty in finding a job, personal preferences and gender-based discrimination in the workplace are observed to be quite important. However, while difficulty in finding a job is a slightly more prominent factor in the reasons for not participating in the workforce for female participants, this situation is evaluated as less important for male participants.

It is a source of pride for our country that participation in the workforce is generally considered very important for both genders. However, the attitude of society towards women who do not participate in the workforce is generally evaluated as negative for this age group. Female participants who think that this attitude is more negative think that society supports women's participation in the workforce less than male participants. When we look at the survey results, the obvious difference between these results that support and seriously value women's participation in the workforce and the female workforce is a bit confusing.

It can be observed that there is a general consensus that supportive policies should be developed for women who do not participate in the workforce, which we can think is due to the full formation of age and personality for both genders. In particular, this data includes the reason why it is the age period when a person starts his/her life by emphasizing the importance of increasing access to nursery and childcare services, providing education and professional development opportunities, and policies that promote gender equality. If we look at the similarities in thought between the male and female participants in the 30-35 age group, we can state these similarities as follows:

- Family responsibilities: According to both genders, family responsibilities are the most prominent

reason why women do not participate in the workforce. Family responsibilities, especially taking care of children and elderly family members, are among the factors that prevent participation in the workforce. In one of the face-to-face interviews I conducted with women in this age group, most of them stated that it is very difficult for them to change the decision they made in their 20s and that they cannot put their responsibilities on the back burner because they cannot go back to the life they lived at that age. When we look at the thoughts of the 18-24 age group and the thoughts of the 30-35 age group, we can find this theory to be true.

- **Personal preferences:** Both women and men say that personal preferences are effective in their decisions not to join the workforce. This includes factors such as career preferences and work-life balance. While some women say that they do not have financial difficulties and therefore do not feel the need to work, others say that their economic situation is low but they act with the thought that they cannot be tied to a job day and night.
- **Economic independence and income:** Both genders think that economic factors are effective in their decisions to join the workforce. Economic independence and income levels are seen as important factors affecting decisions to join the workforce. However, the following differences are also noticeable:
- **Difficulty finding a job:** While female respondents indicated difficulty finding a job as a significant reason for not participating in the workforce, male respondents did not mention this factor explicitly.
- **Gender-based discrimination in the workplace:** While female respondents indicated gender-based discrimination in the workplace as a reason for not participating in the workforce, male respondents did not draw attention to this issue. This shows that awareness of gender-based challenges women face in the workforce is prominent.

In terms of supportive policies, both genders have common concerns and suggestions:

Both women and men support increasing access to daycare and childcare services to reduce the childcare challenges faced by women who are not participating in the workforce. It also supports the provision of education and professional development opportunities, which are thought to enable those who want to join the workforce to develop their skills and increase their chances of finding a job. This age group believes that policies that promote gender equality can play a role in supporting participation in the workforce.

According to the findings on the opinions of married women and men between the ages of 36-45 regarding the status of women in the workforce, female participants generally state family responsibilities and personal preferences as reasons for not joining the workforce, while male participants emphasize personal preferences and family responsibilities. Both groups who think that women's participation in the

workforce is important state that society's attitudes towards women who do not participate in the workforce are neutral. While female participants generally think that they belong to low or middle income groups, male participants do not see any difference in this regard. In addition, it is emphasized that the family factor is important in women's decisions not to participate in the workforce. Here again, while we observe that factors such as child and elderly care are important, statements such as "my husband does not allow it" in this age group pose a major obstacle to women's freedom of thought.

Both groups, who think that supportive policies should be developed, recommend measures such as increasing access to crèches and childcare services. In conclusion, this analysis highlights the similar sentiments among married women and men in order to increase women's participation in the workforce and the importance of supportive policies. The implementation of these policies can contribute to gender equality and economic development by increasing women's participation in the workforce.

Finally, if we look at the findings of this research examined for the 45-60 age group; According to the findings of this survey applied to all married women and men living in the Marmara Region, the majority of both genders indicate personal preferences and family responsibilities as reasons for not participating in the workforce. For this age group, responsibilities regarding the care of children and elderly family members are a determining factor.

Both female and male participants think that women's participation in the workforce is important. However, they state that society's attitudes towards women who do not participate in the workforce are generally negative and this is especially true for women in low-income groups. In addition, both genders think that family factors are decisive in women's decisions not to participate in the workforce.

CONCLUSION

This study conducted on the status of women's participation in the workforce in Turkey and the obstacles they face has provided a broad perspective and has addressed the factors affecting women's participation in the workforce in detail. This study provides important clues for determining the policies and measures required to increase women's participation in the workforce.

In the world, women are generally the most affected by poverty. Despite contributing to every stage of production for centuries, women have not been able to receive a sufficient share of development opportunities and are also the most affected by poverty in the world (Kocacık and Gökkaya, 2005: 196). There are many reasons for this situation. The fact that women are not able to receive a sufficient share of development opportunities is an important problem in Turkey as well as in the world.

First of all, women's education levels in Turkey are generally lower than men's. Women with low

education levels are generally forced to work in low-skilled jobs and have limited contribution to the labor market. In addition, traditional gender roles and family responsibilities are among the factors that seriously hinder women's participation in the workforce. Turkey, a country where traditional values are prioritized and family solidarity is considered important, has been included in this framework, paving the way for policies that ignore women's equal citizenship rights and gender equality, and therefore for practices based on inequality. (Kuşoğlu, 2019).

Women are often busy with tasks that are overwhelming and involve responsibility, such as housework and childcare, and for this reason, it becomes difficult for them to work a full-time job. Sometimes, women who spend so much time on housework that they cannot even spare time for themselves cannot participate in the workforce due to this fatigue. In addition, problems such as gender discrimination and harassment in the workplace are also factors that negatively affect women's participation in the workforce and alienate women from business life.

However, in recent years, various policies and programs have been implemented in Turkey to increase women's participation in the workforce. These policies and programs are implemented by different public institutions, private sectors or institutions such as İşkur. For example, measures such as expanding childcare services and encouraging flexible working models support women's participation in the workforce. In addition, there are various support programs to encourage women's entrepreneurship. It is quite obvious that with the implementation of these policies that appeal to different occupations and age groups and the increase in the diversity of applications, women's participation in the workforce will increase more significantly compared to current rates.

However, regardless of the outcome, more efforts need to be made to increase women's participation in the workforce in our country. More effective policies and programs need to be implemented in areas such as increasing women's access to education, ensuring gender equality and combating gender discrimination in the workplace. In this way, women in Turkey can become more powerful economically and socially and a more equitable distribution of development can be achieved, which can play an important role in increasing women's participation in the workforce.

In the research, it was clearly observed that women are in a disadvantaged group, are relegated to the background in business life and do not receive fair treatment. With these findings, the need to understand and solve the obstacles to increasing women's participation in the workforce becomes even more important.

Considering the importance of women's participation in the workforce for Turkey's economic and social development, it is seen that the findings presented in this thesis serve as a guide for the business world

and society in general. Therefore, it has become necessary to take strategic steps to increase women's participation in the workforce and to ensure equality in the labor market.

When we look at the survey participants in the research; if we touch on a common point in every age group; this common point is that there is a consensus that women's participation in the workforce is important. However, it is seen that the attitude of the society towards women who do not participate in the workforce is generally negative and this attitude is especially more pronounced for women in the low-income group. People who exhibit this attitude tend to attribute the reason for women's low income level to their not being in the workforce and think that these individuals should work and their income levels will increase.

It is possible to see that women and men have different perspectives in determining the factors affecting the decisions of women who do not participate in the workforce and the supporting policies. In general, participants in all age groups think that women who do not participate in the workforce mostly do not participate in the workforce due to family responsibilities and personal preferences, but factors such as economic independence and income level are also important factors affecting the decisions to participate in the workforce.

As a result, in order to increase women's participation in the workforce, age and gender-specific factors should be taken into account. By taking steps such as developing supporting policies, ensuring economic independence and promoting gender equality, it will be possible to increase women's participation in the workforce and support social development. Therefore, in order to increase women's participation in the workforce, policy makers need to take into account the views of different segments of society and implement policies that encourage women's participation.

In this way, women will become more eager to join the workforce, and knowing that there are policies and trainings that support them in this regard will make them more confident individuals.

There are many answers to the question of what we can do to increase women's participation in the workforce. There are many alternative solutions to this problem. Let's summarize some of them as follows:

- Policies that will facilitate access to crèche and childcare services should be developed.
- Awareness-raising campaigns should be organized and training should be provided on gender equality. Internship and work experience programs should be organized with intersectoral cooperation to increase women's participation in the workforce.
- Free or low-cost vocational training courses should be organized to support women's vocational training and skill acquisition.
- Support programs and development projects should be implemented for women in

rural areas to increase women's participation in education and the workforce.

- Mentorship programs should be created for women's entrepreneurship and career.
- Government-supported entrepreneurship courses should be organized to encourage women's entrepreneurship and access to these courses should be facilitated.
- Awareness and incentive activities should be increased to develop women's entrepreneurship, and within this scope; promotion and information activities should be carried out to advertise women entrepreneurs, tell their success stories and present encouraging role models. (ÖZYILMAZ, 2016)
- Free training programs should be organized to ensure that women develop their technology and digital skills. In this way, they should not experience any difficulties at the time of starting a job.
- Leadership development programs should be created to support women in advancing to leadership roles in business life.
- Different incentives should be provided to encourage women to participate in the workforce.
- Policies that prioritize women entrepreneurs in public tenders should be implemented to increase women's participation in the workforce.
- Incentives should be provided to encourage the implementation of women-friendly policies in workplaces and monitoring mechanisms should be established to monitor these policies.

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TÜİK

**Crisis Management In Public Administration: A Comparison Of The August 17 and
February 6 Earthquakes**
Edanur KANBER⁵⁵

Abstract

Crisis management in public administration aims to effectively handle unexpected situations and ensure the continuity of public services. The concept is a strategic process that aims to ensure effective intervention against events that have occurred or may occur in a crisis and to minimize the effects that the crisis may create. In crisis management, situations such as natural disasters, economic crises, epidemics, terrorist acts and political instability necessitate effective crisis management in public administration. The aim of this study is to examine the crisis management practices of the public in Türkiye through the examples of August 17 and February 6 and to evaluate the strategies implemented in crisis situations. In this context, how the legal regulations that have been implemented in Türkiye's crisis management approach over time have affected crisis intervention mechanisms will be discussed. The study seeks answers to the following basic research questions: Why is crisis management important in public administration and what are its basic components? How have crisis management processes been shaped in Türkiye and how have they evolved over time? What structural-institutional improvements are necessary to increase Türkiye's crisis management capacity? The hypothesis to be tested within the scope of the study is that effective crisis management strategies increase the continuity of public services and the trust of the society.

As a result, crisis management is not limited to the measures taken only during the crisis, but is a process that requires long-term strategic planning. In the existing literature, crisis management is addressed at a theoretical level and with single events. This study, on the other hand, makes a holistic contribution to the literature by comparatively examining two major and different crisis examples. Expected results at the end of the study: The strengths and weaknesses of crisis management in Türkiye will be analyzed and suggestions will be presented to policy makers; In addition to pre-crisis planning and risk estimation processes, a proactive public administration model will be proposed in practice instead of reactive public administration, with emphasis on the moment of crisis.

Keywords: Crisis Management, Crisis, Public Administration

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INTRODUCTION

When addressed within the context of public administration, crisis management is a strategic process that ensures both public safety and the uninterrupted continuation of public services. The modern understanding of public administration not only involves the regulation of routine operations but also necessitates preparedness for extraordinary situations. Within this scope, crisis management consists of four fundamental stages: prevention, preparedness, response, and recovery (Genç, 2009).

Crisis management requires well-planned and coordinated intervention mechanisms to ensure that public services are not disrupted. Crises are typically sudden and large-scale events. Natural disasters such as fires, floods, and landslides create multi-actor crisis environments that place significant pressure on public administration. In countries like Türkiye, which are located on active fault lines, the risk of earthquakes creates a persistent context in which the crisis management capacity of public administration is continuously tested. The August 17, 1999 Marmara Earthquake and the February 6, 2023 earthquakes centered in Kahramanmaraş are significant case studies that can be comparatively analyzed within this framework. These two earthquakes seriously tested Türkiye's crisis management capacity in terms of both their magnitude and impact.

This study aims to examine the crisis management performance of public administration following these two major earthquakes. Within this scope, a multidimensional analysis has been conducted that covers the pre-crisis preparedness processes, the immediate response during the crisis, and the recovery phase afterwards. Furthermore, the legal regulations, institutional structures, and strategies implemented in the context of crisis management are also evaluated. The study focuses on the following questions: What are the fundamental components of crisis management? How have crisis management processes evolved over time in Türkiye? What structural and institutional improvements can enhance the crisis management capacity of public administration?

METHODOLOGY

This study was conducted using a qualitative research method. In addition to document analysis, content analysis was also employed as a research technique. Academic articles, public reports, and legal texts related to the subject were examined to establish a comparative framework. Throughout the research process, sources focusing on the transformation of crisis management in Türkiye were particularly utilized. The evaluations of scholars such as Genç (2009), Bilgiç (2017), Öztürk (2020), and Yılmaz & Demir (2019) served as the primary basis for the document review. These sources enabled a detailed

analysis of the institutional, legal, and administrative dimensions of Türkiye's crisis management system. The findings were interpreted within the framework of the cited literature. The earthquakes of August 17, 1999 and February 6, 2023 were selected as case studies. Through these two examples, a comparative analysis was conducted regarding the level of preparedness of public administration prior to the crises, its intervention capacity during the crises, and the recovery process that followed. In this context, the functioning of the public administration structure during periods of crisis, the institutional and administrative weaknesses that came to the fore, and the improvements made over time were examined in detail.

FINDINGS AND DISCUSSION

1. Pre-Crisis Preparedness Phase

Until 1999, crisis and disaster management in Türkiye was largely conducted through centralized administration. Disaster preparedness efforts were often limited to fragmented plans that remained mostly on paper, and there was a noticeable lack of horizontal coordination among public institutions (Herdem, 2011). The capacity of local governments in terms of pre-disaster risk reduction and preparedness was notably low. It is also evident that the central government was inadequately prepared for large-scale crises such as earthquakes.

With the establishment of the Disaster and Emergency Management Authority (AFAD) in 2009, an institutional transformation in crisis management in Türkiye became evident. Prior to the February 6, 2023 earthquakes, crisis plans were developed among AFAD, provincial governorships, municipalities, the Turkish Red Crescent, and non-governmental organizations. However, these plans were not effectively implemented in practice, and significant shortcomings in intervention were observed, particularly within the first 24 hours (Yıldız, 2017). This situation highlights the gap between planning on paper and the realities on the ground.

2. Intervention Phase

During the Marmara Earthquake, intervention efforts were significantly delayed, and civil defense mechanisms proved insufficient. The military played an active role in rescue operations; however, the lack of coordination led to an increase in the number of casualties and injuries (Soysal, 2015).

In contrast, the response to the 2023 earthquakes involved multiple actors; however, serious coordination issues were encountered under AFAD's leadership. The distribution of relief supplies, the deployment of search and rescue teams, and the collapse of communication infrastructure received substantial criticism

(Tunç, 2018). According to field data, some provinces could only be reached days after the event. This has led to a questioning of the real-time applicability of the theoretical crisis plans.

3. Post-Crisis Recovery Process

The recovery process following the 1999 earthquake was primarily carried out by the central government and the Housing Development Administration of Türkiye (TOKİ). However, for many years, the affected regions experienced significant deficiencies in housing, infrastructure, and social services. The lack of adequate communication with the public during this process undermined trust in government institutions (Yılmaz & Demir, 2019).

In the aftermath of the February 6 earthquake, housing projects were again initiated through TOKİ. However, the transparency of the process and the extent of citizen participation were subject to debate. The hygiene and living conditions in temporary shelters were also heavily criticized (Yüksel, 2016). From a social state perspective, public administration failed to adequately fulfill its responsibility to provide not only physical reconstruction but also psychosocial support.

4. Evolution of the Institutional and Legal Structure

The most significant development following the 1999 earthquake was the establishment of AFAD in 2009. This institutionalization aimed to render disaster management more centralized and systematic (Öztürk, 2020). However, in large-scale disasters such as the 2023 earthquake, the limitations of this structure's crisis response capacity became apparent. AFAD's provincial branches, its cooperation with local governments, and its human resource capacity were found to be inadequate (Karadağ, 2019). This indicates that institutional capacity is not solely dependent on legal frameworks but is also closely tied to the effectiveness of practical coordination.

CONCLUSION

The responses of public administration in Türkiye to crises have been shaped and restructured through the experience of large-scale disasters over time. The August 17, 1999 Marmara Earthquake and the February 6, 2023 Kahramanmaraş-centered earthquakes not only caused significant loss of life and property but also served as critical turning points that tested the structural, institutional, and administrative capacities of public administration.

The 1999 earthquake exposed the deficiencies in Türkiye's disaster management system and necessitated

institutional reforms to address these gaps. In this context, the establishment of the Disaster and Emergency Management Authority (AFAD) in 2009 aimed to create a centralized model of disaster management. However, the challenges faced in field implementation under this centralized model resurfaced during the 2023 earthquakes. Particularly, the lack of coordination in the first 48 hours, the inefficiencies in directing search and rescue teams, and the breakdown of the logistical chain once again revealed the weak links in crisis management. Analyzing both earthquakes shows that crisis management is not limited to responses during the crisis itself but includes equally important phases of pre-crisis preparedness and post-crisis recovery. While increased public awareness and new legal regulations following the 1999 disaster are positive developments, their practical applicability in the 2023 case calls for reassessment. The deficiencies observed in practice indicate that the current system remains fragile. In times of crisis, the principles of reliability, transparency, and accountability are indispensable for public administration. Public trust in the state is directly tied to administrative consistency during crises. Communication failures, insufficient public information, and reactive processes—particularly during the February 6 disaster—highlight the need for a more participatory and transparent governance model. Moreover, crises not only damage physical infrastructure but also the social fabric. Therefore, post-crisis efforts must go beyond constructing buildings and include strengthening social solidarity, expanding psychosocial support services, and ensuring active citizen involvement in the reconstruction process. The study's main hypothesis—that effective crisis management strategies increase the continuity of public services and public trust in the state—has been supported through both the theoretical framework and the two case analyses. However, achieving this effectiveness requires that crisis management strategies be pre-planned, institutionally structured, and practically applicable in the field. In conclusion, although Türkiye's approach to crisis management in public administration has shown institutional development in recent years, significant implementation challenges remain. Thus, there is a need to reevaluate the crisis management system; enhance cooperation between central and local governments; empower civil society; and increase participation in decision-making processes. This would enable the construction of a public administration model that is not only reactive but also proactive. Such an approach would lay the groundwork for a public administration capable of not only responding to crises but also anticipating and preventing them through preemptive strategies.

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**Artificial Intelligence Transformation In Public Administration: Opportunities, Risks
And Ethical Boundaries
Zinnet Duygu Sari⁵⁶**

Abstract

In recent years, the rapid advancement of digitalization and artificial intelligence (AI) technologies has led to significant transformations in public administration. Public institutions are actively implementing these technologies to enhance and personalize citizen satisfaction by utilizing the potential offered by AI. The swift development of digitalization and AI has reshaped the delivery of public services, making them more accessible, efficient, cost-effective, and faster, thus influencing overall administrative processes.

The integration of AI technologies into public administration also brings along various challenges that must be addressed from ethical, legal, and social perspectives. This integration presents both opportunities and risks in terms of efficiency and transparency. This study aims to examine the transformation brought about by artificial intelligence in public administration and to evaluate the opportunities and risks associated with this transformation.

The central hypothesis of this study is that the integration of AI into public administration, when supported by appropriate oversight mechanisms, can strengthen the principles of accountability, sustainability, and transparency. In addition to discussing the use of AI in terms of service personalization, operational efficiency, and transformation of administrative processes, this study also addresses the necessity of data security and ethical oversight mechanisms. Based on the research conducted, AI is observed to contribute significantly to the development of a sustainable and high-quality understanding of governance in public services. However, this process must be supported by ethical oversight frameworks, transformation in human resources, and the enhancement of data infrastructure. In this context, the effective and ethical use of AI in public administration is considered achievable through the strengthening of regulatory mechanisms, improvement of data infrastructure, and transformation of human capital.

Keywords: Artificial intelligence, public administration, opportunities and risks.

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INTRODUCTION

The global digital transformation has initiated an irreversible shift in the field of public administration. In particular, the rapid advancement of artificial intelligence (AI) technologies has reshaped how public institutions deliver services, make decisions, and interact with citizens (Tanrıverdi, 2021). This transformation is not only technological but also has significant managerial, ethical, and societal implications. Today, many public institutions actively utilize AI technologies to improve service quality, optimize resource use, and personalize citizen satisfaction (Aydın, 2024).

The integration of AI into public administration represents not just a digital tool but a broader transformation process that compels the redefinition of administrative paradigms (Gezici, 2023). The data-driven nature of decision-making processes, the automation of administrative procedures, and the algorithmic mediation of citizen interaction challenge the traditional understanding of public administration and necessitate new forms of governance (Karataş, 2025). However, this transformation brings not only opportunities but also complex, multi-dimensional risks. Issues such as algorithmic bias in decision-making, data security breaches, and challenges to transparency and accountability complicate the integration of AI into public governance (Yolcu & Ozan, 2024). For instance, Tanrıverdi (2021) notes that while AI-based applications used in Türkiye's e-government systems enable fast service delivery, they also blur the lines of administrative responsibility. In this context, the question of "Who is responsible?" remains unresolved, particularly in systems where AI makes autonomous decisions.

The transformation brought about by AI in public administration should be reassessed especially in terms of administrative capacity, data governance, ethical frameworks, and the citizen-state relationship. Traditionally, administrative capacity has been associated with hierarchical structures, control mechanisms, and human resource management. However, the capabilities offered by AI—such as data analytics, machine learning, and automation—fundamentally alter this understanding (Karataş, 2025). In this regard, AI is not merely a tool for accelerating workflows; it also redefines the roles, competencies, and professional identity of public employees (Güven, 2024).

The European Union provides an illustrative example of how this transformation must be grounded not only in technical solutions but also in normative and ethical frameworks. According to Gezici (2023), the EU's ethical guidelines for AI emphasize principles such as respect for human dignity, fairness, and

algorithmic transparency. Similarly, Türkiye's 2021 National Artificial Intelligence Strategy highlights the necessity of ethical oversight mechanisms and data security in the process of transforming public services through AI.

AI technologies are not only being used to improve efficiency in service design but are also increasingly employed to influence citizen behavior (Erol, 2024). The AI-supported “nudge” approach has been adopted as a new governance tool in public policy, whereby digital government systems guide citizens toward specific patterns of choice (Kuşseven, 2022). This development necessitates a re-examination of the balance between individual freedom of choice and the public interest.

In this context, the main aim of this paper is to examine the transformation triggered by AI technologies in public administration from a multidimensional perspective and to analyze the opportunities, risks, and ethical limitations that emerge within both empirical and theoretical frameworks. The central hypothesis of the paper is that the integration of AI into public administration when supported by robust oversight mechanisms, enhanced data infrastructure, and restructured human capital can strengthen the principles of accountability, transparency, and sustainability. Accordingly, it is argued that public administration must not only adapt to new technologies but also adopt a directive and supervisory role in their governance.

METHODOLOGY

This paper was prepared using a qualitative research method to conceptually and thematically analyze the impact of artificial intelligence (AI) technologies on public administration. The study is based on literature review and document analysis techniques. A total of 11 academic sources published between 2020 and 2025, focusing on Türkiye and Europe, were examined. Priority was given to works by Tanrıverdi (2021), Karataş (2025), Gezici (2023), Kuşseven (2022), and Aydın (2024). In addition, policy documents such as OECD reports, the European Union's ethical frameworks, and Türkiye's National Artificial Intelligence Strategy were included in the analysis.

The analytical approach adopted in this study is thematic content analysis. The sources were classified under major themes such as “opportunities,” “risks,” “ethical boundaries,” “administrative capacity,” “algorithmic bias,” and “nudging approaches.” This thematic classification ensured conceptual coherence and enabled a structured analysis of the subject matter.

Document analysis served as the primary data collection tool for the study. The effects of AI on decision-making, service delivery, and governance processes were evaluated with consideration given to ethical and social dimensions.

FINDINGS AND DISCUSSION

The use of artificial intelligence (AI) technologies in public administration should be considered a sign of a period in which the understanding of governance is being fundamentally reshaped. In this paper, the findings obtained through a literature review have been thematically classified under categories such as the opportunities, risks, ethical boundaries, and administrative impacts of AI integration into public governance.

The Impact of AI on Efficiency and Service Delivery

AI has been shown to offer significant benefits in public service processes, such as accelerating operations, reducing transaction costs, and increasing citizen satisfaction (Tanrıverdi, 2021; Aydın, 2024). AI-powered automation systems help reduce the routine workload of public employees and enable the reallocation of resources toward more strategic areas. For instance, in Estonia, tax procedures and social security services are completed within minutes using AI-based systems (Gezici, 2023). In Türkiye, many public services have been digitized through e-government applications, especially accelerating during the post-pandemic period. However, this transformation is not limited to technological efficiency alone. Despite improved productivity, the limited digital capacity and infrastructure weaknesses of public institutions restrict the widespread use of AI (Karataş, 2025). Therefore, efficiency gains are directly related to technical capacity and are not equally observable across all institutions.

Administrative Capacity and Structural Reorganization

The influence of AI on administrative processes is observed not only in service delivery but also in decision-making mechanisms. AI enhances decision quality through data analytics and algorithmic recommendation systems; however, it also raises complex questions about who makes the decisions, how they are made, and on what basis (Karataş, 2025). In this context, principles such as administrative transparency and accountability are being re-evaluated under the influence of AI applications.

Furthermore, AI systems are transforming the roles of public employees. Human intervention is becoming less necessary in data processing and analysis tasks, prompting the need for a bureaucratic restructuring.

This process is defined as “public administration based on human-machine collaboration” (Gezici, 2023), where public personnel evolve into roles focused on interpreting and directing AI-generated data.

Ethical Boundaries, Algorithmic Bias, and the Challenge of Transparency

The integration of AI into public governance brings significant ethical and legal concerns. One of the most common issues is algorithmic bias. Algorithms used in decisions such as resource distribution and the allocation of social aid can reproduce socioeconomic disparities and systematically disadvantage certain groups (Karataş, 2025; Gezici, 2023). Thus, ethical algorithm design becomes critically important.

According to the European Union’s 2021 Guidelines on Trustworthy AI, algorithms employed in public systems must align with principles of human rights, transparency, and auditability (Karataş, 2025). In Türkiye, however, progress in this regard remains limited, and algorithmic oversight still faces legal gaps (Efe, 2022).

Transparency is particularly challenging due to the “black box” nature of AI systems (Karataş, 2025). The internal logic and data inputs of algorithmic decisions are often unclear, undermining the accountability of public authority (Kocaman, 2024). Supporting AI-based decision systems with open data policies is seen as a critical step toward overcoming this problem.

The “Nudge” Approach in Public Policy and AI

AI’s incorporation into public policy through the “nudge” approach is creating a new paradigm in governance (Kuşseven, 2022). Data-driven policies are increasingly capable of directly influencing individual behavior. For example, in the United Kingdom, the design of websites for organ donation campaigns is optimized through AI to guide citizens toward specific choices. The core issue of this approach lies in its ethical legitimacy—particularly when guidance occurs without the citizen’s consent or awareness. While such systems may seem beneficial from a policy-maker’s perspective, they can infringe upon the individual's right to make free and informed decisions. Hence, data-driven behavioral influence systems, known as “hyper-nudging,” are prompting renewed debate over the boundaries of public law.

Türkiye’s Position and Strategic Directions

In 2021, Türkiye officially defined AI as a strategic component of public administration through its National Artificial Intelligence Strategy (Kaya, 2024). The strategy identified key implementation areas such as health, education, security, and disaster management, while also emphasizing data security,

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ethical oversight, and human capital transformation as its main pillars (Efe, 2022). However, the extent to which this strategy has been effectively implemented at the institutional level remains a topic of discussion.

Karataş (2025) and Tanrıverdi (2021) point out that many public institutions in Türkiye lack the necessary data infrastructure and technical capacity for successful AI integration. Moreover, there is still no clear and comprehensive legal-ethical framework regulating AI use at the legislative level. This absence hampers the safe and sustainable integration of AI into public governance systems.

CONCLUSION

The increasing use of artificial intelligence (AI) technologies in public administration is reshaping governance processes at both technical and normative levels. The findings of this study demonstrate that AI enhances efficiency and speed in public service delivery while offering data-driven solutions in decision-making processes. However, it also brings with it several risks, such as algorithmic bias, lack of transparency, issues of accountability, and ethical uncertainties.

The integration of AI into public institutions should not be seen merely as a technological update, but rather as a process of managerial, institutional, and societal restructuring. With the digitalization of service delivery, a new model of interaction between citizens and the public sector is emerging. Although this model promises data-driven, fast, and personalized services, it also creates new problem areas in terms of individual privacy, manipulation of preferences, and democratic oversight mechanisms.

The findings of the study suggest that while Türkiye has demonstrated a strategic will regarding AI-based public administration, this will has not yet been fully internalized at the institutional level. The National Artificial Intelligence Strategy offers a significant framework; however, progress is still needed in areas such as data infrastructure, technical capacity, and institutional coordination. In this context, the following recommendations are proposed:

- A comprehensive AI ethics code should be developed to ensure that algorithmic decision-making systems are designed to be transparent, auditable, and respectful of human rights.

- The effective operation of AI systems in public institutions requires open, secure, and reliable data infrastructures.
- Public personnel capable of working with AI systems must be trained, with emphasis not only on technical skills but also on ethical awareness. AI practices should be implemented not only in selected institutions but within the scope of a broader public policy perspective supported by centralized coordination.
- Despite technological progress, the primary goal of public administration must remain the well-being of citizens. AI should not replace human judgment but serve as a supportive tool designed to benefit people.

In conclusion, the effective and sustainable use of AI in public administration cannot be achieved through technical solutions alone. It must be accompanied by ethical and administrative responsibilities. Therefore, in today's public administration, managing technology correctly is just as crucial as adapting to it.

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Globalization And The Transformation Of The Nation State: A Public Administration Perspective

Yağmur ALP⁵⁷

Abstract

Globalization has radically changed the structure, functioning, economic borders and public administration models of the nation state. The aim of the study is to analyze the transformations in public administration caused by globalization in nation states through the concepts of governance and market-oriented reform arrangements and to analyze the changes that have occurred in the structure of public administration. Although Türkiye is an example of a nation state, it investigates how nation states transform their sovereignty structure and functioning and their impact on public administration, how the centralized structure of the nation state takes shape within the new world order, and the effects of the emerging governance approach on the nation state through Turkey. In this context, the basic hypotheses of the research are as follows:

Globalization:

- It has weakened the centralized structure of nation states in the field of public administration.
- It has led to a transformation that encourages localization and governance.
- The pressure and control of nation states on public administration has decreased.
- International organizations and multinational corporations have become more effective in public administration processes.

The global world is changing rapidly and in terms of the subject we are dealing with depending on this change, understanding the effects of globalization on public administration and examining the transformation of nation states reveal the importance of the study. It also aims to contribute to understanding how Turkey's public administration reforms overlap with global mechanisms or in which ways they differ.

In the rapidly changing global world due to technology, this process, as a dynamic shaping nation states, is changing the functions of public administration and has been seen to highlight a new understanding of governance. In this context, concepts such as downsizing the state, public-private sector collaborations, governance and localization play a decisive role in this process. It has been found that public administration reforms carried out in Türkiye should be evaluated together with the transformation brought by globalization, and that there is a need to develop effective and efficient policies.

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Keywords: Globalization, nation state, public administration, governance

INTRODUCTION

Globalization has emerged as a multi-layered and multidimensional phenomenon that has significantly influenced the functions of the state, modes of governance, and public policies, especially since the last quarter of the 20th century. This process has been decisive not only in economic terms but also in political, social, and cultural dimensions, leading to a substantial questioning of the traditional notions of sovereignty within nation-state structures. Accelerating in the post-Cold War era, globalization has contributed to the reshaping of the classical centralized understanding of public administration. The erosion of the nation-state's monopoly in the provision of public services has enhanced the role of multi-actor governance models, as well as the influence of transnational governance organizations. Over time, some of the stable and administrative rules established by these organizations have acquired binding characteristics over nation-states (Farazmand, 1999: 258). This transformation has manifested itself not only in the political and administrative spheres but also at the economic level. The growing influence of multinational corporations, along with the policies of international organizations such as the IMF and the World Bank, has made non-state actors more decisive in decision-making processes and has reinforced multi-actor structures in public administration (Altıntaş & Pektaş, 2020: 119–120).

The effects of globalization on public administration are not limited to structural transformation; they have also led to changes in the values and principles governing administrative operations. Concepts such as transparency, accountability, participation, and performance have challenged traditional bureaucratic structures in the field of public administration and paved the way for the adoption of new administrative models (Gökçe & Turan, 2008: 176–177; Elma, 2010: 34). Within this framework, concepts such as “New Public Management” and “governance” advocate for replacing centralized and hierarchical structures with flexible, horizontal, and decentralized forms of public organization. This understanding emphasizes governance-based, participatory, and flexible structures in public administration (Ökmen, Baştan & Yılmaz, 2004: 37).

In the context of Türkiye, globalization has led to significant reform processes in the field of public administration. Particularly since the post-1980 period, the implementation of neoliberal policies and the structural adjustments introduced during the European Union (EU) harmonization process in the 2000s have had a considerable impact on Turkey's approach to public administration. Practices such as downsizing the state, public-private partnerships, strategic planning, and performance-based budgeting

have played a decisive role in Turkey's public administration reform process (Çevikbaş, 2012: 46; Sezik & Ağır, 2016: 236).

This study examines the effects of globalization on the public administration of nation-states within a conceptual and theoretical framework. Focusing particularly on the case of Türkiye, it explores how the centralized structure of the nation-state has transformed in the face of global governance rules and principles. In this context, the study centers on the following hypotheses:

1. Globalization has weakened the centralized structure of public administration in nation-states.
2. It has fostered a transformation that promotes localization and governance.
3. The state's pressure and control capacity over public administration have diminished.
4. International organizations and multinational corporations have become more influential in public administration processes.

The aim of this study is to analyze the transformations brought about by globalization in the public administration domain of the nation-state at both conceptual and theoretical levels, and to reveal how these changes are reflected in the Turkish context through governance and neoliberal reforms. The study seeks to understand the institutional changes in public administration in the era of globalization and to uncover the relationship of new administrative paradigms such as governance with issues of sovereignty, centralization, and localization. The main research questions of this study are as follows:

- How has the process of globalization transformed the public administration of the nation-state?
- What role have governance and market-oriented reforms played in this transformation?
- How has this transformation been reflected in Turkey's public administration system?

METHOD

This study is structured based on a qualitative research method. Using conceptual analysis and document review techniques, the effects of globalization on public administration are examined on a theoretical basis. Within the scope of the study, sources published mainly after the year 2000 were reviewed; theoretical approaches developed around the themes of globalization, governance, new public management, and neoliberal reforms were analyzed.

It has been identified that globalization has transformed public administration at both functional and institutional levels, bringing principles such as transparency, accountability, and performance to the forefront (Zeren, Tekin & Özdek, 2020: 43). The classical Weberian model in public administration has been criticized, and a market-based governance approach has been adopted (Gökçe & Turan, 2008: 180).

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It has been stated that sovereignty has weakened in the face of global actors and that public services are now carried out by multi-actor structures alongside national governments. With the globalization process, the economic and political sovereignty of the nation-state has significantly diminished; global actors such as multinational corporations, international organizations, and regional structures have become influential in policy-making processes. This situation has transformed the traditional functions and boundaries of the nation-state, paving the way for a multi-actor governance structure (Cebeci, 2008: 27–28). With the New Public Management approach, it is emphasized that the transformation in public administration is grounded not only in technical factors but also in ideological foundations. The localization process has been driven by ideological and political dynamics, gaining legitimacy particularly through factors such as democratization, representation, and distrust of central authority (Elma, 2010: 51–71). In the case of Türkiye, it has been evaluated that local governments have transformed within the framework of governance principles, and that the European Union accession process has played a significant role in this transformation (Ökmen, Baştan & Yılmaz, 2004: 53–71). It is understood that a new governance approach has been adopted in public administration through reforms based on values such as effectiveness, efficiency, participation, and transparency, and that this transformation has redefined the national and global functions of the state (Altıntaş & Pektaş, 2020: 975–976).

Within the scope of the research, this literature was examined using the content analysis method and analyzed in the context of relationships between concepts. No quantitative data analysis was included; the theoretical framework was established solely through qualitative analysis.

FINDINGS AND DISCUSSION

The Impact of Globalization on Public Administration

The process of globalization signifies not only a structural transformation within the discipline of public administration but also a shift in administrative norms and values. While the traditional bureaucratic state model was characterized by hierarchical and centralized public administration, globalization has introduced a more flexible, horizontal, and multi-actor governance structure (Farazmand, 1999; Gökçe & Turan, 2008). In this context, public administration has evolved into an interactive sphere that includes not only the state but also the private sector, civil society organizations, and international actors.

According to Alici (2010), although globalization weakens the regulatory power of nation-states, they remain significant actors. This transformation process involves the influence of sub-national and

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supranational dynamics that extend beyond national borders in shaping public policy (Alici, 2010: 323). International organizations such as the International Monetary Fund (IMF), the World Bank, and the European Union play guiding and coercive roles in steering public administration reforms during the globalization process. While this leads to a contraction in the sovereign domain of nation-states, it also necessitates a reconfiguration of their positions as both actors and regulators within the global economy (Alici, 2010: 323). The normative principles promoted by these organizations—such as good governance, transparency, and accountability—have become critical in the restructuring of public administration (Demirel, 2006: 116–117; Özer & Yıldırım, 2023: 974–976).

Moreover, the dominance of market logic in the provision of public services has brought the concept of "New Public Management" (NPM) to the forefront. This approach represents a shift in public administration toward private sector management principles, performance-oriented governance, and the perception of citizens as customers (Önen & Kurnaz, 2017: 54). As a result, the organizational structures of public institutions have been reorganized, with principles such as efficiency, effectiveness, and competitiveness becoming central in service delivery processes.

Cebeci (2008) argues that globalization affects not only economic but also administrative sovereignty. This impact becomes more visible through the increasing influence of external actors—such as multinational corporations and international organizations—in public decision-making processes. Consequently, modern public administration is no longer a closed system defined solely by national actors; rather, it is shaped by global norms and mechanisms.

In conclusion, globalization has not only transformed public administration systems but also limited the effectiveness of nation-states in the public domain, bringing governance, multi-level administrative structures, and localization to the forefront.

The Transformation of the Nation-State: The Case of Turkey

The transformation of public administration in Türkiye has evolved in a multilayered manner under the influence of both globalization and the European Union harmonization process. Particularly in the post-1980 period, the adoption of neoliberal policies and the acceleration of public reforms in the 2000s have led to a re-evaluation of Turkey's classical centralized public administration model (Zeren, Tekin & Özdek, 2020).

Çevikbaş (2012) states that Turkey's public administration reforms have been shaped in line with the EU *acquis*, during which the principles of "good governance" have begun to institutionalize. In this

context, principles such as transparency, accountability, citizen participation, and public-private partnerships have become key guiding elements of public administration reforms in Türkiye.

The Public Financial Management and Control Law No. 5018, enacted in the 2000s, restructured public financial management through instruments such as strategic planning, performance-based budgeting, and internal control mechanisms. Similarly, the Municipality Law No. 5393 and the Metropolitan Municipality Law No. 5216 expanded the authorities and responsibilities of local governments. These legislative changes indicate that the principles of governance and localization have found institutional footing (Önen & Kurnaz, 2017: 62–63; Özer & Yıldırım, 2023: 979–980). However, it has been observed that this transformation has remained largely limited to legal regulations and has encountered various structural and cultural barriers in practice. In particular, criticisms persist that the personnel regime in the public sector has not yet fully embraced a participatory and transparent structure, and that the principle of merit is occasionally overlooked in the appointment of senior executives. This situation limits the impact of reforms and hinders efforts to enhance the effectiveness of public administration (Çevikbaş, 2012: 50–51).

Özer and Yıldırım (2023) argue that while Türkiye has demonstrated a reformist will in adapting to global public administration norms in certain areas, it has not achieved sufficient continuity and effectiveness in implementation. Therefore, the transformation of public administration in the Turkish case is characterized as a dual process shaped by both the adaptation to global norms and the political-institutional limitations within the national context.

CONCLUSION

This study aimed to analyze the multidimensional effects of globalization on the public administration structure of the nation-state within a conceptual and theoretical framework. Based on qualitative analyses, it was concluded that globalization has significantly transformed the centralized understanding of public administration traditionally associated with the nation-state. Localization, governance, and market-oriented reforms have played a decisive role in this transformation. It has been observed that hierarchical and single-actor administrative structures in the field of public administration have been replaced by multi-actor, horizontal, and participatory governance models.

The findings of the study reveal that international organizations—such as the IMF, World Bank, and the European Union—have emerged as guiding and norm-setting actors in public administration reforms, compelling nation-states to redefine their sovereign capacities. Values such as transparency, accountability, efficiency, and citizen participation have come to the fore in public administration and

have begun to institutionalize in line with the principles of New Public Management (NPM).

When evaluated in the context of Türkiye, it is concluded that the neoliberal policies adopted particularly after the 1980s, along with reform initiatives that gained momentum through the European Union accession process in the 2000s, have triggered the transformation of public administration. Reforms in areas such as public financial management, local governments, and strategic planning have aligned with governance principles; however, structural and cultural limitations encountered during implementation have constrained the effectiveness of these reforms.

In conclusion, globalization emerges not merely as a technical transformation process in public administration, but as a force that reshapes it with normative, structural, and ideological dimensions. In this context, the traditional authority of the nation-state over public administration has weakened, and the transition toward multi-level and multi-actor governance structures has accelerated. Turkey's response to this transformation exhibits a dual character shaped by the tension between adapting to global norms and maintaining national political and administrative dynamics. This situation highlights the need for more comprehensive, inclusive, and merit-based strategies to ensure the sustainability and effectiveness of public administration reforms.

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Occupational Health And Safety In The Context Of Unions Affiliated With Disk

Bariş AYDOĞDU, Mehtap DEMİR⁵⁸

Abstract

The historical evolution of industrialization has led to significant transformations in production processes. As this progression moved from manual labor to automation and eventually to digitalization, the understanding of occupational health and safety (OHS) also underwent major changes. Integrating digital technologies, artificial intelligence, and smart systems into production has accelerated workflows but introduced new risk areas within the working environment. Historically, trade unions have played a critical role in preventing occupational accidents and diseases and remain fundamental actors in protecting workers' rights and promoting safety measures.

The unionization process in Türkiye began in the late Ottoman period and was shaped by various legal regulations during the Republican era. During this period, the labor movement had a direct impact on OHS developments. Notably, DISK (Confederation of Progressive Trade Unions of Türkiye) and its affiliated unions have garnered attention through their OHS-related initiatives, the inclusion of specific provisions in collective labor agreements, and institutional arrangements at workplaces.

This study explores the approaches of DISK-affiliated unions to occupational health and safety, their operational practices, and their historical contributions. It aims to highlight the determining influence of unionization in the development of OHS standards.

Keywords: OHS, Unions, DISK, Legislation.

JEL Code: JEL28, JEL51, JEL80.

1. Introduction

Following the Industrial Revolution, the increasing demand for labor led to a deterioration in working conditions that endangered workers' health and safety. In the 18th and 19th centuries, harsh working conditions, long hours, child labor, and inadequate safety measures were prevalent. Over time, growing discontent prompted the working class to organize and struggle for their rights through trade unions.

In Türkiye, OHS remained neglected for many years, but legal reforms were eventually enacted as a result of labor organization and international pressure. One of the most significant milestones was the Occupational Health and Safety Law No. 6331, which came into force in 2012. However, the existence of

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a legal framework does not necessarily guarantee effective implementation. Therefore, the supervisory and guiding role of unions is crucial.

OHS refers to the protection of workers against health and safety hazards arising from their work environment. This discipline includes identifying, eliminating, or minimizing workplace risks, and informing and training employees. Systematic regulations on OHS first emerged in 19th-century England and subsequently spread to countries such as Germany and France. In Türkiye, the initial legal arrangements date back to the Ottoman Empire and evolved during the Republic through legislations like the 1926 Code of Obligations, the 1930 Public Health Law, and the 1946 Workers' Insurance Law.

The most comprehensive regulation, however, came with the enactment of Law No. 6331 in 2012. This law mandates employers to conduct risk analyses, inform workers, and take necessary precautions. Nevertheless, due to deficiencies in enforcement and supervision, unions have gained increased importance in this area.

Trade unions are organizations that represent workers collectively and protect their rights. In the context of OHS, unions not only act as advocates but also undertake roles in education, supervision, awareness-raising, and policy development. Through union efforts, workers become more aware of potential risks, and employers are pressured to implement preventative measures.

Unions contribute to OHS in the following ways:

- Including specific OHS provisions in collective agreements,
- Ensuring worker representation on OHS boards,
- Involving workers in risk assessments,
- Raising awareness through seminars and educational activities,
- Organizing public awareness campaigns on OHS.

While major confederations in Türkiye, such as TÜRK-İŞ, HAK-İŞ, and DISK, all engage in OHS activities, DISK's approach is notably more holistic and political. Consequently, DISK-affiliated unions focus not only on legal compliance but also question the structural problems of the system.

2. DISK's OHS Policy and Institutional Approach

DISK conceptualizes occupational health and safety as a class issue. It argues that workplace accidents and occupational diseases are not random but are the outcomes of profit-maximizing strategies that disregard workers' health. Accordingly, DISK prefers the term "worker health" over "occupational

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health," emphasizing that OHS is not merely a technical matter but also a social and political one.

DISK's OHS activities include:

- Publications and Reports: Since the 1970s, DISK has extensively addressed OHS in its journals and bulletins.
- Congresses and Symposia: National and international OHS conferences were held in 2011, 2016, and 2018.
- Educational Programs: As of 2023, in-person and online training sessions were conducted under themes such as "Gender and OHS" and "Precarious Employment and OHS."
- Policy Advocacy: DISK submits opinions to institutions such as the ILO, the Council of Europe, and the Turkish Grand National Assembly and engages actively in legal reform processes.

This research examines the OHS practices of three major DISK-affiliated unions: Genel-İş, Birleşik Metal-İş, and Tekstil İşçileri Sendikası. Given their operation in different sectors, each union demonstrates unique approaches aligned with sector-specific risk profiles.

Genel-İş Union

Representing municipal and public service workers, Genel-İş members often operate in high-risk units such as sanitation, public works, parks, and cemeteries. The union prioritizes effective worker representation on OHS boards and incorporates provisions in collective agreements addressing:

- Provision of protective clothing and equipment,
- Regular OHS training,
- Protection of pregnant workers,
- Mitigation of psychosocial risks (e.g., mobbing, stress).

Additionally, the union addresses OHS within the broader context of urban rights and public service safety, integrating worker and urban health perspectives.

Birleşik Metal-İş Union

Active in the heavy industry sector, this union represents workers exposed to significant risks such as physical injury, chemical exposure, and noise pollution. The union emphasizes technical inspections and field monitoring, and in cases where employers fail to conduct risk analyses, it provides support from independent experts. It also:

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- Recommends guidelines for ensuring the impartiality of OHS experts,
- Includes detailed reporting and investigation procedures for workplace accidents in collective agreements.
- Monitors workplace practices such as surveillance and noise measurement.

Birleşik Metal-İş does not limit OHS to preventative measures but also advocates for workers' rights following incidents.

Tekstil İşçileri Sendikası (Textile Workers' Union)

In the textile sector, where women and young workers are predominant, OHS risks are primarily ergonomic, psychosocial, and chemical. Common hazards include prolonged standing in confined spaces, poor ventilation, excessive noise, dust, and inadequate lighting. The union produces tailored brochures, guides, and handbooks and promotes:

- Flexible working arrangements for menstruating or pregnant workers,
- Mandatory masks and ventilation systems to prevent respiratory diseases,
- Ergonomic workstations,
- Prohibition of night shifts for young workers.

Collective agreements often exceed legal requirements, providing detailed OHS provisions that enhance worker protection.

Despite DISK and its unions' serious commitment to OHS, several barriers hinder effective implementation in the field. To summarize briefly:

- Weak unionization results in collective agreements covering only a small number of workplaces,
- Insufficient workplace inspections allow employers to evade responsibilities,
- Low worker awareness diminishes the effectiveness of OHS precautions,
- Small and medium enterprises (SMEs) often lack resources for OHS investment,
- The low enforceability of legal regulations reduces the deterrent effect of sanctions.

DISK proposes both practical and political solutions to these problems:

- Establishing independent OHS committees free from employer pressure,
- Mandating OHS education and empowering worker representatives,

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- Standardizing OHS clauses in collective agreements,
- Fully incorporating ILO conventions into national legislation,
- Recognizing workplace accidents as preventable crimes and ensuring transparent judicial processes.

Moreover, DISK emphasizes that workplace accidents are not merely statistical occurrences but political issues requiring media, academic, and civil society engagement.

8. Conclusion and Evaluation

Occupational health and safety (OHS) is a fundamental rights domain that affects not only workplace conditions but also the overall quality of workers' lives. In this context, unions play a pivotal role, not only by overseeing employer obligations but also by assuming broader social responsibilities.

DISK, as Türkiye's third-largest labor confederation, has historically embraced this responsibility. Since the 1970s, it has raised awareness through publications, highlighted legislative shortcomings in its congresses, and established institutional OHS units to coordinate efforts with its affiliates. DISK defines OHS as a holistic struggle encompassing workers' well-being, mental health, and socio-economic conditions.

Viewing OHS through the lens of class struggle, DISK rejects narrow technical approaches. It maintains that safeguarding workers' rights in all dimensions is integral to securing healthy workplaces. Nonetheless, weak unionization, regulatory constraints, and enforcement gaps continue to limit DISK's practical influence. While incorporating OHS provisions into collective agreements is promising, implementation challenges persist.

DISK's conceptual framing, field practices, and training programs aim to reframe OHS as a structural and class-based issue. However, the prevailing labor regime in Türkiye hinders the full realization of this vision. For meaningful progress, union strength must be enhanced, state oversight improved, and employer accountability reinforced. DISK's proactive stance continues to make significant normative and practical contributions to this vital field.

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Artificial Intelligence And Working Life

Cansu Yörük⁵⁹

Abstract

This study examines the impacts of artificial intelligence (AI) technologies on the labor market, working conditions, and social policies from a social scientist's perspective. It has been emphasized that artificial intelligence increases productivity within organizations, but on the other hand, it may lead to job losses in sectors requiring low and medium skill automation. (Brynjolfsson & McAfee, 2017; Frey & Osborne, 2017). For this reason, new professions have emerged alongside artificial intelligence, replacing some jobs that require autonomous tasks. We can give examples of new job groups such as data science, algorithm auditing, and ethical consulting. However, in order to integrate into new job groups, skill transformation and the retraining of employees have become crucial. (Misican, 2020). It is now seen that there is a need for employees who not only know the job but also can use artificial intelligence. In human resources, AI applications are accelerating processes such as recruitment and performance evaluation; however, there is a risk of bias in algorithms, which can lead to ethical issues (Barocas & Selbst, 2016). Additionally, with the inclusion of artificial intelligence in decision-making processes, data-driven and collaborative leadership models are becoming more prevalent in organizational structures. (Långstedt, Spohr & Hellström, 2023). Looking at all the changes, it necessitates a reevaluation of social security systems and has brought forth policy proposals such as universal basic income (Standing, 2017; Acemoğlu & Restrepo, 2020). In conclusion, in order for the opportunities brought by AI to progress fairly, it is necessary for the government, private sector, and educational institutions to act together. (Brynjolfsson & McAfee, 2017; Acemoğlu & Restrepo, 2020).

Keywords: Artificial Intelligence, Employment, Automation, Working Conditions, Social Policy

JEL Classification Codes: J24, J21, O33

Introduction

This study aims to examine the presence of artificial intelligence (AI) technologies in working life, the opportunities they offer, and the accompanying threats from a social sciences perspective. Especially from the perspective of labor economics and social policy, the multifaceted reflections of AI on labor markets,

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working conditions, and employment structures have been examined in detail. The speed of digitalization and automation today is observed to be opening up changes in the business world according to the changes in AI applications. This capability has adopted the method of improving the workability literature, and recent academic studies conducted at both national and international levels have been analyzed.

In the conducted research, it was concluded that artificial intelligence has a positive impact on organizational work efficiency. According to Brynjolfsson and McAfee (2017), this process is characterized as the "Second Machine Age" and emphasizes the change that artificial intelligence technologies bring to economic growth and labor speed. Nevertheless, it is noted that despite the increase in productivity due to artificial intelligence technologies, they may cause job losses in some sectors (Arntz, Gregory, and Zierahn, 2016). Especially, job groups that require low and medium skills are at risk. Frey and Osborne (2017) similarly state that artificial intelligence and automation technologies are reshaping labor demand and that many job groups may disappear, and this situation will continue in the future.

However, the transformation brought by artificial intelligence is not solely comprised of threats. With the transformation brought by artificial intelligence, new professions emerge. For example, we can give examples of new professions such as data science, machine development engineering, and artificial intelligence ethics consulting. For this reason, retraining the workforce and transforming their skills according to the requirements of the current artificial intelligence has become quite important. Misican (2020) states that AI applications enhance the characteristics of employees' adaptation and learning processes, thereby increasing the diversity of the workforce and the continuity of adapting to business models.

On the other hand, artificial intelligence has a significant impact on leadership understanding and growth structure. Långstedt, Spohr, and Hellström (2023) stated that the AI-supported decision-making structure has reshaped leadership styles and employee motivation. Now, while leaders can make faster and more transparent decisions with artificial intelligence, it has also caused concerns among users. Especially the debates on fair distributions of algorithmic decision-making are increasing the element of security among users.

Additionally, in the study, Acemoğlu and Restrepo (2020) indicate that the structural changes brought about by artificial intelligence parallel the Luddite movements. The uprisings and attitudes of the working class during the Industrial Revolution are reflected in today's concerns and dissenting discourses towards AI. These types of reactions stem from the social and economic consequences brought about by

technological

developments.

Social policies have been restructured as a result of the impact of artificial intelligence on the labor market. Images need to review social security systems, as changes in usage and potential disruptions are increasing.

The emergence of alternative policies such as Universal Basic Income (UBI) and the redesign of social welfare pave the way for the emergence of this capability. Applications like UBI are available to meet basic needs and ensure product production.

The study also signed the use of Industry 4.0 in Germany and AI investments in China. By integrating AI technologies into the studies in these countries, significant transformations were achieved. Acemoglu and Restrepo (2018) state that Germany and China's AI-focused industrial policies have created significant changes in labor markets and that detailed strategies have been developed to advance in this process. In conclusion, this research shows that AI has changed both permanent and working conditions. AI technologies and new job opportunities can reduce entrenched inequalities and promote social justice, provided they are supported by appropriate policies. Therefore, the outcomes of education and social policies should be reorganized in parallel with technological developments. Researchers like Brynjolfsson and McAfee (2017) and Acemoglu and Restrepo (2020) suggest that strong collaboration between the government, the business world, and educational institutions is necessary to leverage the opportunities presented by AI.

The Historical Development of Artificial Intelligence

When we look at the historical development of artificial intelligence, the first name that comes to mind is Alan Turing. In the 1950s, Turing asked himself whether machines could think, and after becoming interested in this idea, he established a scientific foundation by proposing the Turing Test. (Turing, 1950). Then, in 1956, the term artificial intelligence was officially used for the first time at the Dartmouth Conference organized under the leadership of John McCarthy (Russell & Norvig, 2021). In the 1960s and 1970s, simple robots began to be developed; it was a period when computers were tested not only for their computational abilities but also for their problem-solving skills. When we reach the 1980s, expert systems start to come into play, and software capable of making decisions like human experts in specific fields is developed (Nilsson, 2010). In 1997, a historic event occurs. With IBM's computer Deep Blue defeating world chess champion Garry Kasparov, it captures the attention of society. After 2010, things accelerated; thanks to machine learning and big data, artificial intelligence entered many areas of our lives, from voice

assistants to driverless cars (Goodfellow, Bengio, & Courville, 2016). In short, although artificial intelligence seemed like science fiction in the past, it has now become a technology that we encounter everywhere in our lives and that is used by everyone.

Conceptual Framework

Systems that can mimic human intelligence are called "artificial intelligence" (AI). These systems are based on the human capacity for learning, reasoning, problem perception, and language use. So, AI is not just automatic machines that perform specific tasks; they are also systems that collect data from the environment, learn from it, make inferences from this data, and store it. According to Russell and Norvig, 2020 This artificial intelligence, which lies at the intersection of information technologies and social sciences, will change numerous societal areas, including labor markets. The impact of artificial intelligence on the workforce consists of various systems in terms of labor economics and social policy. Artificial intelligence has spread widely, especially as a result of the accelerating digitalization with Industry 4.0. Job losses and new job segments arise in this case due to the automation of repetitive and routine tasks (Frey and Osborne, 2017). The profitability of artificial intelligence, the increase in cash costs, and the increase in product quantity are possible. For example, new roles such as data analysts, AI ethics groups, and regulators are in high demand (Autor, 2015). The fundamental components of artificial intelligence allow us to understand where this technology stands.

The basic components of AI:

Machine learning (ML): Machine learning (ML) is considered one of the most important subfields of artificial intelligence (AI). The fundamental functionality of ML allows systems to learn from data and improve their performance through this learning process (Goodfellow, Bengio & Courville, 2016). Instead of predefined rules, self-learning systems that make inferences from data create self-learning structures without the need for external and continuous human intervention. In this field, machine learning (ML) develops data-driven adaptive models instead of fixed coded rules. Machine learning updates analyze patterns and relationships that show continuity over large data sets. These analyses can make new and similar predictions about the outcome system and create decision-making mechanisms. For example, recommendation systems commonly used on e-commerce platforms can predict products that users might be interested in the future by examining past purchase transactions. To do this, machine learning programs are used. Large platforms like Amazon and Netflix utilize machine learning recommendation

engines to enhance user experience and maintain their customer base (Goodfellow et al., 2016). Machine learning has a wide range of applications. Credit risk assessment systems are used in the financial sector to determine creditworthiness by analyzing past financial markets. Similarly, in the insurance sector, fraud detection systems can identify typical transaction patterns using machine learning, which can help prevent fraud (Jordan and Mitchell, 2015). In the healthcare sector, machine learning will be very important for diagnosing diseases and planning treatments. ML-supported diagnostic systems, especially in radiological imaging systems, support human decision-making in the early diagnosis of diseases like cancer and reduce the margin of error. In today's business world, machine learning applications are used in a wide range of areas, from production processes to human resources management. In the manufacturing sector, machine learning-supported systems have the ability to predict machine failures, making the maintenance process more efficient. This reduces both production efficiency and costs. Human resources departments, on the other hand, conduct important research such as performance measurements, candidate evaluations in bulk recruitment, employee engagement analysis, and machine learning updates. For example, machine learning systems will analyze data obtained from employee satisfaction surveys to determine employees' motivation levels and turnover risks. However, the legal and ethical aspects of machine learning are also being discussed. It is said that if algorithms are trained with biased data, the systems may show differences in decision-making diversity. As a result, the principles of accountability and transparency place great importance on the development of framework machine learning models. In conclusion, machine learning enhances efficiency by optimizing numerous thermal processing operations through data-driven analysis and predictability, which are fundamental components of artificial intelligence. However, a comprehensive evaluation of the social, ethical, and legal impacts of this technology is necessary.

Deep Learning (DL): Analyzes large amounts of data and solves complex problems using neural networks (LeCun et al., 2015). One of the most advanced subfields of artificial intelligence technology is deep learning. This technique, which is a subset of machine learning, uses multilayer artificial neural networks to perform highly successful analyses, especially on large and complex datasets. Deep learning, similar to the working principles of the human brain, is used to automatically learn patterns in data and create decision-making systems (LeCun, Bengio, and Hinton, 2015). Deep learning can be solved layer by layer to learn higher-level data abstractions. These layers allow the inputs to be opened at different levels. Simpler features (for example, edge detection) are determined by later layers and more complex structures (for example, facial recognition) are determined by them. This structure allows deep learning systems to achieve high success rates in challenging areas such as image recognition, speech recognition, natural

language processing, and autonomous vehicle technologies (Goodfellow, Bengio & Courville, 2016). The impact of deep learning on business life has been clearly demonstrated, especially in automation. Deep learners are actively used in many fields such as industrial production, healthcare education, financial analysis, and logistics. For example, in the healthcare sector, deep learning processes evaluate the likelihood of early diagnosis through the analysis of treatment rates (such as MRI or X-rays). In some applications, access has been provided to expert doctors who are knowledgeable about the differences in the systems or to the accuracy rates (Esteva et al., 2017). In the finance sector, deep learning models such as fraud detection, algorithmic trading, and customer behavior analysis can predict risks more quickly and effectively by analyzing large datasets. DL sales are also used to increase the customer base and examine technological competencies in the retail sector (Nguyen et al., 2018). However, the widespread adoption of deep learning technologies in some sectors threatens employment by taking over jobs. Human labor may fall behind the results of deep learning, which could increase the risk of unemployment in certain professions (Frey and Osborne, 2017). However, this transformation is creating a new job cycle that requires a range of different skills. Additionally, with the development of deep learning technologies, decision-making processes in the business world are becoming digital. DL versions enable businesses to combine their creation decisions with a data budget. For example, businesses can use DL models to produce faster and more accurate solutions in areas such as sales forecasts, customer satisfaction analyses, and market information. Trust in data-driven systems is shifting the decision-making process from intuition to data-driven systems in this case (Davenport & Ronanki, 2018). However, deep learning can cause some ethical and legal issues. Both social justice and workers' rights face significant concerns, particularly regarding algorithmic bias. For example, the repetition of biases learned by DL and employees from recruitment system data can lead to the systematic exclusion of certain groups (Barocas and Selbst, 2016). Such situations ensure that progress is monitored both technically and morally. Therefore, deep technology learning should not be limited to technological advancements in the business world. At the same time, both the public and private sectors must take responsibility to ensure that these technologies are used transparently, fairly, and accountably. The protection of global ethical standards and social equality, and the creation of international-level artificial intelligence policies to sustainably integrate deep learning into business fields (Floridi et al.).

-Case Study: Google DeepMind & NHS Collaboration: One of the most notable works in the field of deep learning in the UK is the collaboration between Google DeepMind and the National Health Service (NHS). DL advancements are being used in this project for the early diagnosis of kidney diseases. By analyzing patients' laboratory health conditions, the system can predict kidney damage hours in advance

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and provide vital interventions quickly (Ghassemi et al., 2018). This example shows that deep learning is not only a technological advancement but also how effective it can be in critical decisions. In conclusion, deep learning is not just a technological advancement, but also a comprehensive transformative tool that reshapes societal and economic efficiency. Employees should be equipped not only with technical training but also with versatile skills such as critical thinking, problem-solving, innovation, and ethical awareness. These skills will enable employees to adapt to this change. Making the workforce more resilient and adaptable is possible through updating educational policies, promoting a culture of lifelong learning, and ensuring equal access to technology (World Economic Forum, 2020).

Natural language processing (NLP): It focuses on understanding and interpreting human language and is used in translation and automatic text analysis (Jurafsky & Martin, 2021). Natural language processing (NLP) is a field of artificial intelligence that enhances machines' capacity to understand, process, and generate human language. This technology analyzes, interprets, and derives conclusions from texts using statistical models and linguistic rules (Jurafsky & Martin, 2021). Automating the processing of text-based data and enabling natural communication between humans and machines is the primary goal of NLP. From sentiment analysis to translations, automatic text summarization systems, and voice assistants, there is a wide range of technologies involved. To provide logical and meaningful answers to people's questions, virtual assistants and chatbots have been developed using NLP. Systems like Google Translate, DeepL, and IBM Watson use natural language processing models to translate between various languages (Hirschberg & Manning, 2015). One of the areas where natural language processing has the most impact is customer service. Automatic response mechanisms enable companies to respond to their customers' requests more quickly and efficiently through natural language processing (NLP)-based systems. These systems can analyze incoming emails and messages and automatically route them to the relevant departments (Cambria & White, 2014). In this way, businesses not only reduce costs but also provide 24/7 service to their customers, ensuring greater satisfaction. Human resources is also an important application area. Human Resources departments quickly evaluate job applications using NLP-based software and classify candidates according to specific criteria. Therefore, companies can quickly analyze over a thousand applications and select the best ones (Liu & Zhang, 2012). Tailoring job postings to the target audience and automating resume screenings are among the significant benefits of NLP. Natural language processing technologies are also widely used in important fields such as law and healthcare. According to Ashley (2017), lawyers and legal consultants working in the field of law become more efficient by using natural language processing systems that analyze large text databases to identify relevant laws and regulations. In the field of healthcare, NLP

systems can help diagnose patients more accurately and quickly by analyzing important data such as doctor notes and hospital reports (Jiang et al., 2020). In conclusion, natural language processing technologies are widely used in the business world, academic fields, and daily life to enhance human-machine interaction. In the future, NLP is expected to be used in areas such as human resources to enhance operational efficiency, improve customer satisfaction, and increase business productivity (Jurafsky & Martin, 2021).

Autonomous Systems: Systems commonly seen in robotic technologies that can perform decision-making mechanisms without human intervention (Russell & Norvig, 2020). Autonomous systems can perform certain tasks without human intervention. These systems can solve complex problems by analyzing large data sets and can make decisions on their own. With the rapid development of robotic technologies, the use of autonomous systems has become widespread across various sectors, from logistics to manufacturing, and from agriculture to healthcare (Russell & Norvig, 2020).

Driverless transportation systems have been created by autonomous vehicles produced by the automotive industry. Companies like Tesla, Waymo, and Uber aim to make traffic safer and reduce accidents by developing autonomous driving technologies. In the field of agriculture, unmanned tractors and agricultural drones autonomously perform tasks such as planting, irrigation, and spraying, thereby increasing efficiency (Bak & Silva, 2021).

Autonomous systems, while increasing labor productivity, also raise issues such as workplace safety, ethical concerns, and legal regulations. The potential consequences of autonomous systems on the human workforce, particularly the increase in unemployment rates, data security, and the ethical responsibilities of the systems, necessitate discussions on these issues (Brynjolfsson & McAfee, 2017). Therefore, it is very important to comprehensively examine the social and economic impacts of autonomous systems in order to determine future technology policies.

Metodology

This study examined the impact of artificial intelligence on the business world using the literature review method. The literature review comprehensively examines existing scientific resources to reveal current developments and the theoretical framework related to the subject. For this purpose, data sets were created by examining academic articles, theses, industry reports, and government policies. Qualitative data were collected from various fields such as the sociology of work, economics, information

technology, and human resources. During the research process, the focus was on processing qualitative data to understand the impact of artificial intelligence on the labor market (Acemoglu & Restrepo, 2018; Frey & Osborne, 2017).

The research critically examined the impact of artificial intelligence on employment and working conditions using descriptive analysis. The obtained results help in determining global trends and policy recommendations (World Economic Forum, 2020).

The Aim of the Study

The main aim of this study is to comprehensively examine the effects of artificial intelligence on employment, working conditions, and social policies. The study focuses on determining the place and impact of artificial intelligence technologies in the labor market. Additionally, it evaluates the advantages and disadvantages of these technologies for individual job fields and industrial sectors. Additionally, the effects of artificial intelligence on working life are evaluated by considering socioeconomic structures and regulations, comparing company regulations, government-supported programs, and regulations in various countries. The new opportunities brought to the labor market by technological developments such as digitalization and automation, as well as the risks of unemployment, are also being addressed.

Additionally, the ethical aspects of artificial intelligence applications, issues related to individual privacy and data security are addressed, and various policy proposals are discussed to solve the societal and legal problems that may arise in these areas. In this context, a broad perspective is offered on the regulation of artificial intelligence, workforce training programs, and policy approaches in various countries.

Methods

Descriptive and analytical literature review has been used in this study. The descriptive method focuses on revealing the current state of the subject, while the analytical method synthesizes different studies to deeply understand the impact of artificial intelligence on the business world. The following steps were followed in the research process:

-Identification of Sources: Academic studies in the literature, sector reports, government policies, and analyses published by international organizations have been examined. The sources included in the study were selected based on academic reliability and currency.

- Database Selection: Scientific studies were compiled using internationally reputable academic

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databases such as Google Scholar and Web of Science.

- **Keyword Analysis:** A comprehensive search was conducted using important keywords such as "artificial intelligence and employment," "the impact of AI on working life," "automation and job loss," and "Industry 4.0 and the labor market."

- **Content Analysis:** The selected sources were qualitatively examined, and the results were grouped under thematic headings.

- **Comparative Analysis:** International approaches were compared, and the impacts of artificial intelligence policies and labor markets in various countries were examined.

Data Collection Tool

In this research, secondary data sources were used, and a comprehensive process was implemented to enhance the reliability and validity of the data. The data used in the study were categorized academically, sectorally, and statistically, and a comprehensive analysis of the data obtained from these categories was conducted.

Scientific Articles: To understand the effects of artificial intelligence on labor markets, academic studies from various fields such as computer science, work psychology, economics, and sociology have been examined. In this context, articles obtained from academic databases such as Web of Science, Google Scholar, JSTOR, IEEE Xplore, and Elsevier have been examined with a scientific approach. To examine the positive and negative effects of artificial intelligence on employment, especially comparative analyses have been conducted.

Reports and Policy Documents: This study includes reports on artificial intelligence and employment from international organizations such as the OECD, the World Economic Forum, the UN, and the EU. These reports have been comparatively examined to understand the AI policies and labor market regulations of various countries. Topics such as the ethical use of artificial intelligence, data security, and working conditions were also discussed.

Statistical Data: In this study, data provided by organizations such as Eurostat, the World Bank, the International Labour Organization (ILO), and TURKSTAT have been used. Unemployment rates, types of employment, automation trends, and technological transformation processes are included in these data. Additionally, by analyzing how these data have changed over various years, we evaluate how artificial intelligence will affect the labor market in the long term.

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Case Studies: To see how artificial intelligence is used in the business world and how it affects the workforce, case studies from various sectors have been conducted. Especially by taking examples from sectors such as JP Morgan, Goldman Sachs, automotive (Tesla, BMW, Ford), healthcare (IBM Watson, Google DeepMind), and retail (Amazon, Alibaba), it has been examined how artificial intelligence affects sectoral dynamics. It has been investigated how artificial intelligence increases efficiency in every sector, how it changes business processes, and how it affects the employment system.

Artificial Intelligence Policies and Regulations: In this study, the AI-related policies and strategies of various countries have been examined. Especially the European Union's AI ethics, the United States' technology policies, China's Industry 4.0 investments, and the digitalization processes of developing countries have been examined. These analyses are necessary to understand how artificial intelligence is progressing worldwide.

This comprehensive data collection process allows for a thorough examination of the impact of artificial intelligence on the workforce. The aim of the research is to obtain accurate and comprehensive results regarding the impact of artificial intelligence on future job markets, using data that is current, reliable, and comprehensive.

Findings

Artificial Intelligence and Employment

The development of artificial intelligence technologies is creating significant changes in the manufacturing sector. AI systems, especially because they automate regular and repetitive tasks, significantly reduce these jobs and increase efficiency for businesses. Customer service, data entry, and assembly line work are areas where machines replace human labor. However, this transformation is leading to both job loss and new job opportunities. New employment fields have emerged, such as data science analysts, trainer trainers, machine development engineers, and artificial intelligence components. Arntz, Gregory, and Zierahn (2016) describe this situation as the reshaping of occupational tasks and state that automation changes existing tasks rather than completely eliminating certain professions. In today's business world, in addition to technical knowledge, the ability to think critically, solve problems, and collaborate with technology is also very important (Brynjolfsson).

Human Resources Perspective

The rapid development of artificial intelligence technologies has significantly changed human resources management. Especially, significant changes have occurred in factors such as training, career planning,

recruitment, and evaluation. Human resources departments are no longer just a support unit; they are now also the guiding force of technological potential. Artificial intelligence has produced more efficient results in the hiring process: faster analysis of candidate profiles, automatic classification of resumes, and selection of the most suitable candidates. However, the permanence of this technology depends on people's ability to adapt to the new electronic world. Misican (2020) highlights the ability of human resources experts to develop solutions such as flexibility and a willingness to learn, which enable people to adapt to the digital transformation during this period of widespread artificial intelligence technologies. Therefore, it is very important to provide employees with digital skills training, reskilling programs, and career development plans focused on continuous learning. Ethical principles should also be considered in decision-making rates. For example, to prevent algorithms from leading to discrimination, HR policies should be reorganized with standards of transparency, auditability, and accountability (Barocas and Selbst, 2016). In conclusion, human resources professionals should adopt a holistic approach that considers both technical and emotional and social needs while working alongside technological advancements.

Effects on Organizational Behavior

The inclusion of artificial intelligence in the decision-making unit encompasses not only technical and comprehensive issues but also various topics such as organizational dynamics, management distribution, and the details of employee data. The appearance of the traditional management cylinder has changed, especially with the active reactivation of developments in the organizational decision-making process, and the field of "digital leadership" has expanded. Långstedt, Spohr, and Hellström (2023) emphasize that the increasing growth of artificial intelligence in corporate structures allows for the extension of classical authority structures and leads to a shift towards more technology-focused, data-driven, and collaborative management approaches. Algorithms and analytical decisions have created this new management model. As a result, the impact of artificial intelligence on its structure increases in a multifaceted and versatile manner. The inclusion of technological systems in the administrative structure provides new solutions in terms of speed, efficiency, ethics, psychology, and culture. Therefore, people need to evaluate capable artificial intelligence not only as a productivity tool but also as a sociotechnical system. The donation having both digital assistance and empathetic, ethical, and egalitarian leadership is very important for maintaining a healthy human-machine collaboration (Långstedt, Spohr & Hellström, 2023; Davenport & Ronanki, 2018).

The Luddites and Technological Dystopia

Historically, every major technological revolution has been opposed by society, and this is also true for artificial intelligence. The traditional Luddite movement will highlight negative attitudes towards AI in this context. The Luddite movement, which emerged in England during the industrial revolution of the 19th century, became standard because machines threatened hand craftsmanship and sabotaged production tools. Nowadays, especially workers at risk of losing their jobs due to automation, exhibit similar concerns. Acemoğlu and Restrepo (2020) state that such opposition threatens both economic and social status, identity, and solidarity. Despite increasing workforce productivity, AI technologies create distrust among employees, leading to technological opposition at the societal level. To prevent such resistance, it is important to design technological power within social justice and showcase it through education and reskilling programs. Additionally, policy development services and a transparent communication system should ensure that employees actively participate in the process and do not become alienated from technological advancements. Otherwise, technological developments can further deepen social inequalities.

Changes in the Labor Market with Artificial Intelligence

Artificial intelligence can create significant changes both structurally and functionally. Especially the automation of repetitive, predictable, and manual tasks causes the establishment in these job sectors to become fixed, while complex analysis, decision-making, and technological advancements pave the way for the emergence of new types of jobs. Frey and Osborne (2017) claim that approximately 47% of existing jobs are facing a high degree of automation. However, it is clear that this change is not only about the increase or decrease in the amount of work but also about the characteristics and form of the details. Employees now possess not only technical skills but also qualities such as adaptability, analytical thinking, and digital literacy. As a result of this policy, "skill polarization" has emerged in the workforce. While positions requiring high skills are in less demand, positions requiring low skills are in higher demand (Autor, 2015). 6. Working Conditions: Susskind (2020) views the working conditions of AI as a two-way process: he mentioned aspects such as the flexibility and convenience offered by technology, job insecurity, the blurring of boundaries, and burnout syndrome. Therefore, the preservation of employment in the context of artificial intelligence is directly related to the openness of individuals to continuously develop their skills. Especially gig economy workers, such as those delivering food, are deprived of social security and are exposed to flexible working conditions. Additionally, shift and job planning systems managed by artificial intelligence have the potential to negatively impact work-life conditions. As a result, in the new work system, it is important not only to ensure efficiency but also to maintain work

conditions that align with human values. Additionally, the software that users employ for tasks such as assigning duties, pricing, or performance evaluation can sometimes malfunction or operate incorrectly. For example, the automated performance evaluation systems used by Amazon's warehouse workers have fired employees who did not meet their targets, leading to ethical debates. Employers must consider not only the technical capabilities but also the ethical responsibilities when using AI technologies (Crawford, 2021). In order for the new generation of working conditions to be categorized as sustainable, fair, and human-centered, it depends on these technologies being careful, controllable, and transparent.

Social Policies

Due to the changes brought about by artificial intelligence, new regulations are necessary in the field of social policy. The increase in the risk of illness due to automation, especially among low-skilled individuals, is raising the risk of social exclusion. Therefore, we will place great importance on the development of government policies to prevent workforce loss, strengthen social security systems, and reduce income inequality. Standing (2017) highlights the importance of discussing policies like "universal basic income" (UBI) in response to the risks brought by this transformation. UBI reduces the negative effects of technological job losses by providing its citizens with an unconditional income. To help people adapt to new technologies, tools such as active labor policies, retraining programs, and skills transition funds should be used. Such a social policy regime will reduce economic inequality and increase society's trust in technology. Artificial intelligence can help develop social policies in a proactive rather than reactive manner. This is important in terms of economic sustainability and social peace (World Economic Forum, 2020).

Case Studies

Various applications can be used to demonstrate the impact of artificial intelligence on the business world. The Industry 4.0 policy, which accelerates digitalization and artificial intelligence integration, is increasing job automation in Germany. Retraining programs for blue-collar workers have been made mandatory, and this transformation has particularly increased in high-tech sectors (Acemoğlu and Restrepo, 2018). Similarly, state-supported artificial intelligence investments in China have accelerated the technological transformation process developed by both the public and private sectors, creating significant changes in the employment system. China's national development strategy for artificial intelligence has led to significant workforce production in fields such as data science and AI science. However, alongside these changes, new issues such as job security, working hours, and data security have

also come to the forefront. In this case, the AI's work report not only shows technical aspects but also the development of socioeconomic structures. As a result, the country's solutions for technological transformation vary in terms of the country's cultural, economic, and political contexts. However, there is a common point that artificial intelligence has a lasting impact on the job landscape (Frey and Osborne, 2017; Acemoğlu and Restrepo, 2018).

Future Scenarios

Various academic and sectoral scenarios have been developed regarding the relationship between artificial intelligence and the workforce. Perspectives on technological developments, workforce adaptation, government policies, and societal reflexes are among the many factors influencing the shaping of these situations. There are three main scenarios: optimistic, pessimistic, and balanced.

Optimistic Scenario: The efforts of people to build a future in harmony with technological systems foresee that artificial intelligence will bring a significant increase in productivity and create new job opportunities in the business world. This approach will allow AI to free employees from monotonous and tedious tasks, directing them towards more creative, meaningful, and fulfilling duties. It is predicted that the workforce will become more flexible and diverse with the emergence of new trends and the transformation of existing industries. Brynjolfsson and McAfee (2017) suggest that instead of creating distribution, artificial intelligence will enhance productivity, leading to the generation of new economic values and employment elements.

Pessimistic Scenario: Artificial intelligence will accelerate automation, especially in medium and low-skilled businesses, leading to widespread job loss. Especially among people who cannot adapt to the emerging diversity and digital transformation, technology will become widespread. Frey and Osborne (2017) state that technological developments threaten a large portion of existing jobs and that especially routine tasks will be carried out by machines. This situation can lead to more social discrimination, more income inequality, and more societal unrest. At the same time, the increasing visibility of inequalities in technological access could lead to a "digital divide."

Balance Scenario: Balance scenarios combine optimistic and pessimistic predictions. In this case, governments can manage and soften the workforce-displacing transformation of artificial intelligence technologies. Acemoğlu and Restrepo (2018) state that the negative impacts of technological developments can be mitigated with appropriate policy tools, and the workforce can find new roles within the economic system by acquiring new skills. Education reforms, reskilling programs, and workforce

transformation funds come into play in this context. Additionally, the issue of technological unemployment can be balanced with advanced social policies such as universal basic income, negative income tax, and employment policies.

Conclusion

Artificial intelligence offers significant opportunities for the business world while also posing significant dangers. To ensure the workforce adapts to this change, education, policy, and ethical standards should be prioritized. In the future, humans and artificial intelligence can come together to create a more efficient and sustainable work environment. For this process to be successful, it is very important for individuals, companies, and governments to take action in advance.

Artificial intelligence is creating irreversible changes in the business world. As a result of technological developments, employers need to reorganize their human resources strategies, governments need to review their employment policies, and employees need to update their skill sets (Bessen, 2019). AI-powered automation systems can enhance efficiency and boost the economy, but they may also lead to the disappearance of certain jobs and cause imbalances in the labor market (Acemoglu & Restrepo, 2020). Therefore, governments and business leaders should focus on comprehensive retraining and skill development programs to enable employees to compete in the digital age. It is crucial to enhance digital skills, increase investments in STEM (Science, Technology, Engineering, and Mathematics) education, and expand lifelong learning opportunities for the workforce to adapt to the transformation process (World Economic Forum, 2020).

Additionally, regulations and policies should be established worldwide to ensure the fair and ethical use of artificial intelligence. To ensure social justice in the labor market, protect data privacy, and prevent algorithmic bias, governments, academic institutions, and the private sector should work together (Zuboff, 2019; Barocas & Selbst, 2016). It is important to promote ethical artificial intelligence applications for a more inclusive and sustainable business world in the future (Susskind, 2020). In conclusion, the integration of artificial intelligence into the business world is an inevitable process, and managing this process is crucial for both economic and social sustainability. Labor markets will become more resilient and inclusive in the future. This will be possible through the reorganization of education

and employment policies, the establishment of regulations for the ethical use of artificial intelligence, and the widespread implementation of programs that encourage adaptation to new technologies. Thus, it is possible to maximize the advantages of AI while minimizing its negative impacts (Arner et al., 2017).

11. Discussion and Recommendations

The way artificial intelligence technologies work will require not only technological advancements but also social, financial, and political regulations. Therefore, it is not possible to develop compilation proposals that will adapt to new business models and social structures through collaboration and change among states.

Workforce Training Programs: Digital education is an important part of keeping up with technological transformation. To sustain the employment of artificial intelligence, social skills and techniques should also be developed. In conclusion, it is very important to develop government, university, and private sector cooperation programs that are modular, accessible, and promote lifelong learning. Brynjolfsson and McAfee (2017) emphasize that digitalization is transforming the workforce into continuously learning individuals everywhere, and therefore, educational policies need to be adapted to the age of artificial intelligence. To address social inequalities, reskilling and upskilling programs are important tools, especially for those working in low-skilled jobs.

Social Security Measures: Automation, as a result of the impact of artificial intelligence technologies on the workforce, leads to a higher risk of illness. In this case, traditional social security outcomes should be restructured. Standing (2017) emphasizes the importance of discussing measures such as universal basic income (UBI) to ensure this capability and providing economic security in the event of technological job displacement. To protect social justice during the technological transformation process, it is very important to expand the scope of electricity cuts, maintain the social rights of flexible workers, and ensure that digital platforms are part of the social security system.

Artificial Intelligence Ethics and Regulations: The use of artificial intelligence in the business world revitalizes employee rights and ethical standards. The use of programs in critical solutions such as recruitment, performance evaluation, and separation can lead to distribution and bias risks. Russell and Norvig (2020) argue that the sustainability of regulations based on ethical principles is inevitable and advocate for making AI outcomes transparent, understandable, and computable. In this way, we prioritize the development of individuals' data freedoms, fair evaluation procedures, and the legal frameworks of

professional factors on national and international platforms.

Cooperation between the Private Sector and the Government: The economic and social consequences of artificial intelligence are too complex to be controlled solely by government policies or market dynamics. Therefore, a long-term, open, and transparent collaboration model should be developed between the private sector and public institutions. The transformation becomes fairer and more sustainable, especially with the convergence of education, employment, technology, and ethical standards. Acemoğlu and Restrepo (2018) emphasize the importance of combining the roles tracked on the list with the advanced capacity in the private sector regarding the impact of technological developments on the workforce. This collaboration is important for protecting human rights, creating new business models for artificial intelligence, and establishing global technology security.

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Expectations Of Generation Z Regarding Working Hours

Zeynep Senanur SAHİN⁶⁰

Abstract

This study aims to understand the expectations of Generation Z regarding working hours and analyze the impact of these expectations on workplace practices. Generation Z typically consists of individuals born between 1999 and 2011, who have grown up in the digital age and are well-adapted to technology. Unlike previous generations, this cohort challenges traditional work models and rigid job arrangements, seeking a balance between work-life harmony and individual freedom.

Generation Z considers technology an integral part of their lives and expects to maintain these habits in their professional lives. The primary objective of this research is to comprehend this generation's tendencies toward flexible, remote, and personalized work models and to evaluate the implications of these tendencies on employer policies.

The research findings reveal that Generation Z is moving away from traditional fixed working hours and leaning toward flexible and remote work models. 82% of participants indicated that customizing working hours according to individual needs positively impacts job satisfaction. Furthermore, flexible work models support work-life balance and enhance employee motivation.

In conclusion, Generation Z individuals have fundamental expectations in the workplace, such as a search for meaning, individual freedom, and technological integration. Adopting work models that align with these demands will increase job satisfaction and productivity, providing a more sustainable work environment.

Keywords: Generation Z, Working Hours, Flexible Work, Work-Life Balance, Survey Research

JEL Code: J01 Labor Economics: General, J11 Demographic Trends, Macroeconomic Effects, and Forecasts, J81 Working Conditions, J11 Demographic Trends, Macroeconomic Effects

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INTRODUCTION

In today's business world, the contributions and expectations of different generations in the workplace have become an important topic. Especially, the impact of Generation Z—generally defined as those born between 1999 and 2011—on working life has been increasing significantly in recent years. As a product of the digital age, Generation Z challenges traditional working models in the workplace and replaces them with more flexible, modern, and technology-driven environments.

In this context, the expectations of Generation Z regarding working life, especially working hours, have become an important area of research. This study aims to examine the expectations of Generation Z about working hours and how these expectations affect practices in workplaces.

In the first section, the purpose, importance, and scope of the study are introduced. Firstly, generations and their general characteristics are discussed. Then, the general characteristics of Generation Z and studies about their approach to working life are presented.

In the second section, Generation Z's attitudes toward working life are explained. First, their attitudes, expectations, and concerns about working are discussed. Then, topics such as working hours, wages, working conditions, and managerial expectations are addressed.

In the third and final section, the objectives and methods of the study are explained, and the hypotheses guiding the study are stated. The survey conducted is presented in this section, and based on its results, suggestions are offered.

This study aims to understand the preferences and expectations of Generation Z in working life and to contribute to the development of suitable workplace practices for this generation. Understanding Generation Z's expectations regarding working hours can help employers and managers better understand this generation and create a more efficient working culture in the workplace.

CHAPTER ONE: GENERATIONS AND GENERATION Z

Throughout history, many types of knowledge, skills, and cultural elements have been passed down from generation to generation. Although these transmitted elements differ between periods, they generally show similar characteristics in terms of helping humanity sustain its existence (Kılınç & Varol, 2021). Events throughout human history have had an impact on people's emotions, states, and behaviors. The fact that people who lived in the same period have similar characteristics has laid the foundation for the concept of generation. Each historical event has influenced people of its time, and similar traits have been observed among those within the same generation (Kılınç & Varol, 2021). The term “generation” refers to

a specific time period or age group. According to the Turkish Language Association, a generation is defined as: “a group of people born around the same years, sharing the same conditions of an era, and therefore similar struggles, destinies, and responsibilities” (<https://tdk.gov.tr/>, Access Date: 16.12.2023).

The concept of generation, in its historical development, was first studied in a modern sense by Auguste Comte between 1830 and 1840. Comte stated that with changing forces over time, there is a continuous process between generations, and that social progress is possible through the transfer of past experiences to new generations. Every event, whether good or bad, should be seen as a learning experience, and these experiences should help guide future generations in resolving similar events more effectively (Uğurbulduk & Efeoğlu, 2021). With this approach, Auguste Comte was the first to examine the concept of generation as a research topic in the 19th century (Yıldırım alp & Güvenç, 2020).

In the 20th century, the first sociologist to systematically evaluate the concept of generation in the way we understand it today was Karl Mannheim (Yıldırım alp & Güvenç, 2020). According to Mannheim, the concept of generation is defined as the development of a shared social identity by individuals born in the same time period due to having common historical experiences. Based on Mannheim’s work, five characteristics are necessary to describe the existence of generations: first, the emergence of new participants in the traditional process; second, the continuous disappearance of old participants; third, the ability of members of a generation to participate in a specific period within the traditional process; fourth, the transmission of traditional heritage; and fifth, the continuous transfer from one generation to the next (Uysal, 2019).

The concept of generation, which describes people born in the same period, who have witnessed similar events and carried similar responsibilities, expresses the unique features of each generation and what distinguishes them from others (Kılınç & Varol, 2021). From the 20th century onward, generations have been classified as follows: the Silent Generation (Traditionalists) 1925–1945; Baby Boomers 1946–1964; Generation X 1965–1983; Generation Y 1984–1998; Generation Z 1999–2011; and Generation Alpha (α) 2011 and beyond. Each generation has its own characteristics, values, attitudes, and culture. When evaluating generations as a whole, it is important to understand that not everyone shares the same traits (Adıgüzel, Batur, & Ekşili, 2014).

In this study, the generations classified from the 20th century onward, the significant events they experienced, and how these events affected the emotions, conditions, and behaviors of the generations will be discussed (Kılınç & Varol, 2021).

Generations And Their Characteristics

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Silent Generation (1925–1945):

Also known as the “War Generation” or “Traditionalists,” this generation includes those born between 1925 and 1945. Due to the difficult conditions of the time, individuals from this generation generally have stricter personalities, respect for authority, and are committed to work, family, and spirituality (Uğurbulduk & Efeoğlu, 2021). In terms of working life, this group represents the oldest segment today, and most of them are retired (Işık, 2019). For these individuals, work has been seen as the most important part of life and even a life philosophy (Kavak, 2020).

Baby Boomer Generation (1946–1964):

Also called “Baby Boomers” or the “Golden Generation,” this generation includes those born between 1946 and 1964. As the world had just come out of World War II, there was a rapid population increase worldwide. That’s why this generation is also known as the “Baby Boom.” In terms of working conditions, they are known for living to work, being loyal to management, being committed to their jobs and workplaces, having a positive attitude, remaining calm, and being generally satisfied with life (Işık, 2019).

Generation X (1965–1983):

Described as the “transition generation,” this group was born between 1965 and 1983. They are also called the “unknown” generation because they wanted to change the existing system created by previous generations. This period witnessed major political, economic, and social changes, which led to serious transformations (Bekman & Gündüz, 2022). Generation X made great efforts to adapt to these global problems, but at the same time, they often felt excluded due to being perceived as not fully catching up with the modern era (Adıgüzel, Batur, & Ekşili, 2014).

Generation Y (1984–1998):

Also known as the “Digital Generation” or “Millennials,” this group includes those born between 1984 and 1998. In Turkey, they are often called the “Post-1980 Generation.” Compared to previous generations, they grew up in more prosperous, freer, and economically stable conditions (Bekman & Gündüz, 2022).

Generation Alpha (2012 and Beyond):

Referred to as the “Generation of Hope,” “New Age Generation,” “Regeneration,” “Digital Natives,” or “The Rescuers,” Generation Alpha includes individuals born in 2012 and after (Kavak, 2020). This generation is growing up during significant political and economic events, which shape their mental

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development based on their environment. The rapid development of technology has led to major changes in the core structures of society. Devices like computers, televisions, and tablets have moved human relationships into virtual environments.

Generation Z (1999–2011):

Known as the “Digital Natives,” “Crystal Generation,” “Deep Emotional,” and the “Network Generation,” Generation Z includes individuals born between 1999 and 2011. However, there is no full agreement about the starting year; some researchers believe it begins before 2000, while others suggest 2000 and after (Aksu, 2022). Generation Z was born in the late 20th century and early 21st century. They are also known as the “Internet Generation” and use technology in all areas of life such as communication, health, transportation, and work (Adıgüzel, Batur, & Ekşili, 2014). Being the most global generation so far, they have integrated technology into their lives and actively use it for information access and communication (Kavak, 2020). Generation Z has witnessed many important political, social, cultural, and economic events around the world. Depending on their cultural and personal experiences, the events they lived through played a major role in shaping their lives. They reflect the comfort they grew up with in their working lives as well. They prefer to determine their own working conditions and hours, value work-life balance, oppose hierarchical structures, and evaluate success based on productivity (Kavak, 2020). Unlike other generations, they prefer individual work rather than group work and care about having personal space in professional life. With the combination of imagination and technology, they aim to produce unique and innovative work (Kavak, 2020).

CHAPTER TWO: Z GENERATION’S ATTITUDES TOWARD WORKING LIFE

The Z

Generation, covering those born between 1999 and 2011, has actively started participating in business life as of 2022, mostly as interns, having completed their university education. As the youngest members of working life, Z Generation individuals have rejected traditional norms in the workplace due to their upbringing and mindset and have pioneered the development of innovative working models. As children of X and Y Generation parents, they were raised in an overly protective and intervening manner, which has led to a lack of resilience against the challenges of working life (Çaşın, 2022). Characteristically, Z Generation individuals exhibit traits such as impatience, difficulty maintaining stability, lack of commitment, communication challenges, introversion, and a strong emphasis on individualism. Nonetheless, it is important for modern organizations to understand the expectations of Z Generation individuals—who will become the future employees and customers—and to conduct studies accordingly

(Bekman & Gündüz, 2022).

Attitudes of the Z Generation Toward Work

Z Generation individuals, who interact intensively in digital and online environments, expect their working conditions to be compatible with internet and information technologies in both physical and technical aspects (Çaşın, 2022). As a digital generation, they tend to prioritize staying connected with social life even during work. Their ability to use multiple online applications simultaneously is believed to have enhanced their multitasking capabilities and various skills (Çaşın, 2022). Having grown up in a rapidly evolving and changing world, they believe that information quickly becomes outdated and must be constantly updated. For this reason, they consider it important to continuously improve their knowledge and skills (Bekman & Gündüz, 2022).

Due to their self-centered upbringing and low commitment levels, they often do not prefer long-term employment in a specific institution or sector. Having witnessed their families suffer from unemployment during economic downturns, Z Generation individuals have developed financial awareness and tend to save money. Observing the financial and emotional difficulties faced by family members has encouraged them to seek opportunities to meet their own needs, often gaining experience in part-time jobs (Çaşın, 2022).

In an effort to improve their professional skills and knowledge, many Z Generation members have completed internships during their university years, which makes it easier for them to find positions in the workforce. Moreover, they frequently participate in online training to gain additional knowledge and support their personal development.

Despite their busy work schedules, Z Generation individuals enjoy allocating time for entertainment. They integrate technology into their daily lives and prefer to spend their free time on social media, online videos, and games. In addition, they dedicate considerable time to outdoor activities such as sports events, concerts, cinema, and theatre. These preferences help reduce work-related stress and contribute to maintaining a work-life balance.

If employers adopt a positive approach to their strong connection with technology, Z Generation individuals can significantly contribute to the workplace. For example, due to their digital literacy, they can accelerate digital transformation and, with their demands for flexible working models, increase work efficiency. Furthermore, they can easily adapt to task changes and successfully complete multiple assignments. Z Generation promotes efficiency, innovation, and diversity in the workplace.

When examining employers' perspectives on the Z Generation, many managers believe that the

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involvement of Z Generation will bring innovation, especially to office environments. They expect increased use of digital screens, the replacement of formal procedures with flexible work models, the emergence of new roles and responsibilities in line with the changing world order, and a diverse work environment where people of different religions, languages, and ethnicities collaborate (Bekman & Gündüz, 2022).

In response to these changes, organizations have begun to redesign their workspaces. They aim to create environments where employees can move freely and socialize, promote flexible structures over traditional hierarchies, and foster a workplace where different lifestyles and choices are respected rather than deemed unusual. Ultimately, adopting these practices will support the continuation and development of good and original ideas within a democratic structure (Bekman & Gündüz, 2022).

Z Generation's Expectations Regarding Working Life

Events that have occurred throughout history have brought about changes in society's structure, individuals' behaviors and values, belief systems, and expectations—impacting fields such as culture, law, education, and technology (Taş, Demirdöğmez, & Küçükoğlu, 2017). When examining the effects of these changes on individuals, it is observed that while previous generations were content and respectful of authority, new generations are curious, informed, questioning, conscious of their needs, and value personal space.

The Z Generation, expected to become a part of the workforce in the near future, stands out as a generation that will reshape business life by transferring their technological competence into the work environment. When their expectations from working life are examined, it is seen that they prioritize transparency, organic organization, and fairness in opportunities. Research on the Z Generation shows that individuals possess entrepreneurial spirit, technological integration, personal talent, financial awareness, environmental sensitivity, self-confidence, and multitasking abilities.

Due to their technological upbringing, they are highly proficient in digital tools and devices, which positively impacts remote and flexible work models by saving employers money and employees time (Uğurbulduk & Efeoğlu, 2021). Today's Z Generation strongly believes that employment is essential for securing a place in business life. Employment is viewed as a fundamental requirement to sustain one's life, support one's family, and contribute to society. Instead of choosing the most efficient job, they prefer jobs that make them happy.

Z Generation individuals adopt a libertarian and innovative approach to work life. This attitude promotes creativity and supports personal development, which positively affects productivity during work. They do

not prefer restrictive and oppressive environments in their professional lives. During the employment process, they pay close attention to choosing workplaces that offer freedom of movement.

Z Generation is open to continuous innovation, does not hesitate to make changes in their lives, takes risks, and seeks the right path through diverse experiences—traits that differentiate them from previous generations. They are also highly sensitive to issues of justice and other social events. As digital natives, they easily integrate digital tools into their lives and expect their work environments to be technologically compatible and provide sufficient resources.

CHAPTER THREE: RESEARCH

Purpose of the Research

The aim of this research is to understand and analyze the attitudes, expectations, and preferences of Generation Z regarding working hours as they begin to enter the workforce. Generation Z, as a natural product of the digitalized world, brings a new perspective to work life and challenges traditional working models. This study seeks to deeply examine Generation Z's attitudes, expectations, and preferences about working hours and to understand the changes this generation introduces to the business world. In this context, the study aims to explore the basis of Generation Z's expectations about working hours and the reasons behind them. Moreover, the study aims to analyze how these expectations affect work life, including factors such as work efficiency, job satisfaction, and work-life balance. In addition, one of the main focuses of this research is to investigate how Generation Z's expectations regarding working hours are met in the workplace and what kind of policies managers develop in response. As a result, this study will provide an important contribution to understanding the integration process of Generation Z into work life and assessing the role they will play in the future work culture.

Research Methodology and Method

This research was conducted using a quantitative research method. Quantitative research uses numerical data and aims to reach accurate and generalizable results (Gürbüz & Şahin, 2018). In quantitative studies, numerical data are collected first, then analyzed using statistical and mathematical methods to reach reliable results. This study is exploratory in nature. Exploratory research usually does not aim for generalization but rather aims to provide initial information on new areas where there is not enough existing knowledge. This type of research includes expert opinions, literature reviews, and similar studies. It reveals topics that can be systematically examined, questions that can be asked, and new ideas and hypotheses that can be tested (Koç & et al., 2023).

Exploratory research aims to determine the scope or dimension of a reality, problem, or movement, generate initial ideas about the phenomenon, or test the feasibility of a broader study on the topic (Koç & et al., 2023).

Research Data Collection Tools

In this graduation project, statistical analyses were conducted using the SPSS (Statistical Package for the Social Sciences) 29.0 software. The data collection process was carried out through an online questionnaire, and the collected data were analyzed with various statistical methods using SPSS. The analytical tools provided by SPSS enabled an in-depth examination of the data and statistical validation of the results in line with the research objectives. The analyses played a significant role in supporting the main findings of the study and answering the research questions. The survey consists of 3 sections. In the first section, 4 demographic questions were asked to participants, such as gender, age range, education level, and employment status. The second section included questions on key topics such as the ideal work environment and working hours, flexible and remote work models, work-life balance, and expectations regarding leave. In the third and final section, questions were asked using a 5-point Likert scale to measure participants' attitudes and behaviors toward working life. The Likert Scale refers to the type of scale used by forming multiple Likert-type questions to analyze a research question. Participants express their opinions and experiences by choosing their answers to each question (Turan, Şimşek, & et al., 2015). Depending on their level of agreement, participants were asked to choose one of the following options: (1) Strongly Agree, (2) Agree, (3) Neutral, (4) Disagree, (5) Strongly Disagree.

Research Population and Sample

The research population includes individuals from Generation Z, as well as Generation X and Y. This study is limited to participants living in Turkey and continuing their education or work life from Generations X, Y, and Z. The research was conducted through online surveys distributed via various communication channels and social media platforms. A total of 235 people participated in the survey. The sampling method used was random sampling. Random sampling is a model where every unit in the population has an equal chance of being selected as part of the sample (Özdamar, 2004).

Research Findings and Analysis

In this section, the data from participants—especially from Generation Z—were examined through statistical analyses and the results were interpreted. These analyses were performed using the SPSS 29.0 program.

Demographic Findings

This section presents frequency and percentage distributions of variables related to participants' demographic information. According to the gender distribution of participants, 67.7% (n=159) were female and 32.3% (n=76) were male. According to age distribution, 77.9% (n=189) were from Generation Z, 18.3% (n=43) from Generation Y, and 3.8% (n=9) from Generation X. Thus, the majority of participants were from Generation Z, which is also the focus of the study. This high participation rate plays a crucial role in the accuracy of the research results. According to the education level distribution of the participants, 71.1% (n=167) were undergraduate students, 15.3% (n=36) associate degree, 7.7% (n=18) high school, and 6.0% (n=14) postgraduate students. In terms of employment status, 51.5% (n=121) stated they were not currently working, 34.9% (n=82) said they were working, and 13.6% (n=32) said they would work if they found a suitable job.

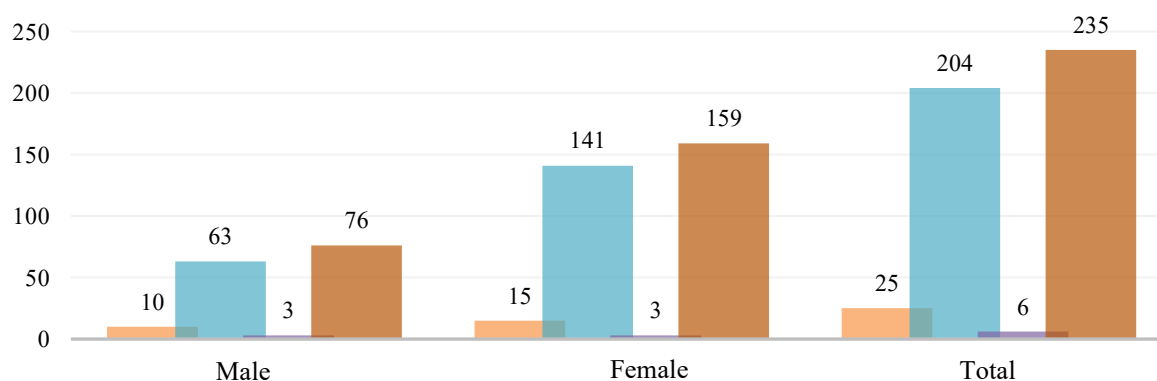
Findings Based on Gender

In this section, the survey responses were analyzed based on gender, focusing on working hours and related expectations. The question “Are you currently working?” was asked to 235 participants. Among them, 82 stated that they are employed, 121 said they are not working, and 32 mentioned they are ready to work when a suitable job is found.

Another question asked was “Are you familiar with the flexible working model?” Among 235 participants, 127 answered “I have some knowledge,” 73 said “Yes, I’m quite knowledgeable,” and 35 stated “No, I don't know much about it.”

In response to the question “Do you find flexible working to be an efficient model?” 76 participants said “Sometimes I find it efficient,” 72 said “I have never experienced flexible working,” 66 said “Yes, I find it definitely efficient,” and 21 responded “No, I generally don’t find it efficient.”

Table 1: Importance of Working Hours According to Gender in Generation Z



In Table 1,

a total of 235 participants were asked the question: “As a member of Generation Z, is working time an important criterion for you?” The answers were analyzed according to gender to reveal participants’ expectations regarding working hours. According to the results, out of 235 respondents, 204 answered “Yes, working time is an important criterion for me,” 25 answered “Sometimes it is important,” and 6 answered “No, I generally do not care about working hours. When examining attitudes toward working hours by gender, it is seen that the vast majority of female participants (88.7%) consider working time to be an important factor, while a similar majority of male participants (82.9%) also share this view. These results indicate that both female and male participants generally attach importance to working hours. However, it can be observed that women have a stronger attitude on this matter and consider working hours to be a more significant criterion. The importance women place on working hours may be associated with traditional gender roles and domestic responsibilities. For men, the reason behind valuing working hours might stem from the need to maintain a work-life balance and career-oriented expectations.

Findings Based on Age Groups

In this study, 33 questions were posed to participants using a 5-point Likert scale. Participants were asked to choose the option that best represented their views. The findings obtained aim to reveal the similarities and differences between generations and contribute to a better understanding of the dynamics in work life. The responses were categorized by generation.

Accordingly, regarding the statement “*Working hours are important in the job I want to do*”, the generation with the highest number of “strongly agree” responses was Generation Z, with 137 participants. This indicates a high level of consensus among Generation Z participants on this issue.

For the statement *“I consider working hours when choosing a job”*, Generation Z again recorded the highest number of “strongly agree” responses, with 122 individuals. This suggests that Generation Z places significant importance on working hours in their job selection process.

In response to the statement *“I want working hours to be clearly defined in a job”*, Generation Z gave the highest number of “strongly agree” responses, with 132 participants. Additionally, 40 individuals from this generation selected “neutral,” indicating that while a majority of Generation Z prefers defined working hours, a notable portion remains undecided on this issue.

Regarding the statement *“If I earn a high salary, working hours do not matter”*, 77 participants from Generation Z responded “disagree,” and 54 answered “strongly agree.” These findings show that Generation Z is not solely motivated by a high salary. Factors such as working hours and job design also hold significance for them. This highlights Generation Z's desire for balance in working life, indicating that they value not only financial compensation but also work-life quality.

These results emphasize the importance for employers and managers to consider not only salary increases but also working hours, work-life balance, and flexibility when designing job conditions.

For the statement *“I consider shorter initial working hours when starting a new job”*, 77 participants from Generation Z responded “strongly agree,” the highest among all groups. This indicates that Generation Z prefers shorter initial working hours when entering the workforce. This preference suggests that they tend to diversify their work experiences quickly and aim to gain experience in various work environments.

Additionally, these findings show that young job seekers expect employers to value short-term work experiences and view them as opportunities that contribute to career development.

For the statement *“Working hours should be determined according to the nature of the job”*, Generation Z again had the highest number of “strongly agree” responses, with 108 participants. This reflects their demand for flexibility and personalized work arrangements in the business world. Generation Z strongly believes that working hours should be arranged based on the requirements of the job.

This highlights the necessity for employers to organize work processes and hours in a flexible manner, aligned with job requirements. Such an approach can improve employee satisfaction while also enhancing productivity and performance.

Finally, in response to the statement *“I believe that shorter working hours will increase employee performance”*, the highest number of “strongly agree” responses again came from Generation Z, with 112

individuals. This indicates that Generation Z believes shorter working hours positively affect employee performance. They tend to think that establishing a balance between efficiency and work-life harmony will improve performance, and thus, they prefer shorter yet more efficient working hours.

RESULT

In the new world order, there is an increase in the number of studies conducted Decently to Decipher the intergenerational differences in working life between researchers and specialists. With the inclusion of technology in our lives, working life is also going through a radical change process. This transformation manifests itself in many areas, from the way of doing business to working hours, from the workplace to remote working. In today's working life, the presence of four different generations in the same working environment, such as Baby Boomers, X, Y and Z generations, leads to the formation of different and diverse expectations in the workplace. The personality traits, expectations, desires and preferences of these generations have an important impact on the development of new policies in working life. In particular, the fact that generation Z individuals were born into the technological era and are just starting to join the workforce affects the acceleration of policies. It is important that there are differences between generations that businesses and managers take into account when developing new policies. Dec. This research aims to contribute to the scientific literature in this field by examining the working time of intergenerational differences and expectations about working time. Dec. In this study, the opinions of generation Z individuals were used in relation to the attitudes and expectations of Generation Z who have started to be involved in working life regarding their working time. The participants are usually selected mainly from generation Z, and it is aimed to measure the perceptions of individuals from different generations about their working time and expectations. The participants were selected from different age groups, and this diversity represents generations and allows assessments to be made based on the perspectives of individuals from different generations. Generation Z individuals, as the youngest members of working life, tend to reject traditional norms. Together with their involvement in working life, they lead the development of new approaches. Generation Z individuals, who are open to innovations with their thinking structures and upbringing styles, encourage the adoption of different working models by getting out of old habits in their working life. When the demands of generation Z regarding their working life are examined, it is seen that they prefer a business life that attaches importance to transparent, organic organization and fairness of opportunity. The expectations of generation Z from the business world are quite diverse. Among these expectations, it is important to provide flexibility in working life and on time, to maintain work-life balance and to move away from hierarchical structure and Decelerate towards an organic organization. At the same time, the realization of career Deceleration in various ways and the

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creation of an innovative, technology-oriented business environment are also among the expectations from working life. Generation Z individuals want to be offered opportunities that will provide not only material but also blue satisfaction. Diversification of individual working environments and provision of technological equipment to all employees is one of the important demands. Generation Z individuals who question the traditional management approach and hierarchical structures prefer a participatory and democratic approach, wanting to play an effective role in internal corporate decisions in their working life.

There are significant differences in the opinions of Z Generation (1999-2011), Y Generation (1984-1998) and X Generation (1965-1983) individuals about their working time. According to this;

Flexible Working and Individual Preferences: It is observed that generation Z individuals attach more importance to the flexibility of working hours and individual preferences than generation Y and X individuals. Generation Z tends to use more initiative when choosing jobs and regulating their working time. With flexible and remote working models, work-life balance is a priority for generation Z. Generation Z's understanding of flexible working and freedom as natural products of the digital age reflects the departure of working hours from traditional norms and the desire of individuals to gain more control over their periods.

Specific and Fixed Working Hours: Generation X individuals attach more importance to specific and fixed working hours than generation Z individuals. Generation X is known for having a more traditional business approach and for their tendency to adapt to certain hours. Generation X, the children of the industrial age, prefer their working hours to be in a certain order because they have grown up with a certain understanding of order and discipline at work. Generation Y individuals support flexible working hours, but they participate less than generation Z. Generation Y individuals have a tendency to strike a balance between flexibility and the work-life balance that comes with it. Dec. The fact that generation Y individuals are adopting a more balanced approach compared to generations X and Z can be interpreted as the fact that they do not want certain working hours to be completely flexible.

Income Level and Job Satisfaction: Among generations X, Y and Z, factors such as income Decency and job satisfaction affect the perspective on working hours. For example, income growth may encourage the preference for long working hours or overtime. However, job satisfaction plays an important role in determining working hours and implementing flexibility policies.

Nature of the Job: While Generation X and Y individuals think that the job should be suitable for a certain working time due to its nature, generation Z individuals adopt a more flexible approach. This suggests that there may be differences in preferences depending on the type of work. For example, flexible working hours are usually preferred for jobs that require creativity, while certain working hours are more preferred for those who work on production lines. The nature of the job plays an important role in determining the preferences of employees regarding working hours.

Research Question 1: Does generation Z tend to personally determine their working time at work?

According to the survey data, the majority of generation Z respondents (I completely Agree 122, I agree 40) said, “I would like to have the opportunity to organize my working hours at work.” he answered the question in the affirmative. This trend shows that generation Z is looking for independence and autonomy in their working life. It can be said that generation Z prefers to have flexible working hours for reasons such as prioritizing work-private life balance and this flexibility is important due to the need to adapt to their personal schedules.

Research Question 2: Does generation Z consider flexible working hours as a priority in job choices?

According to the survey data, more than 90% of the generation Z respondents (I completely Agree 122, I agree 48) said, “I care about working hours when choosing a job.” he answered the question in the affirmative. Accordingly, flexible working hours are an important factor in job selection for generation Z individuals. This choice allows them to live both their personal and professional lives in a more balanced way.

Research Question 3: Does generation Z tend to prefer shorter working hours in business life?

According to the survey data, “The less working time, the more likely I am to prefer a job. The number of generation Z participants who said “I completely agree” with his statement is 65, and the number of participants who said “I agree” is 57. Accordingly, it can be said that more than half of the participants preferred shorter study periods. This trend shows that Generation Z cares more about their personal time than their working life.

Research Question 4: How can the relationship between Dec generation Z's digital technology usage habits and working hours be evaluated?

According to the survey data, “I would like flexible working hours to be implemented. The number of generation Z participants who say “I completely agree” with his statement is 82, and the number who say “I agree” is 62. Accordingly, it can be stated that flexible working hours are important for generation Z.

Digital technology is being used extensively by generation Z to make their jobs faster, more efficient and more flexible. The adoption of digital technology by generation Z and its interest in flexible working models reflect the search for more flexibility and independence in working life compared to traditional ways of working. Therefore, generation Z employees are more likely to prefer working environments that are supported by digital technology and provide flexible working opportunities.

Research Question 5: How can the relationship between personal development and job satisfaction of the working time of generation Z be evaluated?

According to the survey data, the majority of generation Z respondents (110 Completely Agree) said, “Working hours should be determined according to the needs of employees.” he answered the question in the affirmative. This shows that the large segment of Generation Z prefers flexible and work periods determined according to their personal needs. Personal motivation and job satisfaction are an important source of motivation for generation Z. Flexible working hours offer more time and opportunities for individuals to improve themselves and be satisfied with their jobs.

Research Question 6: What is the impact of flexible working hours demands of generation Z employees on work productivity?

According to the survey data, “I think that employee performance will increase as the working time is shortened. The number of generation Z participants who said “I completely agree” with his statement is 112 and the number of participants who said “I agree” is 60. Accordingly, it is stated that the vast majority of Generation Z believes that shorter and flexible working hours increase productivity. Flexible working hours are an important factor to increase the work efficiency and job satisfaction of Generation Z. From the point of view of employees, it is stated that it is more productive when stress levels are low in an environment where they feel more flexible and comfortable. This also reflects positively on work efficiency and job satisfaction.

As a result, it is stated that generation Z has a positive approach to flexible working hours and work arrangements based on their personal preferences, and this approach affects their work preferences. Generation Z tends to increase job satisfaction and performance by caring about flexible working hours in their job choices. In addition, the adoption of flexible working models along with the use of digital technology reflects the search for more flexibility in working life for generation Z. These findings show that the implementation of flexible working policies at workplaces can have positive effects on the job satisfaction, performance and quality of life of generation Z employees.

Research Hypothesis: Generation Z believes that when they have the flexibility to adjust their working hours according to their personal preferences, their attitudes towards work and working life will be positively affected.

Accept. According to the survey, there is a positive relationship between generation Z's flexibility to decipher their working time according to their personal preferences and their attitudes towards work-private life balance. The fact that the majority of generation Z participants expressed that they want to organize their working hours according to their personal preferences shows that this flexibility can have positive effects on work-private life balance.

Research Hypothesis (H1) : When generation Z has the flexibility to adjust their working hours according to their personal preferences, the level of job satisfaction increases.

Accept. According to the data, a large part of the generation Z participants said, "I would like to have the opportunity to organize my working hours at work." he stated that he fully agrees with his statement. This supports that job satisfaction will increase when personal flexibility is provided.

Research Hypothesis (H2) : Generation Z individuals who have flexible working hours tend to increase their job performance and do their jobs more effectively.

Accept. According to the data, a significant part of generation Z said, "I would like flexible working hours to be implemented." he stated that he fully agrees with his statement. This shows that flexible working hours have a positive impact on job performance.

Research Hypothesis (H3) : Generation Z tends to exhibit higher productivity with shorter working hours.

Accept. According to the data, a large part of generation Z says, "The less working time, the more likely I am to prefer a job." and "I think that employee performance will increase as the working time is shortened." he stated that he agreed with their statements. This supports the fact that they tend to be highly efficient with shorter working hours.

Research Hypothesis (H4): Generation Z individuals believe that working in work environments that offer more flexible working hours and remote working opportunities will increase their job satisfaction and motivation compared to traditional office environments.

Accept. According to the data, the majority of generation Z said, "I would like flexible working hours to be implemented." and "I prefer working time that will not restrict my private life." he stated that he fully agrees with his statements. This supports that flexible and remote working opportunities increase job satisfaction and motivation.

Research Hypothesis (H5) : Generation Z believes that there is a positive relationship between flexibility and freedom in working hours and work-life balance, which can improve personal happiness and work performance.

Accept. According to the data, a large part of generation Z “I prefer working time that will not disrupt my family responsibilities.” and “I prefer working time that will not restrict my private life.” he stated that he fully agrees with his statements. This supports that flexible working hours are associated with work-life balance and personal happiness.

Research Hypothesis (H6) : The expectations of generation Z individuals regarding their working time include the integration of technology into business life and remote working opportunities. By meeting these expectations, the job satisfaction of generation Z employees will increase and their job performance will be positively affected.

Accept. According to the data, a large part of generation Z said, “I would like flexible working hours to be implemented.” and “I prefer working time that will not restrict my private life.” he stated that he fully agrees with his statements. This supports the integration of technology into working life and that remote working opportunities positively affect job satisfaction and performance.

As a result, it shows that generation Z has a positive approach to flexible working hours and work arrangements based on personal preferences. A large part of the participants prefer flexible working hours and think that this situation increases their job satisfaction and motivation. In addition, it is stated that generation Z individuals tend to exhibit high productivity during shorter working hours, and flexible working opportunities are associated with work-life balance and personal happiness. These findings suggest that the implementation of flexible working policies at workplaces may have positive effects on the job satisfaction, performance and quality of life of generation Z employees.

Research Assumption 1: Generation Z individuals are more prone to flexible working hours and remote working opportunities to achieve work-life balance. Therefore, they will prefer their employers who offer flexible working options.

According to the data, a large part of the generation Z participants said, “I would like flexible working hours to be implemented.” and “I prefer working time that will not restrict my private life.” he fully agrees with his statements. This supports that generation Z is more prone to flexible working hours and remote working opportunities and that they will prefer employers and managers who offer such options.

Research Assumption 2: Since generation Z is a generation that has been heavily exposed to technology,

it has adopted and prefers digital working tools such as remote working and flexible hours more.

According to the data, the majority of generation Z respondents said, “I would like flexible working hours to be implemented.” and “Working hours should be determined according to the needs of employees.” he stated that they fully agree with his statements. Accordingly, it can be said that it supports the fact that generation Z tends to adopt the policies applied for remote working and flexible working hours.

Research Assumption 3: Generation Z individuals think that traditional office environments may be restrictive, job satisfaction will decrease if flexible working hours are not offered at workplaces.

According to the data, the majority of generation Z respondents said, “I would like flexible working hours to be implemented.” and “I prefer working time that will not restrict my private life.” he stated that he fully agrees with his statements. This supports that generation Z will decrease their job satisfaction when flexible working hours are not offered.

As a result, it is stated that generation Z individuals are more prone to flexible working hours and remote working opportunities to ensure work-life balance. This supports the prediction that they will prefer employers and managers who offer flexible working options.

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Chilean mining at the crossroads: challenges and strategies to lead the energy transition

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Preliminary Words:

Chile, a global leader in copper and lithium, faces growing international competition and domestic challenges that threaten its strategic position in the mining industry. This study looks at investment opportunities, the policies needed to drive sustainable development, and the challenges that the country must overcome to maintain its leadership in a world in transition towards a green economy.

The report analyses the status and prospects of Chilean mining in a global context marked by the energy transition. With projections indicating a 70% increase in copper demand by 2030 and sustained growth in the lithium market, Chile has a historic opportunity to consolidate its position as a key supplier of critical minerals. Problems such as bureaucracy, legal uncertainty, and lack of new investment threaten its leadership.

The study highlights the need for a new regulatory framework to ensure legal stability, encourage foreign investment, and promote sustainable mining practices. It also addresses the urgency of implementing innovative technologies and moving towards cleaner mining. In an environment of increasing competition, where countries like Argentina and Peru emerge as direct rivals, Chile must take strategic steps to not be left behind. This analysis provides an integral view of public policies, global trends, and areas for improvement that can ensure the role of Chile as a mining leader on the international stage.

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The global picture of mining investment in Chile.

The annual BloombergNEF 2024 "Transition Metals Outlook" reports on the copper market and the mining industry, in general, indicate that the mining sector will need the sum of 2 US\$1 trillion in new investments by 2050 to meet the growing demand for critical raw materials in a world that seeks to mitigate the impact of climate change by reducing fossil fuel use. BHP, via Rag Udd, the company's commercial director, warns that it will require investments of USD 250 billion to cover the demand for copper, which is estimated to require a 70% increase over the same period. Finally, in an interview given to the Diario Financiero on November 8, 2024, the President of the National Mining Society of Chile (SONAMI) pointed out that the expected demand for metals is enormous and only at the level of fine copper; an additional six million tonnes would be needed by 2030, which is more than the total production of Chile in a whole year.

The world requires, among other challenges, the manufacture of millions of electric vehicles with critical metals such as copper, aluminum, and lithium, which is not trivial given that the world has limited availability, thus facing potential shortages of these supplies. The report also emphasizes the importance of recycling and effective government policies to support the transition to low-carbon technologies. For Chile, since it is the largest global producer of copper (and has the largest reserves of the metal) and is also the second largest lithium producer in the world, It is crucial to pay attention to this additional demand for the traditional uses of metals that are fast approaching and to establish its current and future positioning in the market share of these raw materials. Some key aspects are:

1. **Increased demand for copper:** It is expected to increase significantly due to its critical role in renewable energy technologies, electric vehicles (EV), and infrastructure development. An electric vehicle requires three to five times more copper than an internal combustion engine vehicle, highlighting the growing need for copper in the transition to greener technologies.
2. **Expected supply shortfall:** The mining industry faces a major challenge to meet growing copper demand. This is attributed to the scarcity of copper mines and insufficient new mining projects to meet demand. In Chile today, the mines are already old, which implies the removal of more material per tonne of copper and laws to lower, with the consequent increase in costs. Additionally, it must be added that in Chile, obtaining the environmental permits and then the construction and commissioning of a new copper mine can take about 15 years or even more.
3. **Investment needs:** To meet the expected demand for critical metals, including copper, the mining industry will need \$2.1 billion in new investments between now and 2050. This investment is crucial to meet the need for raw materials, as the availability of these metals remains insufficient.
4. **Geographic changes in mining:** The expected increase in copper demand may lead to a reshaping of the geographical landscape for copper mining. Countries with unexploited copper resources or more active in the search for the metal could become key players in new mining activities, which would change current production sites. In this sense, there is information on new actors that would join as producers of copper and lithium. In Argentina, for example, an incentive to invest in mining (known by its

acronym "Rigi") has been enacted. It should be noted that in September 1991, Peru promulgated the Legislative Decree N° 662, which establishes rules for the legal stability of foreign investments where mining is located by recognizing certain guarantees, a Decree forming part of the compendium of investment promotion rules. The same is true in Africa, where the Democratic Republic of the Congo and Zambia stand out as important future players in copper supply.

5. **Recycling as part of the solution:** Recycling is expected to play a vital role in reducing some of the pressure on copper supply. The report suggests that secondary source production will become an integral part of the metal supply chain for energy transition, helping to meet growing demand.

Overall, the results underline the critical importance of copper, lithium, and other metals in the transition to a sustainable economy while highlighting the challenges facing the mining industry in meeting this demand in a relatively short time. This means that shortages of some minerals, especially copper, may delay climate change reduction targets.

In this regard, government policies play a role in supporting the transition of the mining industry toward greater mineral supply and, at the same time towards net zero emissions through several key mechanisms:

1. **Regulatory frameworks:** Governments can establish regulatory frameworks that set clear targets and guidelines for emission reductions in the mining industry. These regulations can encourage companies to adopt cleaner technologies and practices, ensuring that mining operations align with broader climate goals.
2. **Investment in infrastructure:** Public policies that promote investment in renewable energy infrastructure contribute to the transition of electricity operations. This includes the development of electrical systems, transmission, energy storage, charging stations, and other infrastructure necessary to support the use of electrical equipment in mining and other industries.
3. **Support for research and development:** Government funding and support for research and development can drive innovation in mining technologies. This includes advances in the field of energy. In addition, it is relevant that countries have more detail of their geological wealth and be able to characterize the abundance of minerals of interest with the depth of the soil, so mineral prospecting should be included in these investigations. Efficient mining practices and waste reduction that can reduce the environmental impact of mining operations are required.
In this respect, it should be noted that the investment in exploration and prospecting is by no means minor and, most of the time, ends up being a capital that "burns"; indeed, substantial resources are required to carry out exploration activities in order to determine the existence of a possible deposit, capital being used for an activity that is essentially random. In practice, only one out of every 300 discoveries becomes a mine.

The main support required, in the face of this randomness that has exploratory

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activity, is none other than to offer legal certainty to those who are willing to risk their capital.

On the other hand, there is also a need for parallel development of sufficient infrastructure to enable further exploration and mining. Perhaps the best example of the necessary complementarity that must exist between the main activity and its supply chain is, to make an analogy, what happens today with the aeronautics industry, where the airlines' aircraft fleets have the highest rate of aging (around 15 years) given the shortfall in new aircraft deliveries due to supply chain problems. In this sense, electricity generation and, above all, electricity transmission must move forward to prioritize the use of renewable energy (according to some aspects of the Mining Policy 2022-2050) and solve the existing deficit in electricity transmission.

4. **Incentives for recycling:** Effective policies can encourage recycling and the use of secondary materials in the supply chain. This includes establishing collection networks, setting recovery rate requirements, and developing guidelines for the management of recycled materials, which can help reduce demand for newly mined metals.
5. **Public-private partnerships:** Governments can encourage collaboration between the public and private sectors to address mining industry issues. Working together, stakeholders can develop strategies that promote sustainable practices, share best experiences, and invest in technologies that reduce emissions.
6. **Education and training programs:** The implementation of education and training programs can help workers adapt to new technologies and practices that support sustainability. This ensures that workers are equipped with the skills needed to operate in a low-emission mining environment.
7. **Monitoring and reporting:** The establishment of systems for monitoring and reporting emissions can help mining companies to account for their environmental impacts. Transparency in emissions data can drive improvements and encourage companies to adopt more sustainable practices. It is necessary to create indicators that allow the interest or progress of investment in mining by discriminating between large, medium, and small mining.

In summary, government policies are essential to empower industry towards the mineral needs of humanity while guiding the transition of the mining industry to net-zero emissions through regulatory support, the promotion of investment in clean technologies, the encouragement of recycling, and collaboration between stakeholders. These efforts are vital to achieving sustainability goals and addressing the challenges posed by climate change.

Without a clear regulatory framework to facilitate new investments, Chile may well lose its leadership as a producer of raw materials, such as copper, that are key to the energy transition. Potential supply shortfalls that could arise if new mining projects are not developed quickly enough to meet the growing demand driven by renewable energy technologies and electric vehicles will no doubt lead our country to lose its leadership, as well as encourage substitutes. Draws attention to the fact that, while neighboring countries are implementing policies and regulations aimed at strengthening and providing

legal certainty for long-term investments such as mining investment, to attract large amounts of capital, already subject to the risk inherent in the randomness of mining (which cannot be countered by legal rules); however, countries like ours are passive in improving conditions for investment; One example was the repeal of DL 600 which contained a foreign investment statute, in January 2016. We believe that, regardless of the reasons given for such a derogation, such as the fact that the country was already mature, it belonged to the OECD and had several free trade agreements; however, the subsequent development of mining in Chile did not reflect the rationale for derogating from such an important instrument to promote foreign investment. In fact, today, we have practically no exploration projects or *greenfields*; virtually all of the little that is there are extensions of old mines already exploited for a long time.

At the same time and as part of this joint effort, mining must increase its fleet of electric vehicles for exploitation, which is not without challenges and benefits. It is noted that electric mines can operate at significantly lower costs and with no carbon footprint on their products. Capital costs and infrastructure needs remain major obstacles. This reflects a wider challenge in industry with respect to the balance between sustainability and economic viability. Government policies are crucial to supporting the transition of the mining industry. Effective regulations, infrastructure investments, and incentives are needed to steer the sector towards net zero emissions. The above presents at least the need to assume and fulfill certain commitments that arise from the Mining Policy 2022-2050, approved and published in the Official Journal dated January 28, 2023, which specifically addresses the need to create sustainable processes to respond to the reality of global markets, energy decarbonization, climate change mitigation and Finally, to improve mining productivity. Without changes that tend to provide legal stability and environmental sustainability in reasonable times, it will simply not be possible to respond to the challenges posed by the Mining Policy itself. This is why the need to decontaminate the planet and move towards a proper human and natural ecology requires, as an imperative, even moral, that those territories with mineral resources which are necessary to achieve such objectives, must be exploited and made available for the benefit of all, otherwise, given the essential value of minerals such as copper and lithium which Chile possesses in abundance, they will not be available with the consequent frustration that this would entail.

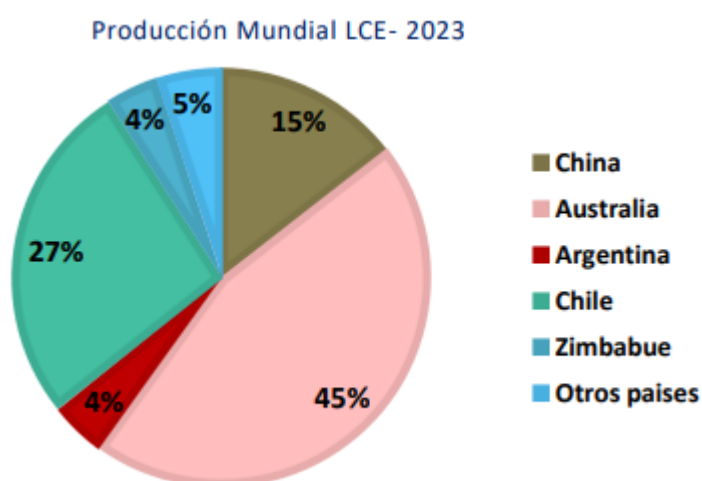
Just as an example, an electric car also requires electrical infrastructure for its load, so adequate infrastructure must be created throughout the country, which is not only a challenge for mining but for all users of electric cars in Chile and the world. This, in turn, requires the necessary infrastructure for the transmission and storage of electrical energy, which in turn requires copper and lithium, among other minerals.

With regard to lithium, it can be noted that the price of lithium carbonate has fallen due to several factors. It may be mentioned that sales of electric vehicles have been lower than expected and that several countries have decided to end or decrease subsidies for the purchase of electric vehicles. The companies that demand lithium have reduced their inventories of lithium since they had an overstock, which is accompanied by a greater supply of lithium as new projects have been introduced to the market in different countries. (COCHILCO 2024).

I.1 Some indicators of copper and lithium mining.

Chilean lithium production in 2023 reached 270,947 tons of LCE, experiencing a growth of 4.3% compared to 2022 and 120.5% compared to 2020. Production of 275,000 and 285,000 tonnes of LCE, respectively, is projected for 2024 and 2025. In 2024, according to SONAMI, in its report "Lithium: Current situation and challenges," prepared by the Center for Mining Studies and Documentation, CEMS, July 2024, notes that Chile's lithium reserves represent 33.6% of the world. This is also corroborated by COCHICO, which can be seen in **Figure 4**. Chile's lithium reserves in 2022 were 48% of the world's total. These figures reflect the worldwide effervescence of participation in the lithium market, where new players have proven their viability to extract the alkali metal. **Figures 1-4** show the lithium market over the past year and short-term projections. In **Figure 1**, we illustrate Chile's share of the world market.

Figure 1 Share of world lithium production in 2023.



Source: COCHILCO. Lithium Market Projection 2024-2025 DEPP 08/2024

Figure 2 shows the projected global demand for lithium over the period 2023-2025. There is a growing and sustained demand, according to a recent report by COCHILCO (2024).

Figure 2 Projection of world demand for lithium.

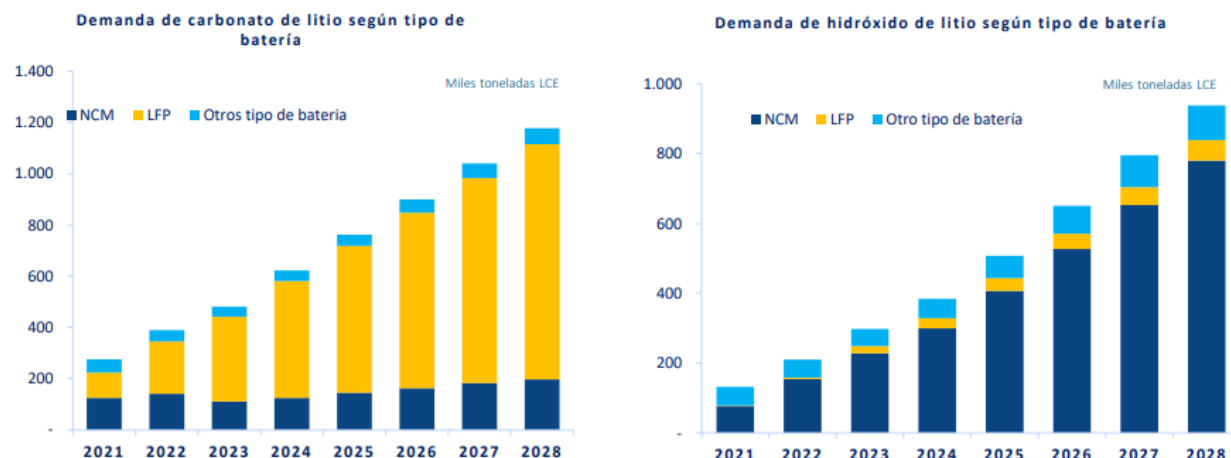


Source: COCHILCO. Lithium Market Projection 2024-2025 DEPP 08/2024

In addition, the projected lithium demand by battery type between 2021 and 2028, in terms of lithium carbonate and lithium hydroxide, is observed in **Figure 3**.

The data indicate a growing demand for lithium worldwide in the next few years, almost double over the next four years, which is not consistent with the growth of Chilean production, which is growing at a slower rate of 4-5%.

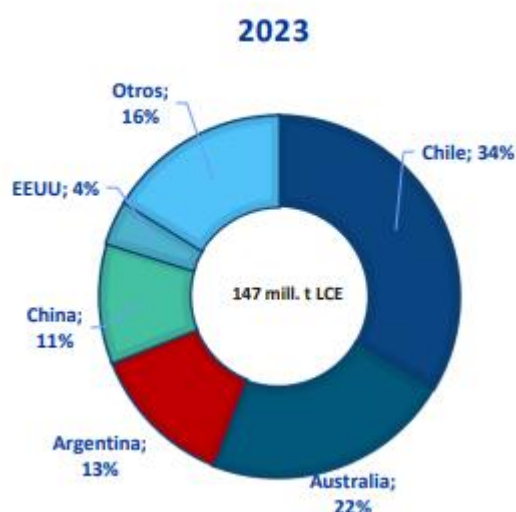
Figure 3: Projected lithium demand by battery type between 2021 and 2028.



Source: COCHILCO. Lithium Market Projection 2024-2025 DEPP 08/2024

In terms of global lithium reserves, Chile holds 33.6% of the world's lithium reserves, ranking first, as shown in **Figure 4**.

Figure 4: Global lithium reserves.



Source: COCHILCO. Lithium Market Projection 2024-2025 DEPP 08/2024

The emphasis should be on the need for legal, tax, and regulatory stability, especially to attract the large and long-term foreign investment required. The paper suggests that creating a favorable investment climate is essential for long-term growth and sustainability in the mining sector.

In recent decades, there has been a decline in mining investment in Chile, and given the good price of metal and the known increase in demand and interest from other nations to participate in the mining business and produce copper, it is urgent to understand the reasons why the country does not grow with the intensity that is expected and so much needed.

If we look at Argentina, there are several interesting news in this area. A "large" porphyry of copper and gold is identified at the Diablillos silver project in Salta, a combination of historical drilling and the TITAN geophysical survey, a large and deep anomaly consistent with a porphyry system was described. Similarly with the "Los Azules" deposit in the neighboring province of San Juan, a traditional mining province in the Argentine Republic; In this connection, it should be noted that the Argentinian mining sites are located on the eastern slope of the Andes mountain range and although it was pointed out that their exploitation was not very attractive because of their distance from Atlantic ports, it should not be forgotten that in 1997 a Treaty on Mining Integration and Complementarity was signed between Chile and Argentina, which is supplemented by additional protocols under the various projects, This is why a deposit in Argentina can be very profitable if it has access to Pacific ports.

I.2 The attractiveness of investment, supply and demand dynamics, and environmental impacts.

Here is how one could approach the analysis of different figures that give some light on the market deficit and its projection. Projections of copper demand versus supply overtime highlight potential deficits.

Copper projections estimate that demand will increase in the medium and long term due to the transition to electric vehicles and renewable energy technologies, while supply may have difficulty keeping pace due to the time needed to develop new mines. **Table 1** illustrates copper production and participation by countries in 2024. Chile remains the main producer country, followed by Congo and Peru.

Table 1: P Copper mine production in 2023-2025

País	2023	2024 (f)			2025 (f)		
	Ktmf	Ktmf	Dif.	Var.	Ktmf	Dif.	Var.
Chile	5.251	5.408	158	3,0%	5.733	324	6,0%
R. D. Congo	2.560	2.880	320	12,5%	3.068	187	6,5%
Perú	2.755	2.714	-41	-1,5%	2.763	49	1,8%
China	1.685	1.660	-25	-1,5%	1.786	126	7,6%
EE.UU	1.136	1.102	-34	-3,0%	1.197	94	8,6%
Indonesia	864	970	105	12,2%	958	-12	-1,2%
Rusia	904	917	14	1,5%	981	64	7,0%
Zambia	698	740	42	6,0%	817	78	10,5%
México	727	712	-15	-2,0%	698	-14	-2,0%
Australia	778	771	-8	-1,0%	760	-11	-1,4%
Kazajstán	867	824	-42	-4,9%	808	-16	-2,0%
Brasil	348	376	29	8,3%	408	32	8,5%
Canadá	500	497	-2	-0,5%	524	27	5,5%
Irán	322	338	16	5,1%	354	15	4,5%
Polonia	396	396	0	0,1%	416	20	5,0%
Otros	1.945	1.825	-121	-6,2%	1.888	64	3,5%
Mundo	21.735	22.131	396	1,8%	23.159	1.028	4,6%

Source COCHILCO: Copper Market Trends Report Projections for the period 2024-2025, First quarter of 2024

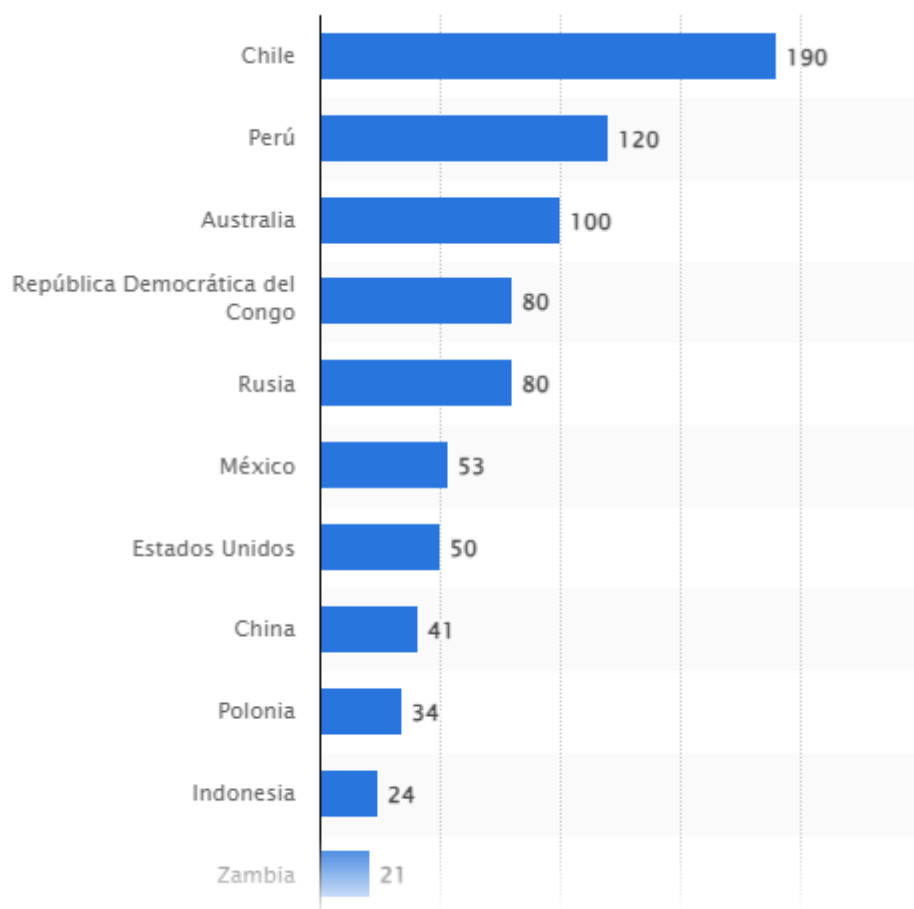
COCHILCO projects "a deficit copper market for the years 2024 and 2025 of 364 thousand and 278 thousand TM, respectively, which would have repercussions in a bullish bias for the price of metal. With regard to copper production in Chile, it is expected that in 2024, there will be 5.5 million TM, up by 5% compared to 2023, while the growth for 2025 will be 6%."

Based on the fundamentals of the refined copper market as well as geopolitical and macroeconomic factors, COCHILCO projects that the "most likely scenario for the price of copper is to reach an annual average of US\$ 4.18 per pound in 2024 and US\$ 4.25 per pound in 2025".

In the minutes of August 30, 2024, Results of the Consultative Committee on the Reference Price of Copper 2024, of the Ministry of Finance of the Government of Chile, "In the long term, a large capacity gap is projected to be filled by new copper projects. While there are a number of projects currently under development and construction (probable projects), many more are still needed to meet long-term copper requirements".

Figure 5 shows the estimated copper reserves in 2023. Chile leads the world in copper reserves, followed by Peru, Australia, and the Democratic Republic of Congo.

Figure 5: Ranking of countries with largest copper reserves in 2023 *(in million metric tons)*



These analyses are critical to understanding the urgency of addressing supply chain challenges and the need to increase investment in mining operations to meet future demand. **Figure 6** and **Figure 7** illustrate the raw material market deficit and its projection and expected demand.

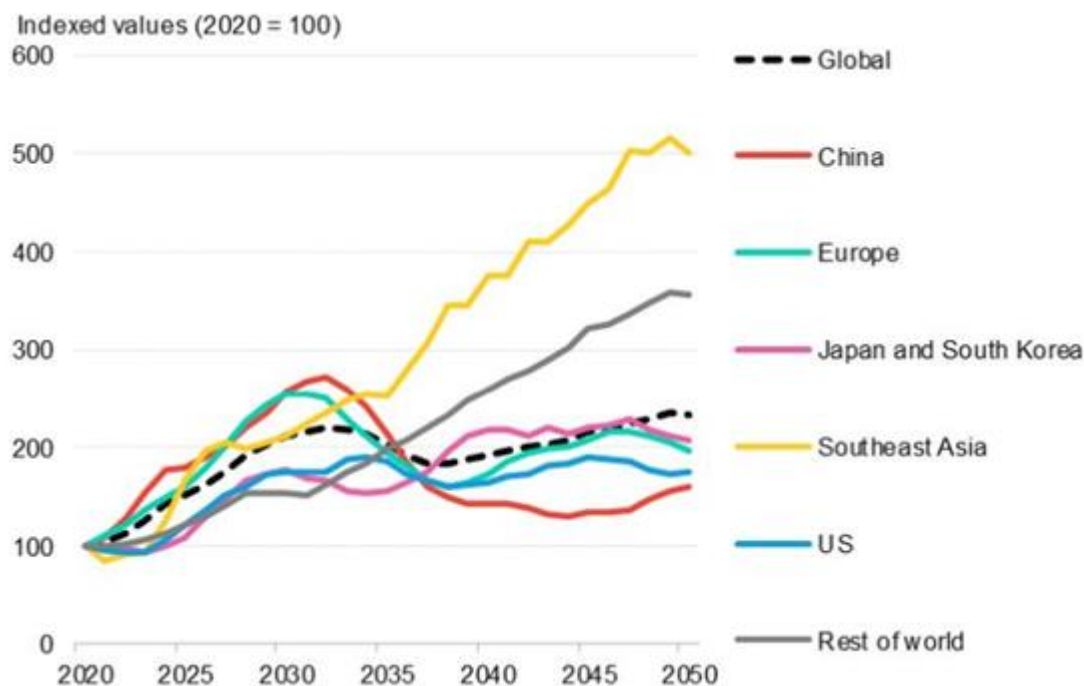
Figura 6: Balance de mercado de metales para la transición energética de BNEF's Economic Transition Scenario and Net Zero Scenario Expected supply surplus and supply deficits

Metal	Scenario	2024-2030	2031-2040	2041-2050
Steel	ETS	2024		
	NZS	2024		
Aluminum	ETS	2024		
	NZS	2024		
Copper	ETS	2024		
	NZS	2024		
Lithium	ETS	2025		
	NZS	2025		
Graphite	ETS	2028		
	NZS	2026		
Nickel	ETS		2030	
	NZS	2028		
Cobalt	ETS			2050
	NZS		2034	
Manganese	ETS			
	NZS			

Source: BloombergNEF. Note: Year is the first year in which a given metal is expected to enter a supply deficit. Only primary supply is considered in this table. All supply is mined nameplate capacity, apart from that for aluminum, graphite, and steel.

Fuente: BloombergNEF

Figure 7: Projected growth in demand for metals needed for energy transition relative to 2020 levels in BNEF's Economic Transition Scenario by region.



Fuente: BloombergNEF

It is necessary to compare the relative attractiveness of different jurisdictions for mining investment on the basis of various criteria, such as regulatory environment, taxation, and political stability.

A high score in this index indicates an investment-friendly environment, which is crucial for attracting the

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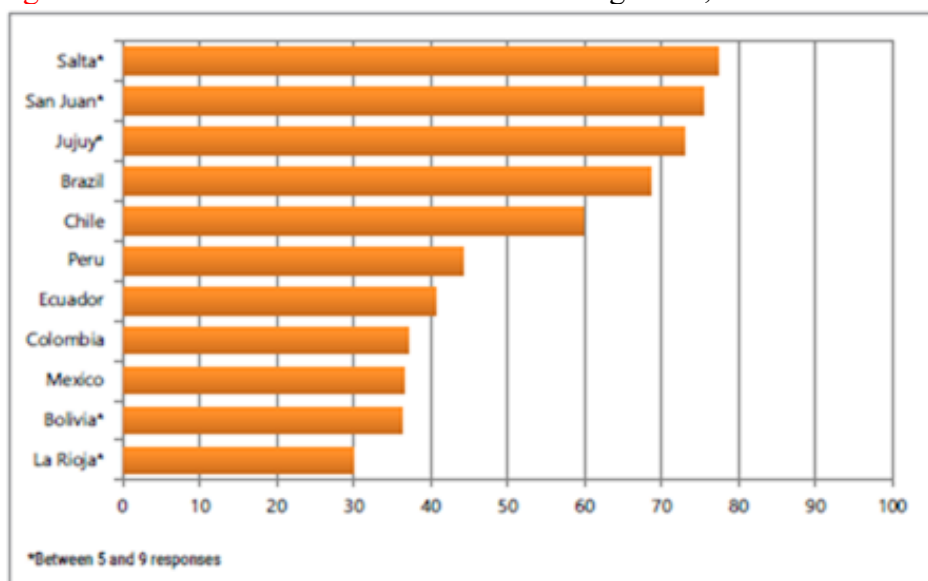
capital needed to develop new mining projects. Understanding the factors that contribute to the attractiveness of a jurisdiction can help stakeholders identify potential investment opportunities and areas for policy and regulation improvement.

Latin American countries have so far failed to tap their full potential in critical mineral value chains, and thus in clean energy and digital components (with few exceptions) and speed up decisions and facilities if one wants to remain a leader. Countries such as the Democratic Republic of the Congo exceed it in terms of mineral income, or the difference between the production value of a mineral reserve at world prices and total production costs (World Bank)

On the other hand, the 2024 report of the Fraiser Institute provides some data on the investment environment in Latin America.

Figure 8 shows an indicator that places Chile below Argentina and Brazil.

Figure 8: Investment Attractiveness Index in Argentina, Latin America and the Caribbean.

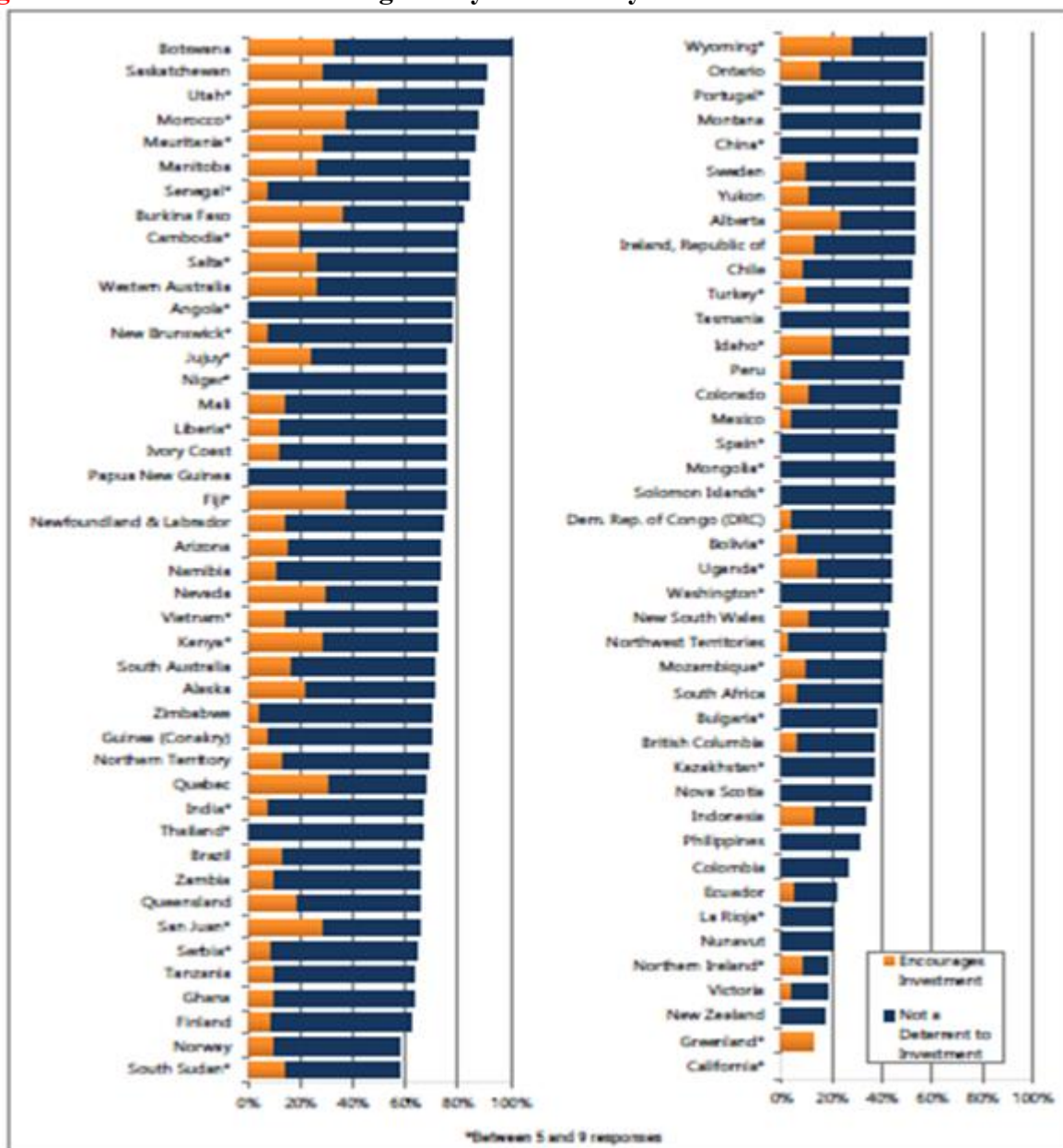


Source: Fraiser report.

Regarding the environmental impact assessment, this figure presents data on the environmental impacts of mining operations, which could include metrics such as greenhouse gas emissions, water use, and land disturbance. You can compare traditional mining methods with more sustainable practices. This index should be accompanied by a **government policy perception index**, which evaluates the attractiveness of mining policies in different jurisdictions and provides information on how policy environments influence investment decisions. Understanding mining policy perceptions can help governments identify areas for reform that improve their attractiveness to investors, ultimately supporting the industry's transition towards sustainable practices.

Figure 9 of the Fraiser 2024 report, regarding the results for 2023, shows the relative position of Chile in both areas. Clearly, the chart does not place the country in a privileged position and forces it to question the environmental assessment policies and regulations of its legal, regulatory framework, a deeper analysis to understand the difficulties faced by the country in this matter.

Figure 9: Environmental and Regulatory Uncertainty Index



Source: Fraiser report.

It is important to compare mining practices and regulations in different countries, as this can provide information on best practices and areas where certain jurisdictions stand out or fall behind. This comparative analysis can serve as a benchmark for countries seeking to improve their mining sectors and attract investment while ensuring sustainable practices.

Analysis of these figures can provide valuable information on investment opportunities, supply-demand dynamics, environmental impacts, and policy effectiveness, all of which are essential for stakeholders who want to navigate the complexities of the mining sector in the context of sustainability and net-zero emissions targets. It is important to be able to measure indicators related to mining externalities, such as environmental degradation or social issues, in order to have a global and unbiased view. The social implications of mining, the direct and indirect employment it generates, the displacement of communities, labor rights, and the impact on indigenous populations allow a more complete view of the sustainability of projects.

Mining investment requires legal certainty and stability in the rules governing this activity, as well as an adequate response and management of environmental permits within reasonable time frames. According to studies by the National Commission for Evaluation and Productivity of Chile, permits for a mining project take about 9 years, which must be added to the exploration, construction, and start-up phases of operations.

The recent news in Chile in this regard is not auspicious. The Environmental Assessment Service (SEA) of Atacama rejected the Environmental Impact Study submitted by Compañía Minera del Pacífico (CMP), a subsidiary of CAP, for the Los Colorados mine project, estimated at US\$344 million. The SEA in Antofagasta, for its part, last September, it was reported that the project "Central de Bombeo Paposo" in Colbún, which envisages an investment of US\$ 1,400, was suspended due to the non-use of the replenishment resource.

II. Legal stability needs to be restored for a new Foreign Investment Contract.

II.1 Background information.

In view of the imperative need to strengthen investment as an essential requirement for growth, initiatives that contribute to foreign direct investment should be encouraged. Since its entry into force, foreign investment has strongly complemented domestic investment, allowing sustained GDP growth beyond cyclical periods or increases or decreases in the price of metals and copper.

In an exhaustive analysis carried out in mid-2014⁶¹, when the Executive had proposed the repeal of DL 600, the Latin American Center for Social Policies of the Catholic University of Chile (CLAPES) noted that foreign direct investment in Chile (FDI) had "a positive and significant impact on the country's economic growth and, at the same time, on the variables of gross fixed capital formation, total factor productivity, export growth, and new employment generation". The report added that "Chile has shown an increasing trend in attracting FDI, placing itself in eleventh place of countries receiving the most

⁶¹ CLAPES, Working Paper No. 5, Repeal of the DL 600 and its Impact on Foreign Investment, 21, July 2014.

foreign investment during 2012. In that year, a record US\$ 30.323 million was reached. With this figure, the FDI inflows to Chile between 2010 and 2012 amounted to US\$68.627 million, a figure 42% higher than the US\$48.403 million recorded between 2006 and 2009".

According to the CLAPES study, "Chile's position in measurements involving FDI in recent years has been outstanding. Just look at the data from the World Bank to conclude that our country was in 2012 fifth place of a ranking of 200 countries, which measures the percentage of its Gross Domestic Product (GDP) represented by the amount of FDI. Only Luxembourg, Hong Kong, Singapore, and Ireland surpassed Chile in that year".

However, much of this FDI in mining was motivated by the robust sectoral legislation implemented in the 1980s, not only by the public economic order implemented in the 1980 Constitution but by the Constitutional Organic Law on Mining Concessions (Law 18.097, of 1982) and the Mining Code (Law No. 18.248, of 1983) and whose nobility has manifested itself in the few modifications they have undergone in substance. However, the major driver of FDI now at the cross-country level can be identified with Decree-Law No. 600 of 1974. The DL 600 was issued on July 13, 1974,⁶² replacing the DL 437 of 1954 and 258 of 1960. At that time, Chile was a party to the so-called Andean Pact, which regulated foreign investment through "Decision 24", which was zealous of foreign capital and provided for the progressive reduction of foreign participation in local enterprises; economic sectors reserved for national capital and restrictions on the transfer of profits abroad, among other obstacles.

Because of the above and in order to encourage foreign investment, Chile withdrew from the Andean Pact in 1976⁶³, adapting DL 600 by DL 1748 of March 18, 1977, to a friendly philosophy towards foreign investment, whose version remained almost intact- with some adjustments until its repeal by Law 20,780 of September 2014.

It should be borne in mind that, alongside DL 600, another source of foreign investment legislation was the so-called Compendium of International Exchange Rules of the Central Bank, particularly chapters XIV and XIX. It is also worth mentioning the Law 18.657 of September 1987, which regulated the so-called Foreign Capital Investment Funds.

II.2 Contract Law and Legal Security.

The merit of the DL 600 was in the option that was granted to the foreign investor to sign a contract with the State of Chile in order to guarantee their rights, a contract that the doctrine and jurisprudence have called contract law.

Professor Jorge Streeter, in his class manual, explains exhaustively that.

⁶² Inversión Extranjera en Chile, Mayorga y Montt, Editorial Jurídica Cono Sur, Santiago de Chile 1993, p. 46.

⁶³ The Andean Community, known as the Andean Pact, was established by the 1969 Cartagena Agreement and initially had four members: Peru, Bolivia, Ecuador and Colombia, which were later joined as partners: Argentina, Brazil, Chile, Paraguay and Uruguay.

The concept of contract law dates in Chile from the 1920s, having been recognized in messages from the President of the Republic to Congress, rulings by the Supreme Court, and reports by the State Defense Council and, through a long doctrinal discussion on the constitutionality and legality of limiting the sovereignty of the State to modify the contract, in relation to the protection of the property rights contained therein, It has been concluded that these rights can be modified but within the framework of the expropriation rules laid down in the Constitution.⁶⁴

This contract law virtuously interpreted the foreign mentality, which is of enormous importance in long-range projects, such as miners, who seek by investing not only profitability but legal certainty, as a result of the classic business formula "R-R" (Profitability and Risk).

Since the 1970s and for almost four decades, successful policies to encourage foreign investment have been based on this legal certainty. The issue of profitability was left to the investor himself, who was free to identify sectors in which it would be attractive to invest. It should be reiterated that in mining, randomness is the essence of such activity and, because of this, only at the level of public policy intended to encourage such activity can we reduce the other risks that can be mitigated. Therefore, the randomness of mining activity must be countered with legal certainty because if the geological risk is added to the legal risk, the investment climate is simply destroyed.

In summary, the foreign investment policy and the law contract were basically based on three main principles:

Principle of economic freedom.⁶⁵ Prescribed in art. No 21 of the Constitution, in force since 1980, guarantees "the right to engage in any economic activity that is not contrary to morality, public order or national security, while respecting the legal rules governing it." This provision protected nationals and foreigners alike, allowing them to decide how to face the traditional economic questions of what, how, and for whom to produce. With a few exceptions, there were and are no sectors in Chile reserved for the State, except those expressly indicated by law, such as exploration, exploitation, and profits of non-concessional mineral substances or the status of nationalized mining companies under the seventeenth transitional provision of the 1925 Constitution (articles 19 N° 24 paragraph 10 and third transitional of the 1980 Constitution) without prejudice to the fact that private individuals must in each case comply with the *relevant regulations*, as stated in the above-mentioned constitutional provision.

Principle of Regulation. Although this principle is of a constitutional nature, it has been constantly questioned by those who advocate total deregulation in economic activity. The point is that the regulation should not affect the rights in their essence, in accordance with the provisions of article 19 N. 26 of the same Constitution.

Principle of non-discrimination. Although the Constitution established this principle in art. 19 N. 22, DL 600 developed it more extensively in its arts. 9 and 10.

It should be borne in mind that this principle had only exceptions based on international practices, reserving certain economic activities for the State, such as cabotage, the acquisition of frontier property, or access to domestic credit.

Art. 9 stipulated that "foreign investment and the undertakings in which it participates shall be subject to the common legal regime applicable to domestic investment, and may not be discriminated against, either

⁶⁴The Contract Act. Class materials for Economic Law III. Jorge Streeter. Faculty of Law, University of Chile. 1986.

⁶⁵ Foreign Investment in Chile, Mayorga-Montt, p. 53

directly or indirectly". The second subparagraph stated: "Laws or regulations relating to a particular productive activity shall be considered discriminatory if they become applicable to the whole or most of that productive activity in the country, excluding foreign investment." It continued by stating that "the legal or regulatory provisions establishing exceptional schemes of a sectoral or zonal nature will be considered discriminatory if the investment does not have access to them, nevertheless meet the same conditions and requirements for their enjoyment as are imposed on domestic investment." The Article then even defined what was meant by productive activities.

We have allowed ourselves to reproduce these rules, which gave legal certainty to the investor since DL 600 ceased to exist when it was repealed.

But even more, art. 10 added: "If there are legal rules that foreign investors or companies in which the foreign investment is involved consider to be discriminatory, they may request that discrimination be eliminated, provided that no more than one year has elapsed since the adoption of those rules. The Foreign Investment Committee shall, within 60 days from the date of submission of the application, decide on it, refusing it or taking appropriate administrative measures to eliminate discrimination or requiring the relevant authority to take such measures, if such measures exceed the powers of the Committee". Article continued: "In the event of failure by the Committee to take a timely decision, or if it is not possible to eliminate discrimination administratively, holders of foreign investments or companies in whose capital they participate may appeal to the ordinary courts for a ruling on whether there is discrimination and, if so, that general legislation should apply".

One guarantee that must contain a foreign investment attraction regulation (contained in the DL600), of particular importance for the foreign investor, is the clause known as "Tax Invariability," which grants the right to maintain the tax regime in force at the time of entering into the foreign investment contract for 10 or more years, subject to a fixed tax rate that cannot be changed in the event of legislative changes, without prejudice to the possibility of renouncing it and opting for the common system, a right which, once exercised, did not permit a return to the status of DL 600.

Following the repeal of DL 600, CLAPES pointed out in the above-mentioned working paper that:

"Despite the success of foreign investment figures, which account for more than 18% of the increase in the rate of GDP expansion of the Chilean economy between 2010 and 2012 and 15% of the increase in the number of persons employed in the national economy from 2010 onwards, we are faced with a legislative proposal by the current government (government assumed in March 2014) seeking its complete repeal, which is not based on an economic or legal basis and has therefore generated a general rejection by investors and trade associations".

Let us analyze the reasons that the government and Congress had to eliminate it and create a new institutional framework.

In the Message of Law 20.848, promulgated on June 16, 2015, it was stated textually:

"Article 9 of Law 20.780 provided for the repeal of DL 600 of 1974, Statute of Foreign Investment, effective January 1, 2016. From that date, the Foreign Investment Committee may not enter into new foreign investment contracts".

The message justifies the repeal of this decree-law as follows:

"Decree-Law 600 was conceived at another time in our history when foreign investments needed a special institutional framework and stability to enter the country. Today, such an exception regime is not

necessary. Chile has a globally recognized status, not only as a member of the OECD but also because of its economic, social, and institutional stability, which allows us to take the step of repealing this decree-law and move towards a new regulation in accordance with current requirements...".

Law 20.848 replaces the aforementioned Foreign Investment Committee, which is responsible for contracts with foreign investors, with a Promotion Agency designed to encourage investments in strategic sectors that, according to the message, it corresponds to an institutional modernization based on "the solid democratic and political consolidation in which our country finds itself".

Looking at the years since that repeal, the paradigms considered to abolish DL 600 have not proved their robustness, and today, there is a very low level of FDI, and much of it has been made simply for the purpose of replacing "assets by assets."

We firmly believe that the State must ensure legal certainty and security for foreign investors in order to attract large-scale capital investments to support long-term projects such as mining, promoting exploration campaigns, and encouraging the gradual replacement of mines that are no longer productive in the medium and long term. It is not possible to be content with merely extending existing mines, which are already old, and not promoting new explorations. The great merit of the DL 600 was that thanks to its regulations and implementation, it allowed the arrival of a large amount of FDI, allowing the discovery of deposits that are currently already mined.

However, the argument that, in view of international developments in the treatment of foreign investment, particularly with the emergence of free trade agreements or investment protection treaties, is not valid in our view, the Statute was no longer necessary and should be repealed.

Chile has signed agreements of this kind with more than 50 nations around the world; however, DL 600 was available without exception to all countries in the world and not only those with whom we have treaties. It is worth clarifying whether a DL 600 type regulation makes any claim on the rules of the host country of the investment more efficient for investors. It would also be good to supplement with cases of countries that have existing Free Trade Agreements and regulations for the protection of foreign investment, such as DL 600 or similar.

It would also be ideal to tell how countries like Ireland have improved their quality of life by receiving foreign investment.

CLAPES recalls in the study already mentioned that in 2011, it was agreed between the senators of the Finance Committee and the ministers of Finance and Mining at the time the formation of a High-Level Commission with the purpose of studying modernization to the Decree Law N°600. During eleven sessions, a cross-sectional group of professionals with recognized experience met to agree on a series of modernization measures in *"the conviction of the usefulness and necessity of the existence of a Foreign Investment Statute in our country."*

The proposals of this Commission indicated improvements in various areas such as:

Incorporation of the codes of good anti-corruption practices suggested by the OECD, specification of the modalities of contributions that can be made under DL 600, duration of the deadlines within which investors must materialize the investment, changes to the invariability of the tax rate of 42% in order to lower it and thus bring it closer to the rate of 35%, repeal Article 11a for investments in industrial or extractive projects and maintain Article 11b for mining investments, among others.⁶⁶

⁶⁶ See CLAPES document mentioned above.

2.3 Need for legal stability.

It is not a question of reinstalling the DL 600 as it was until its repeal but of establishing a regulatory framework appropriate to current requirements, with a Contract Law that includes, for example, clauses contained in the aforementioned Agreements or Treaties, as the Fair and Equitable Treatment or the Most-Favoured-Nation Clause, in addition to the suggestions listed above made in 2011 by the aforementioned Commission of personalities.

The country needs foreign investment as an essential complement to domestic investment. In this context, legal certainty and security, as guaranteed by the foreign investment law contract, is key for the investor. An investor will be willing to bear costs, including taxes, provided the project is profitable, but if it is not insured against risks that are not inherent in the activity itself, however profitable the projects may be, it will hardly decide to invest. Just as an example, and by analogy with another activity such as aeronautics, Many airlines have stopped flying to countries that, because of their exchange restrictions, have had to account for large losses as a result of not being able to convert the local currencies in which they sell their travel tickets into US dollars.

On the other hand, in view of the new international realities that the world is experiencing, it is essential for the country to be able to analyze and evaluate investment projects and approve or reject them, as most of the nations of the world do.

In summary, and considering the urgency of promoting investment so that the country can properly take advantage of the enormous Energy Transition to reduce climate change, we consider it urgent to discuss the possibility of issuing a new Statute that will replace the investment contract legal certainty for both the investor and the country.

III. The slowness in the management of sectoral permits and their impact on mining.

One of the most recurrent criticisms of the bureaucracy associated with sectoral permits -of all kinds- is both their abundance and the time they take (Cifuentes, 2023; García-Huidobro & Bastidas, 2024). This criticism is known as "permissiology". The National Commission on Evaluation and Productivity (2023) has held that permits are necessary but have a significant impact on investment projects. For example, the Commission states that a new mining project takes about 107 months (8 years and 11 months) to enter exploitation, 34 months in pre-operation permits, 49 months in construction permits, and 24 months in SEIA.

In view of the above concerns, the government of President Gabriel Boric presented a draft Framework Law on Sectoral Authorizations (Bulletin No 16566-03) in 2024. It recognizes the "stagnation of growth, investment and productivity" (p. 1) as well as the barrier to investment and development imposed by permits in a context of "complex, opaque, uncertain or time-consuming processes" (p. 5).

However, one of the areas excluded from the bill is the environment. It is also argued that the time limits have been growing over time. For example, in a report from the University of San Sebastian (2024), it was found that 985 days (2 years and 7 months approximately) were required to obtain an environmental rating resolution, which was above the historical average of 434 days (1 year and 1 month

approximately). Moreover, the newspaper El Mercurio, in its cover of October 19, entitled "Permissiology crosses Chile: the procedures for projects subject to environmental assessment exceed legal deadlines in all regions". In reaction to this news, the director of the Environmental Assessment Service denied the newspaper that the SEA "has no delays and always complies with legal deadlines, without exception, throughout Chile" (Servicio de Evaluación Ambiental, 2024). Previously, the government had already committed -at the beginning of 2024- to present a reform project to the Environmental Assessment System by the end of 2024, which would lead to a streamlining of processes (Ministry of Finance, 2024).

IV. Conclusions.

1. **The investment climate is changing:** The attractiveness of mining jurisdictions is influenced by political factors and mineral potential. The constant 60/40 weighting in the investment attractiveness index underlines the importance of balancing policy environments with geological advantages inherent to a region. Favorable prospects for the mining industry are attracting new players such as the Democratic Republic of the Congo, Saudi Arabia, and Zambia, among others.
2. Chile must seek to become attractive again to international investors in these measures of indicators in a globalized world if its leadership in the mining industry is to be maintained.

In this respect, it is essential to reenact a new Foreign Investment Statute, which provides for a Foreign Investment Contract along the lines of the repealed LD600, giving adequate legal certainty to investors.

3. One element that can help in this direction is the National mining policy published in the official journal in 2023. On the basis of this, the deployment of regulations that will make it possible to materialize the growth of investments in mining could be accelerated.
4. It is key to note that without a greater supply of minerals, the energy transition has a serious risk of delaying internationally agreed targets in the 2015 Paris Agreement.
5. **Sustainability is paramount:** Mining has a key value in supporting the transition to renewable energy and infrastructure development. While demand for minerals such as copper is set to increase, industry must adapt to meet these needs in a sustainable manner.
6. **Policy and regulatory challenges:** The results indicate that uncertainty in policy and regulatory frameworks has a significant influence on investment decisions. Countries such as Chile and Peru have seen a decline in their rankings due to concerns about legal systems and labor regulations, suggesting that improving efficiency policy, clarity, and stability is essential for attracting investment. Accountability *of public sector actors and commitment by the State to set maximum time limits for environmental processing of renewable energy, construction, and mining projects* is required.
7. **Need for comprehensive strategies:** A holistic approach to mining that considers environmental, social, and economic factors. Suggests that mining companies and governments should work together to create frameworks that support mining development and

sustainable practices while meeting the needs of local communities. This should be a state policy and not a government agenda.

8. **Data-driven decision-making:** the use of indices such as the Policy Perception Index and the Mineral Potential Best Practice Index provides valuable information for stakeholders. These tools can help identify strengths and weaknesses in various jurisdictions to guide investment decisions and policy reforms.
9. **Future prospects:** While there are significant opportunities for growth in the mining sector, especially in the context of the green energy transition, challenges such as regulatory uncertainty need to be addressed, environmental concerns, and social impacts to achieve development and enable the energy transition that has begun. Without a change of mindset on mining practices, the industry may find it difficult to meet future demands in a sustainable way, so work must be done to improve the scenario.
10. **Call for collaboration:** Industry, governments and environmental groups must work together to promote a more sustainable mining sector. This collaboration is essential to balance economic growth with environmental protection and social responsibility. The management of actors requires that they be able to provide timely responses.

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Proposal Model for the categorization of academics in Higher Education Institutions

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Summary

The Chilean higher education system has experienced a significant expansion in its scientific production, driven by institutional accreditation requirements and pressures to publish in high-impact indexed journals. This phenomenon has boosted quantitative productivity, but it has also generated side effects, such as a decrease in the quality of research, an increase in retractions and the proliferation of predatory journals. The present study, based on a quantitative and descriptive-correlational methodology, critically analyzes the current criteria of academic evaluation in Chile, highlighting the excessive reliance on metrics such as impact factor, quartiles and the number of publications in Web of Science (WOS) and Scopus. Through a rigorous bibliometric analysis, the lack of recognition to alternative formats of scientific dissemination, such as technical reports, guide books or articles in congresses is evidenced. It is proposed to revalue these formats given their pedagogical relevance and industrial applicability, promoting a more holistic assessment of academic work that incorporates the social, teaching and ethical impact of publications. The paper advocates a “K modes” model, which is able to evaluate categorical variables, in order to achieve a balanced evaluation that recognizes the diversity of academic contributions, promote ethics in publishing and enhance the generation of knowledge aligned with the needs of the country.

Keywords: Chilean higher education, Scientific production, Academic evaluation, Bibliometric analysis, Impact factor, Research quality, Publication metrics

Introduction

The **k-modes algorithm** is a "clustering" (clustering) method designed specifically for data sets composed exclusively of categorical attributes. This method uses a measure of disharmony based on the number of differences between objects and uses modes (most frequent categories) as centers of clusters (Huang, 1998).

The K-modes algorithm is based on the following key concepts:

Dissimilarity: The distance between two categorical objects is measured by counting the number of attributes in which they differ. Both objects, x and y , dissimilarity is $d(x, y)$ defined as:

$$d(x, y) = \sum \sigma(x_i + y_i)$$

Where x_i and y_i are the values of the attribute i in x and y , respectively, and $\sigma(x_i, y_i) = 0$ if $x_i = y_i$, and 1 otherwise.

The modes: The center of each cluster is represented by a mode that is a vector of the most frequent categories for each attribute within the cluster (Huang, 1998).

Cost: The quality of clustering is evaluated by the total cost, which is the sum of the discrepancies between each object and the mode of its assigned cluster. The objective of k-modes is to minimize this restriction.

The database shall:

In this article, the central idea is based on giving life to an academic tool, which it considers explicitly and parameterized, according to certain criteria explained in the text, suggesting a model which, by definition incomplete, based on a qualitative framework that is useful to the academic communities and ensures fair, accurate ranking and evaluation (accreditation) of work carried out by various academics in Higher Education Institutions.

For this study, it is necessary to use a database containing information on teachers in different circumstances or academic dimensions, no known study currently contains this type of information, so that to illustrate the potentiality of the model developed, a multidimensional database is simulated.

The database is contained by 5 attributes (dimensions), whose values per attribute are categorised from 1 to 5, where:

Categorical value of the attribute	Representation
1	Indicates poor performance in the assessed attribute
2	Indicates low performance in the evaluated attribute
3	Indicates average performance in the evaluated attribute
4	Indicates high performance in the evaluated attribute
5	Indicates outstanding performance in the assessed attribute

The reason behind using categorical values for the evaluation of a category is to prevent exaggerated (outlier) values from appearing in the database, which have the potential to strongly unbalance the results, by way of example: today one of the performance metrics of academics is the **number of publications**, now each higher education institution has a defined amount of publications for its faculty, it is normal that there are academics who exceed the imposed target and obtain a greater number of publications in a given time, which in principle could lead to the distribution of publications per teacher not necessarily "normal", although a high number of publications may in principle be positive, this must be consistent with the fulfilment of other teaching obligations.

The attributes that feed the model must be chosen for the ultimate purpose of a comprehensive evaluation of what it means to be an academic, for this the model uses the following attributes:

Attribute	Description
N_articles	Number of articles written by an academic, during the last five years and its relative weight factor, in the authorship of the publication (measured by the indexes of widely recognized platforms).
T_eval	Teacher evaluation by academic hierarchy.

U-I	University-industry interaction. Exhibitor at national and international congresses. Awards and distinctions, such as Doctor Honoris Causa and related. Participation in industry, through industrial congresses, industrial patents, participation in industrial practices or similar.
impact_article	A measure of relevance of the written articles can be considered as a discretization of the h index, but more relevant is the total number of citations accumulated in the last 5 years, in which there is an active partition in quality of the work done by academics.
Guide	The number of qualification works in which the teacher has participated.

All these attributes must be taken to the categorical level, with values from 1 to 5, defined either by the respective institution or in common agreement with different institutions of the educational ecosystem. In particular, it is desirable to refer to academic ranking, academic qualification and recognition for relevant teaching contributions within and outside the classroom. In this way, we can refer only to the two highest hierarchies as a reference standard; Full-time and associate professors. These academic posts have been filled by open competition and have met the standards required by the Higher Education Institution. These standards are: research, teaching and extension. By way of example, we must argue on the basis of international experience that the so-called teaching evaluation for the two highest hierarchies is strictly qualitative in nature and cannot be confused with a punishable instrument which infringes the freedom of chair, the creation and projection of academics who have reached the highest state of the art in their disciplines with substantive contributions to innovation and technology transfer processes.

With the conditions already defined, we then need mathematical rules to generate a database, as mentioned above it is necessary that there is not an exaggerated amount of scattered data and that these are representative of the attributes already mentioned, for this we will use a randomness generated in a stable way by means of Python (using "random_state = 42"), naturally the range of categorized data can only take values between 1 and 5, where a standard deviation of 0.8 is defined, Finally, in order to ensure as many combinations as possible to the algorithm we require a number of samples of 5000. Additionally

we need to generate an important quantity to generate extreme and intermediate values in a pseudo-random way, so that the classification algorithm can generate clusters, then we add 1000 only with values 1 in all attributes, then we add intermediate values that imply a standard academic performance, where it is guaranteed the existence of an attribute (chosen randomly) with a value of 1 and as maximum only two attributes can take the value of 5, obtaining a database (df from now on), with the following Python representation:

[24]: df

	atributo_1	atributo_2	atributo_3	atributo_4	atributo_5
0	1	5	1	2	4
1	5	3	5	5	5
2	5	4	4	5	1
3	1	5	1	1	1
4	1	1	3	4	5
...	...	...	...	...	...
10995	5	1	4	4	3
10996	3	4	4	1	5
10997	3	4	4	1	3
10998	2	4	3	1	2
10999	1	5	4	3	4

11000 rows × 5 columns

We can observe that we have actually obtained data without values in 5, such as the data 10997.

Descriptive analysis of the database:

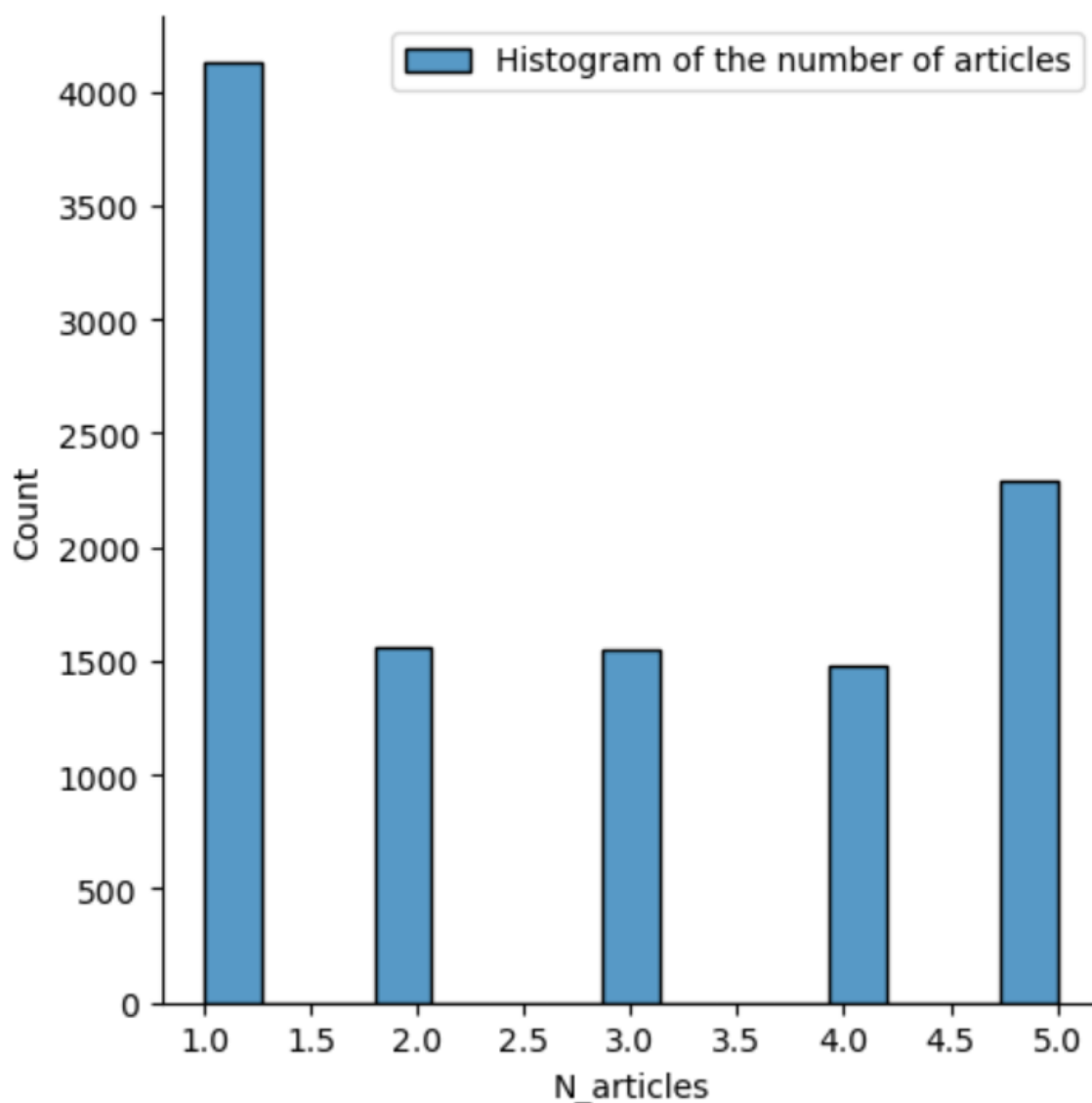
For a better understanding we have already replaced the names of the attributes, by the corresponding ones and generate through the command "df.describe()" from Python, obtaining the following:

```
[19]: df.describe()
```

[19]:	N_articles	T_eval	U-I	impact_article	Guide
count	11000.000000	11000.000000	11000.000000	11000.000000	11000.000000
mean	2.658364	2.896727	3.008818	2.837273	2.740545
std	1.578395	1.614967	1.612867	1.606388	1.594538
min	1.000000	1.000000	1.000000	1.000000	1.000000
25%	1.000000	1.000000	1.000000	1.000000	1.000000
50%	2.000000	3.000000	3.000000	3.000000	3.000000
75%	4.000000	5.000000	5.000000	5.000000	4.000000
max	5.000000	5.000000	5.000000	5.000000	5.000000

Where we can observe that we actually managed to generate 11,000 data, where we can observe the numerical average of the average, the standard deviation of the data, the minimum, the maximum and the respective percentiles.

Also, using Python we can generate the histograms for each attribute, since there are 5 attributes generated (semi) randomly may be worth performing this inspection, more by way of example we will only show the histogram of the attribute "impact_article", where we can see that in this attribute there are many teachers who, although they may have many articles, these are not significant in terms of their relevance, followed by a group of academics who achieve a high impact (5) and the rest varies between values 2, 3 and 4.



The elbow method:

Although as a first instinct of performance classification, one can intuitively think about generating groups according to performance or adapted under polynomial criteria, these set group divisions in a non-dynamic way, where there is not necessarily interaction between one or more areas of academic development, or with their peers. This proposal uses an artificial intelligence method of unsupervised classification of multidimensional elements into categorized attributes; however, being an unsupervised method means that the number of groupings (or classifiable elements) is can not be defined at will, but according to the behaviour of the data scattering the grouping patterns must be found. For this the

technique generally used for classification methods is useful for our purpose, for this we define the elbow method.

Under this approach, one of the key challenges in clustering analysis is determining the optimal number of clusters (k) that best represents the underlying structure in a data set. Since the nature of the data is categorical, we must have considerations.

The computational cost of K-modes can be used as a metric to evaluate the quality of clustering. Cost is then defined as the sum of the dissimilarity distances between each object in the dataset and the mode of its assigned cluster. Mathematically, cost is expressed as:

$$\sum d(x_i, m_k)$$

Where:

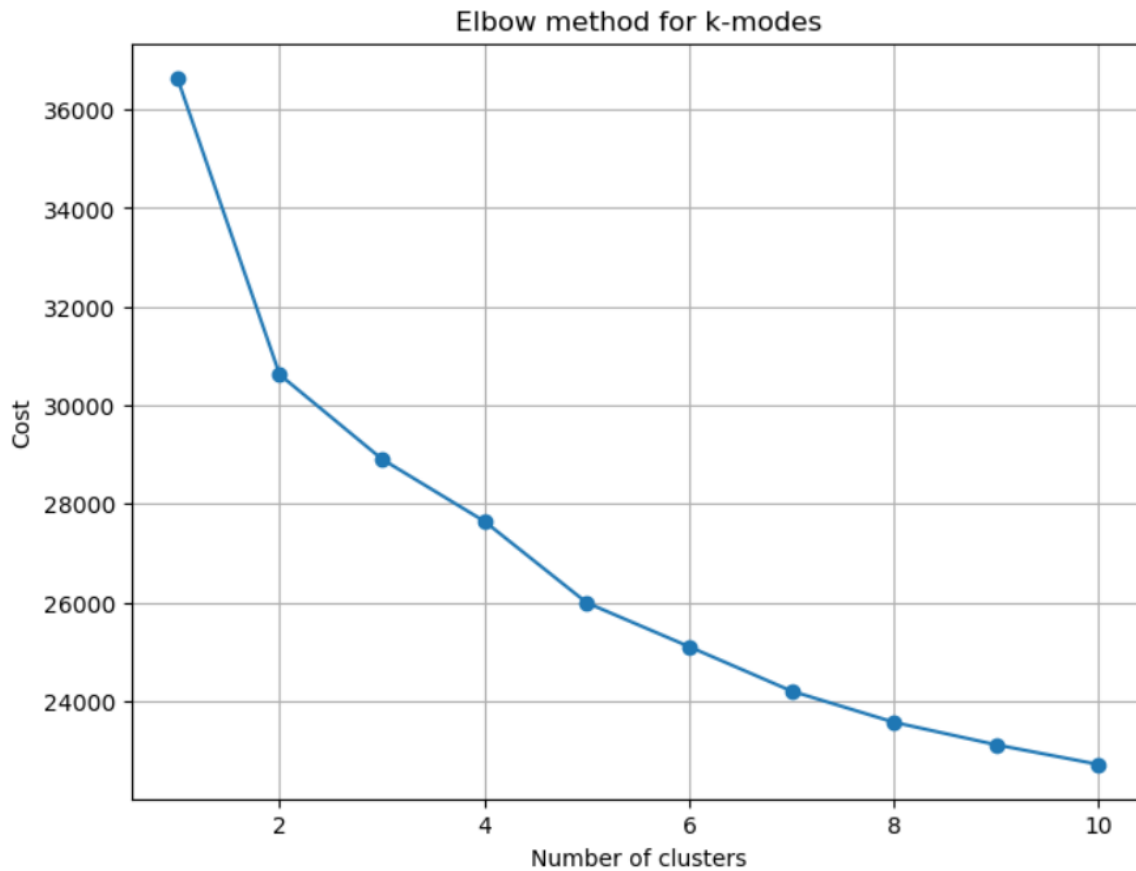
- x_i is the object of the i data set.
- m_k is the cluster mode k to which it belongs x_i .
- $d(x_i, m_k)$ is the dissimilarity x_i distance between and m_k .
- The sum is made on all objects in the data set.

A low cost indicates that the objects within each cluster are more similar to each other, while a high cost suggests that the objects are more dispersed or that the clusters are not well defined.

Then the elbow method takes advantage of the ratio between the total cost of clustering and the number of clusters (k). The underlying logic is that as we increase the number of clusters, the total cost tends to decrease as objects are grouped into smaller and similar sets. However, from a certain point on, the decrease in cost becomes marginal, and adding more clusters does not justify further reduction in dissimilarity. The elbow method is used to identify this tipping point (Tibshirani et al., 2001).

The "elbow" in the cost vs. number of clusters graph represents this turning point. Formally, the elbow is defined as the point where the cost exchange rate begins to decrease significantly.

Having said this, the determination or identification of the elbow may result in subjective appreciation, especially when the curve does not present a clear inflection point. In these cases, it is important to consider other factors such as domain knowledge and interpretability of the resulting clusters. It is important to keep in mind that the final decision should be based on a criterion that combines visual evidence with practical relevance (Tibshirani et al. 2001).



In the presented graph, we observe the computing cost, and the number of clusters applied to the data, where there is a elbow that can be located at 2, plus it is also possible to interpret the elbow at position 3.

Application of the model with 2 clusters:

Instructions for the application of the model are as follows:

```
# Define the hyperparameters for the
lookup of clusters_clusters =2 # Define the number of clustersinit ='random'
# Defines the initialization of the centroidesn_init =20 # Number of times that kmodes will be executed
with different centroides initializedverbose =1
```

To then take them to the model generation via:

```
kmodes = KModes(n_clusters=n_clusters, init = init, n_init = n_init, verbose = verbose,
random_state=42)
clusters = kmodes.fit_predict(df)
```

When performing these instructions we store the result of the model in the variable "clusters", to display the first elements of the new database we perform the following instructions.

```
df['cluster'] = clusters
df.head()
```

	N_articles	T_eval	U-I	impact_article	Guide	cluster
0	1	5	1	2	4	1
1	5	3	5	5	5	0
2	5	4	4	5	1	0
3	1	5	1	1	1	1
4	1	1	3	4	5	1

In the table we can see the first 5 elements of the generated database, unlike the original version now we can see a new column (or attribute) that contains the cluster where the data are grouped, in this particular case to the first element (0 index), is associated with "cluster 1". Python within its functions is able to quickly identify descriptive elements, then we will illustrate the percentage division of clusters via the following code.

```
df.cluster.value_counts('%')
cluster
0                                0.569091
1                                0.430909
```

Where we can see that 57% of the elements are part of "cluster 0"

Being organized the results by means of an unsupervised algorithm it is fundamental to know the characteristics of the generated clusters, to be aware of this we can invoke from python the modes used as main clusters in the following way:

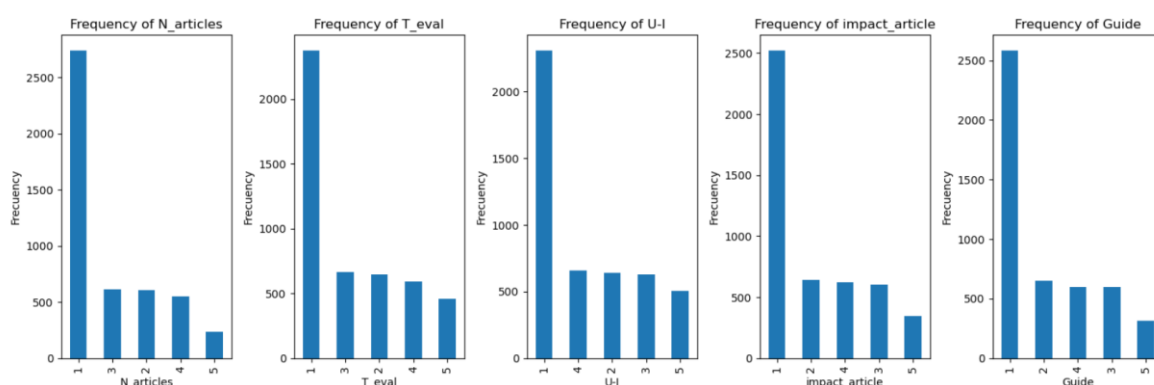
```
modos_df = pd.DataFrame(modos, columns = df.drop('cluster', axis = 1).columns)
modos_df
```

	N_articles	T_eval	U-I	impact_article	Guide
0	5	5	5	5	5
1	1	1	1	1	1

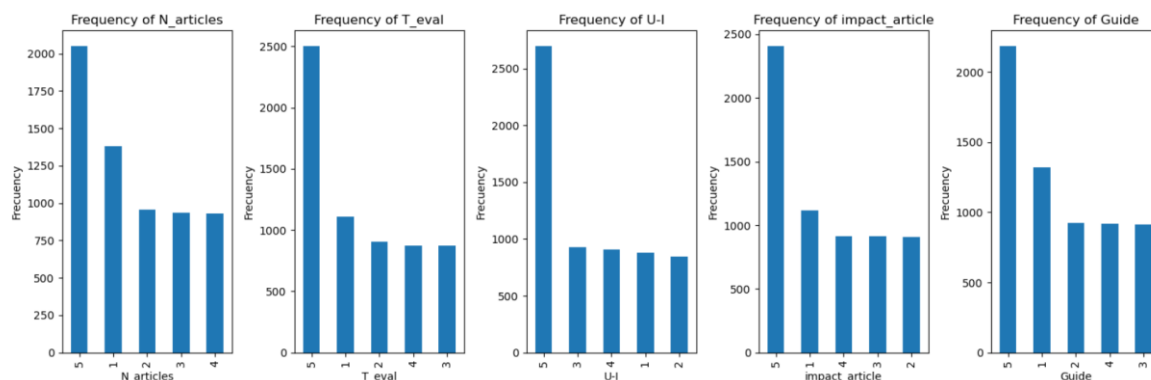
Given the following, then we have that the algorithm has organized two teaching performances, the "good teachers" (index 0) have all their attributes in "5" and the teachers who require more support will have their attributes in with values in "1" and are in the index 1.

It is also possible to obtain frequency tables by studied attribute, through "clever" programming, where you can get the following graphs:

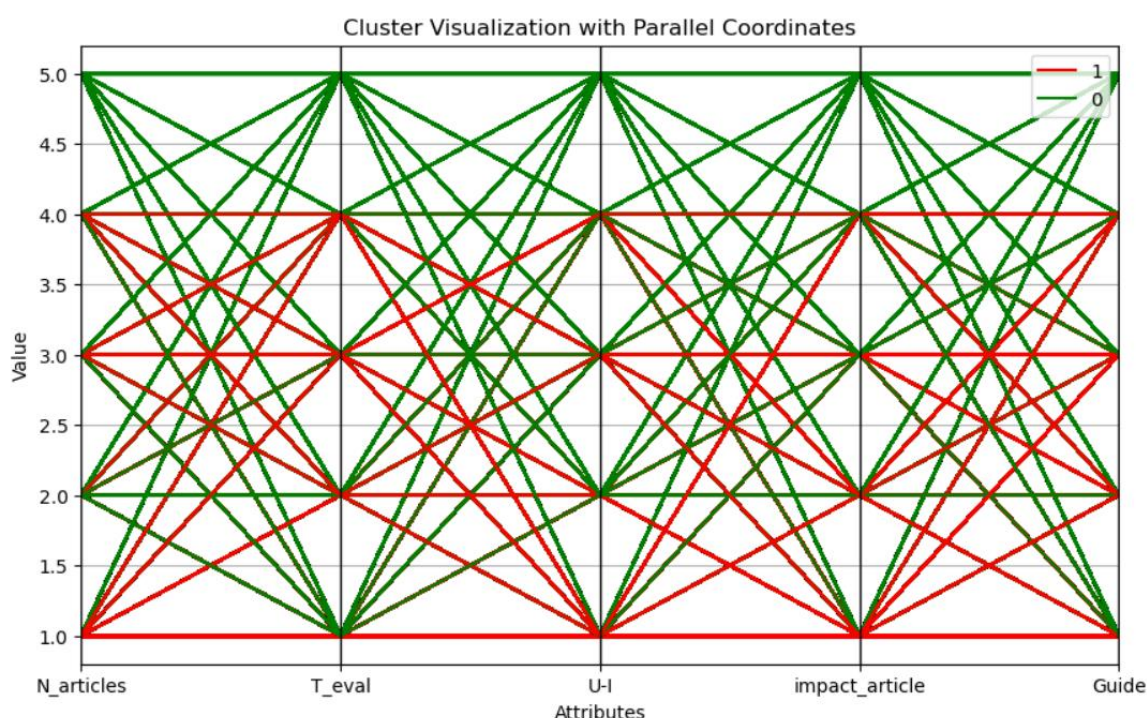
Frequency table of cluster 1:



Cluster 0 frequency table:

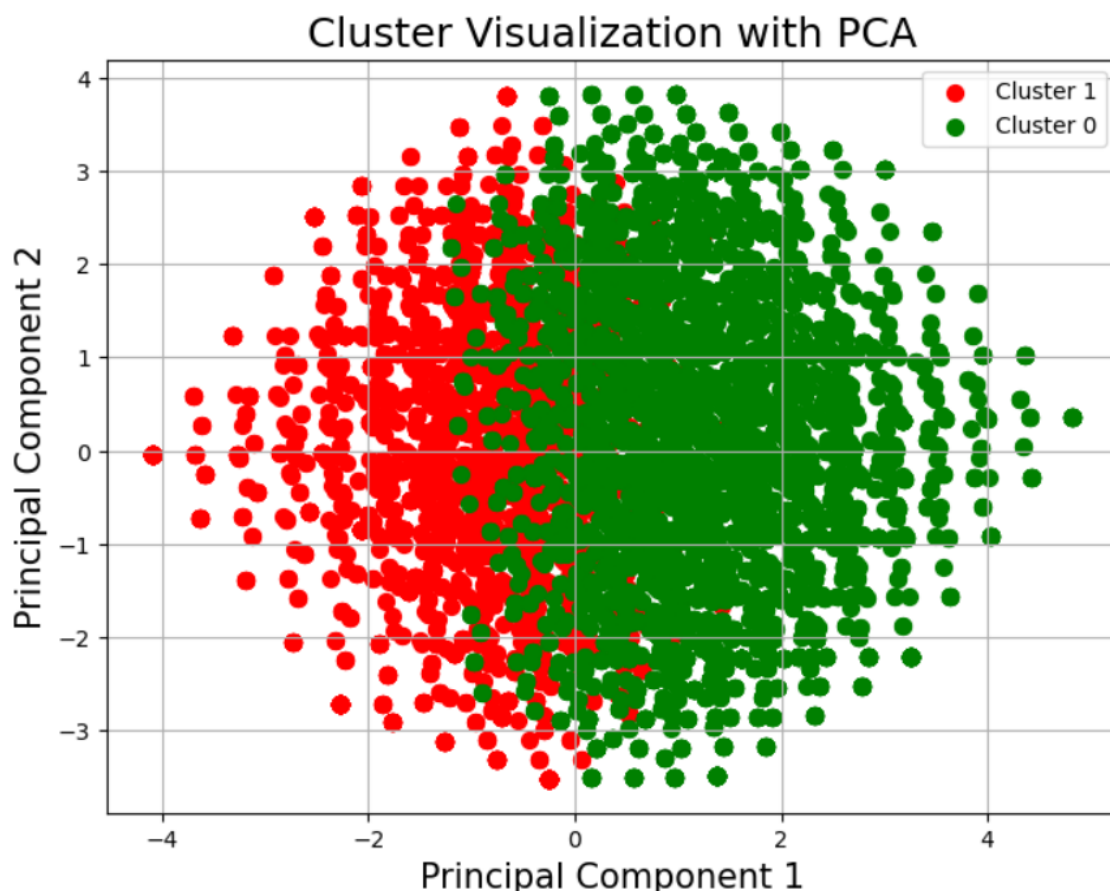


As you can see the frequency distribution of attributes in clusters, that a scholar has at least one attribute on the value of 1 does not imply that this automatically belongs to "cluster 1", since the model weighs between existing attributes and classifies according to the k-modes rules, also, it can be observed that if an academic has an attribute in 5, it does not imply that this will belong to "cluster 0". To be able to visualize this in a more concrete way you can make a chart of parallel coordinates



Another way of visualizing new groups or clusters is through principal component analysis (PCA), which is a linear technique that seeks to transform a set of p correlated variables into a set of k uncorrelated variables $k \leq p$, main components. These components are linear combinations of the original variables and are ordered according to the amount of variance explaining the data set. Thus, allowing a graphical representation in a space of low dimension (Bishop, 2006). The underlying hypothesis is that if the data contains well-defined cluster structures in high dimensional space, it should be noted however that information loss may occur due to dimensional reduction, If the structure of clusters is mainly defined by

components of lower variance, these may not be evident in the visualization based on the first major components (Hastie, Tibshirani and Friedman, 2009).



As we can see in the image, it is possible to distinguish 2 groups (clusters), however, it can be noted that there is a boundary (values close to "0" in the main component 1) where it is difficult to identify which cluster corresponds to an academic located in this area, this is also evidenced by the metrics of **calinski-harabasz** (with 0.153) indicates that clusters if they are well defined, however, the silhouette (with 2096) indicates that the effectiveness of clustering is not so clear. So, we can rescue that this way of classifying the academic world is very simplified and may have errors. Strange as it may seem, this makes a lot of sense, because obviously since teachers are evaluated in a multidimensional way, it is not possible to classify the performance of these based on an algorithm with only two outputs, then we need to generate a more complex model.

Application of the 3-cluster model:

The instructions for applying the 3-cluster model are as follows:

```
n_clusters = 3
init = 'random'
n_init = 20
verbose = 1
```

To then take them to the model generation via:

```
kmodes = KModes(n_clusters=n_clusters, init = init, n_init = n_init, verbose = verbose,
random_state=42)
clusters = kmodes.fit_predict(df)
```

By performing instructions similar to the previous section, it is possible to generate the new clusters, then we perform the visualization of the first elements of the new database.

```
df.head()
```

	N_articulo	eval_doc	impacto_industria	impacto_articulatio ns	degrees	cluster
0	1	5	1	2	4	1
1	5	3	5	5	5	0
2	5	4	4	5	1	0
3	1	5	1	1	1	1
4	1	1	3	4	5	1

Similarly to the previous analysis, we review the percentage of elements in the cluster, for this we perform the following instruction:

```
df.cluster.value_counts('%')
```

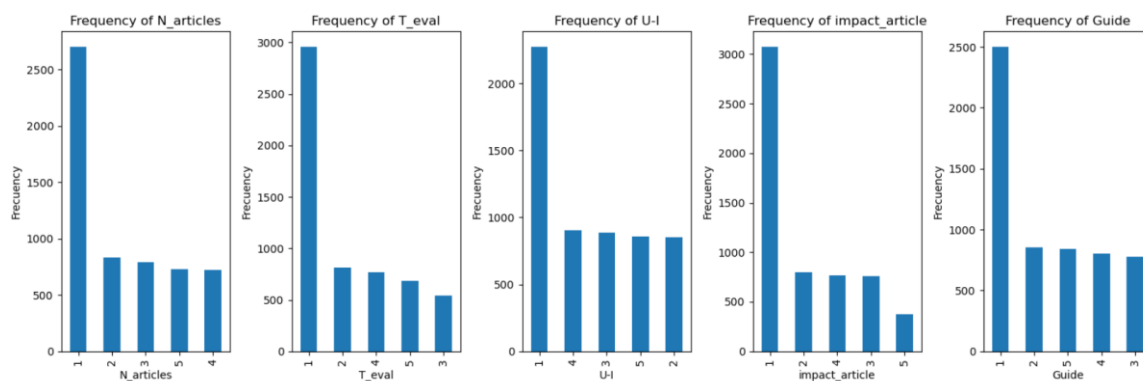
cluster	
0	0.524909
1	0.317000
2	0.158091

We can observe the percentage division of clusters where they have the following division:

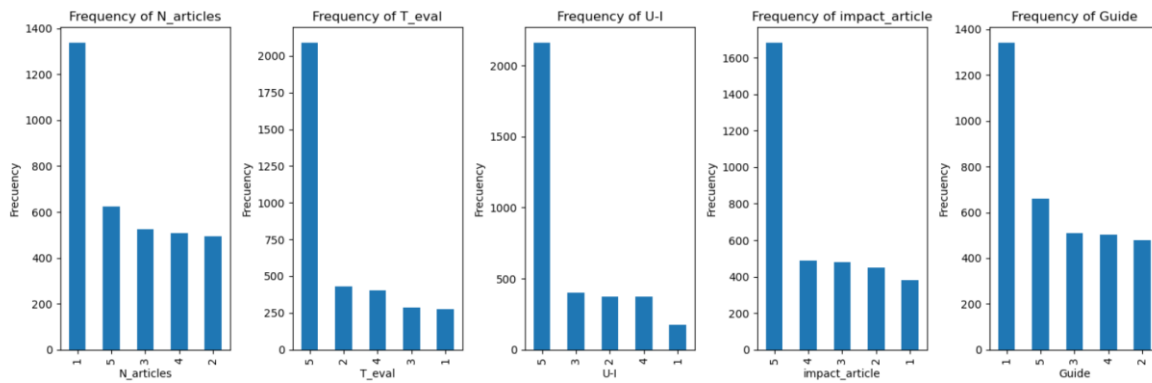
	N_articles	T_eval	U-I	impact_article	Guide
0	1	1	1	1	1
1	1	5	5	5	1
2	5	3	1	5	5

In this grouping, the academics who are in cluster "1" are those who need more support to meet goals imposed by their institutions, now in cluster "1" are intermediate in performance and finally the high performance is found in cluster "0". This is more evident in the frequency tables:

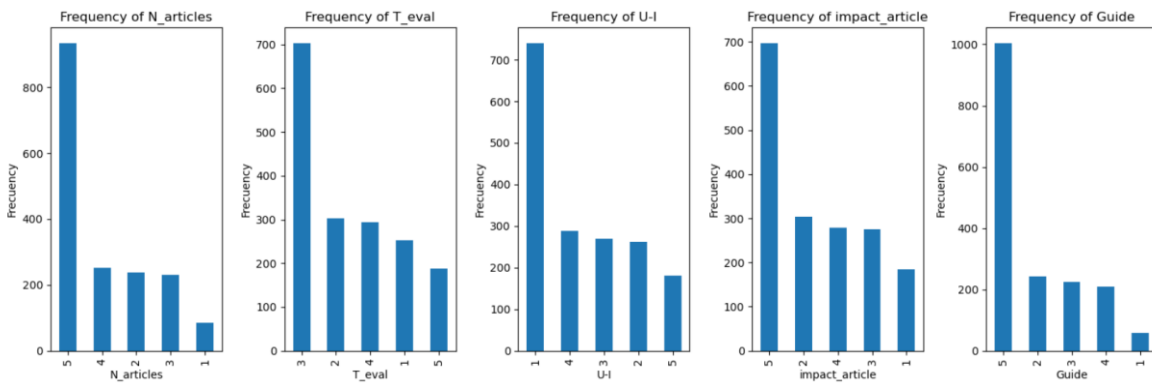
Frequency table of cluster 0:



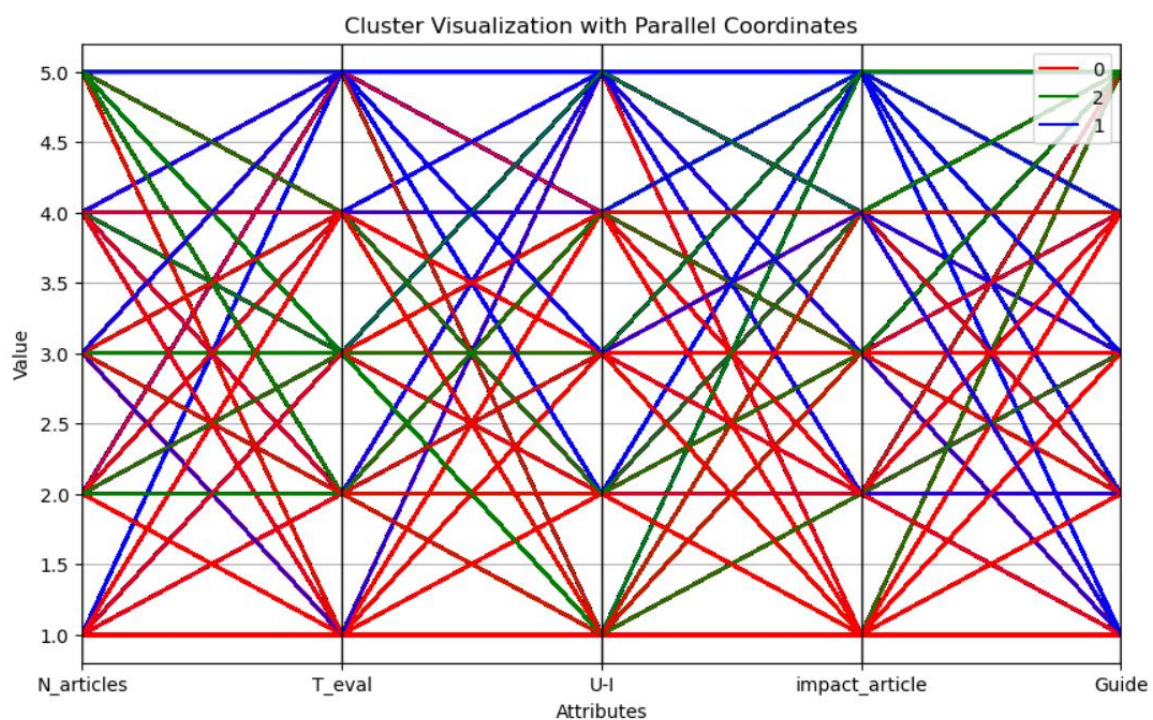
Frequency table of cluster 1:



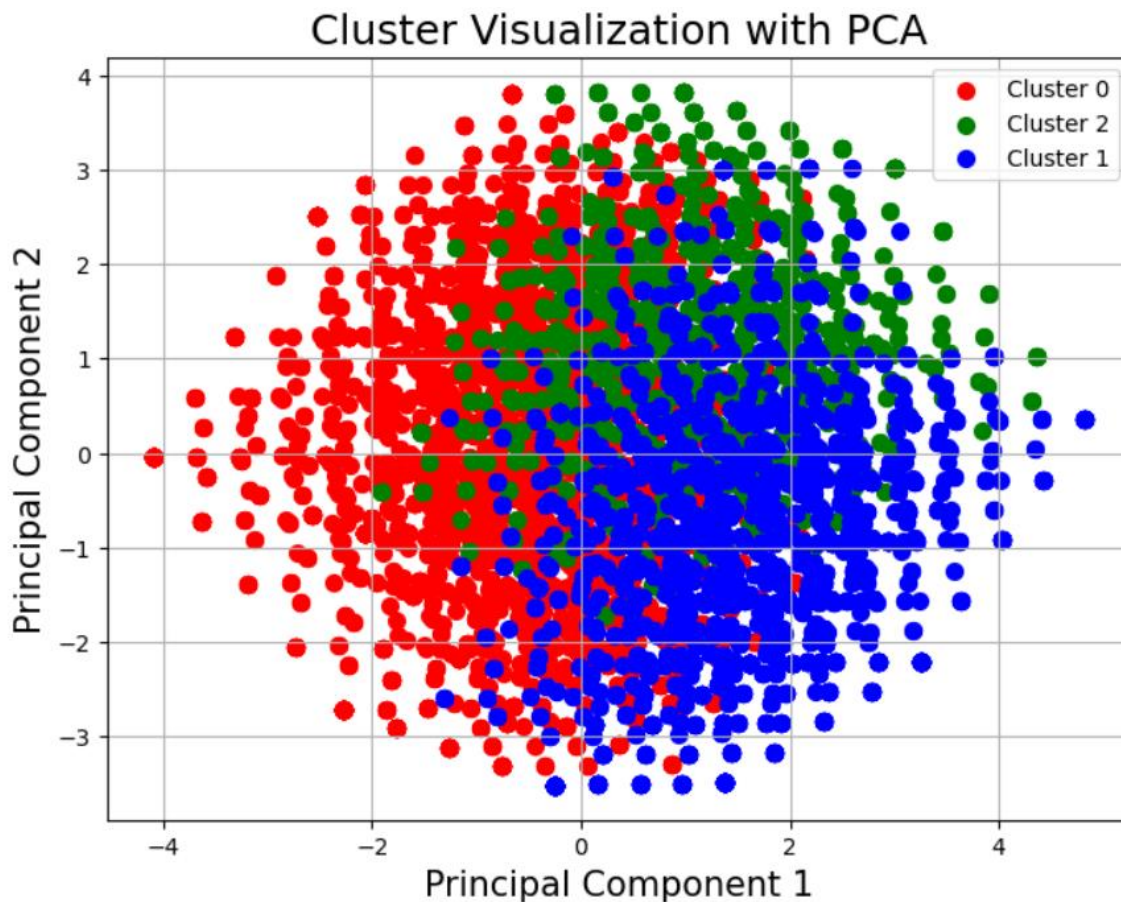
Frequency table of cluster 2:



As in the previous exercise, we can see that having a minimum or low grade is not necessary or sufficient condition for belonging to cluster 1, while belonging to cluster 0 does not require having all grades on 5.



In this case, although there is an additional cluster, the graph of parallel coordinates only allows us to observe the dynamic range of the multidimensionality of academics.



Limitations

Initialization sensitivity: The outcome may depend on the choice of initial modes (Huang, 1998).

Determining the number of clusters: Choosing the optimal number of clusters (k) is a non-trivial problem. The elbow method and other metrics may be useful, but their interpretation can be subjective (Cao et al., 2009).

Evaluation

Metrics

To analyze the model results, we will use two standardized evaluation metrics commonly applied in this algorithm (Huang, 2008):

- **Silhouette Score:** Ranges from -1 to 1. A value closer to 1 indicates better-defined clusters.
- **Calinski-Harabasz Score:** Has no fixed range; however, higher values suggest better separation between clusters relative to the compactness within clusters.

Conclusions

This research has identified a worrying trend towards the overvaluation of conventional bibliometric metrics as the sole criterion for academic evaluation in Chile. While these tools set standards for productivity, their uncritical application has discouraged creativity, ethics and social responsibility in science. The systematic exclusion of other publication formats, such as technical reports, textbooks, chapters and proceedings, has limited the effective transfer of knowledge to society, especially in applied contexts such as engineering, University teaching and public policy-making.

It is therefore proposed a comprehensive reassessment of academic work, which includes contributions that are not quantified but relevant, and where it is recognized that the real impact of research is not always reflected in citations or editorial visibility. It is also recommended to adjust the policies of academic categorization and institutional accreditation to consider the pedagogical and training role of researchers, promoting synergy between teaching, research and links with the environment.

Finally, evaluation agencies, universities and public bodies are called upon to rethink their mechanisms for measuring scientific quality, incorporating qualitative, social and ethical dimensions. Only in this way will it be possible to move towards a fairer, more inclusive and committed academy to national challenges.

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Academic Excellence and Ethical Publishing in Chilean Higher Education. Challenges and Strategies for Sustainable Knowledge Generation-Part II

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Summary

This paper examines the challenges facing higher education institutions to evaluate academic performance, focusing its analysis on research, teaching, and links with the environment. The academic body develops cutting-edge research and publishes its findings in recognized journals, contributing to training professionals capable of solving technical problems and generating a positive impact on society; however, there are other dimensions such as teaching, The relationship with the company, the career path, the hierarchy and the management of academic staff to be considered. This approach not only responds to the expectations of the productive sector but also seeks to create a framework for continuous improvement in educational quality and to meet the demands of today's academic context.

The proposed model must be analyzed critically and rigorously, considering that it is a 7 qualitative model, which must be optimized with representative databases, using a quantitative model to prioritize and evaluate academic performance. The variables to be measured and their relative importance need to be clearly established in order to establish more objective and fair evaluation metrics.

Keywords: Academic Performance Evaluation, Higher Education, Research-Teaching Nexus, University-Industry Collaboration, Qualitative and Quantitative Models

I. INTRODUCTION

I.1 Thinking about a model of Productivity and hierarchy of academics in universities.

Higher education institutions must assess their staff as not trivial, given the various functions, activities, and areas of performance. This paper attempts to establish the main variables or areas of academic

performance with the intention of proposing possible future metrics. The idea is to be able to establish a proposal of some metrics, whether qualitative and/or quantitative. The same variables could also discern academic hierarchy. The omission of some variables, such as the career path of the person, is usual, and although it is not a direct measure of Productivity, the experience usually provides academics with efficiency and more accurate decision-making that allows institutional growth and optimization resources.

In literature, it is possible to find works [1-5] related to certain criteria for carrying out the evaluation of academic performance in tertiary institutions, such as in universities. It has been a tradition to use qualitative and quantitative criteria for the evaluation of academic performance in the areas of teaching, research, links with the environment, patents, academic hierarchy, awards, recognition, and professional experience [6]. A series of indicators are therefore considered maintaining overtime a kind of regular and sustained internal accreditation, which responds to the quality standards of external agencies, both at national and international levels, as preparation for evaluations carried out by national and international bodies, in order to establish a hierarchy of teaching performance. It is usual to find certain criteria which can be explained below either as KPI [7] or certain criteria that can be used in the filling of matrices or spreadsheets to weight a score in a table or spreadsheet that does not necessarily cover all dimensions of academic work or is biased either by how it is weighted or because it does not all contributions in each area of work performance.

.2 Quantitative Metrics. [6-9]

- Teaching: The teacher contributes to the training of students. It is usually assessed by a grade obtained from a satisfaction survey of the students belonging to a class.
- Research: Number of scientific publications per academic, citations per article, funded research projects.
- Extension: Number of dissemination and extension activities participants in these activities.
- Patents: Number of patents registered by the university.
- Academic training: Level of education of teachers (e.g., doctorates).

.3 Qualitative Metrics [6-10]

- Teaching: Quality of education perceived by students, student satisfaction
- Research: Social impact of research, international collaborations
- Extension: Relevance of outreach activities to the community
- Awards and Recognitions: Academic awards received by teachers or students

- Experience, Awards, and Recognition: Academic awards received by teachers or students, applied projects, consultancies
- Vocational training University rankings: QS, Times Higher Education, which considers indicators such as academic reputation, publications, and citations.

As can be seen, the metrics established in quantitative form fail to reflect academic work since a dimension cannot be reduced to just one number.

When reviewing the work of Irarrazabal (2020) [6], it is noted that "for most universities in the United States, the areas or categories of traditional academic performance are teaching, research and service." Table 1 lists the main roles played by academics in these integrated tasks. In addition, it is pointed out that in the study carried out by *Hanover Research* (2014), when considering the activity of 20 North American universities, the dimension of extension and connection with the environment has a lower commitment of work of the academic, not exceeding on average 10%, and differs between institutions. Further Notes: "In some of the universities considered in the study, the service component refers mainly to participation in academic management tasks within the university, while in others it refers more explicitly to public service or commitment, or a mixture of both."

Table 1 *Academic roles integrated in the US higher education model*

Teaching	Research	Links with the environment
Preparation of courses	Preparation of proposals	Internal
Reading of courses	Maintenance of infrastructure	Department
Interaction with students	Execution of investigations	Institution
Evaluation	Supervision of personnel	External
Guardianship	Administration of budgets	Local community
Clinical supervision	Preparation and publication of reports	Professional associations
Guide to thesis		

Source: Irarrazabal 2020 [6], extracted from Finkelstein & Schuster, 2011. [11]

Different dimensions can, therefore, be established to assess the Productivity and hierarchy of a teacher. Based on the above, we can state in academic work that we can differentiate: (1) Teaching, (2) Research, (3) Extension, (4) University management, (5) Experience and career and vocational training background.

Universities, as a challenge, have tried to make commitments to solving or thinking about the problems of their environment and time, participating in its territory and attentive to the problems of the environment, trying to generate answers from what it can and must do as central axes of its mission and vision: teaching and research. The extension can, therefore, be understood as a link with the environment, and part of research and teaching should be oriented towards the challenges posed by this society, its enterprises, authorities and organizations, knowledge transfer, intellectual property, entrepreneurship and innovation, which in some ways can be understood as the generation of wealth (Irrarrazabal, 2020). World-class universities are proving to be robust and complex in generating networks of linkages with the environment [12] while also ensuring quality teaching and research so that these aspects can be understood as a third dimension, which we can understand as an extension and link with the medium, which recognizes a two-way flow of knowledge between the academy and its environment generating mutual learning. This view is strongly developed in the first world, in European countries, in the United States, Australia, and Asia, and more timidly in our latitudes. In Chile, for example, since 2018, Law 21.091 incorporates the link with the medium as a mandatory dimension of evaluation.

In the study by O Meara, (2005) [13], a representative sample of 729 higher education institutions is collected, which concludes that assimilating this dimension as an axis is a more complex challenge to be achieved in research universities. They are mainly oriented towards research and teaching rather than other forms of academic work.

It is widely accepted in the world that the academic career considers the three dimensions described to evaluate the teaching performance of the full-time academic plant considering three categories of academic hierarchy: Full professor, associate professor, and assistant professor, and eventually a fourth category of instructor teacher who are usually very young people entering the academic level as apprentices. In this definition, academics integrate these three dimensions into their work, and through these activities, their Productivity is evaluated.

There are definitions of mixed academic careers that incorporate the traditional track mentioned above, such as a group of specialists in the areas so that professors dedicated to exclusive tasks with permanent affiliation are incorporated. For example, there are almost exclusively research professors with little teaching activity. There are also specialist teachers, such as the one dedicated to Laboratory, Practical

work, Clinical Field, or linking with the environment, who devote their time to teaching or relationship with the environment. This type of activity is increasing in universities, and it is a practice that is more common in the world, as seen in the work of Schmidt (2015), Stolzenberg et al. (2019), and Zhang, Ehrenberg, and Liu (2015) [14-16] in which a growing number of days outside the traditional integrated track is observed in the United States, reaching by 2017 24% of the plant. Finally, there is a small group of people primarily dedicated to senior management and academic program management.

This introduces a problem when trying to rank or evaluate Productivity since there are different groups of teachers, which would require stipulating different qualification criteria for these teachers.

II. Model and qualitative proposal for assessment of the academic body.

When considering a qualitative and/or quantitative model of evaluation of the academic body, an integral framework is sought, considering the various dimensions of its work. Of course, as more aspects are considered, the generation of databases that account for these merits is greater and involves more work in information collection and registration. Teaching, research, and links with the environment are generally more dynamic variables than experience, career, and background in vocational training or management work.

Each of these dimensions has a number of subcategories to consider in order to establish the contribution of an academic in these development spaces.

Teaching (variable X1): The number of lectures you have held and the diversity of lectures, the opinion of students in the last three years, publications addressed to teaching by the teacher either as notes, books, or book chapters should be considered, the address of undergraduate and graduate guides. It is even possible to survey graduates so that they can point out the most significant teachers in their training. Another indicator may be the jobs obtained by those graduates who have been directed by the teacher.

Research (Variable X2): number of indexed articles, number of articles as lead author, co-author, and corresponding author. , number of patents created, revision works published, books and book chapters related to the research area, papers or posters at national or international congresses. All this activity should reflect its activity over the last three years. They may also be appointed as members of research committees and congresses or as expert advisors in areas of national or international knowledge. Possibly as a first approximation, the number of articles indexed in category Q1-Q4 (considering their breakdown)

as the principal author of the researcher in the last three years and books and/or academic book chapters is a good first indicator of achievement.

Extension (Variable X3): The impact that the person has generated in society as a result of their projects or actions, its link with the productive sector, companies, foundations or groups, and public policies should be measured. Patents or creations used by the productive sector or society. Also relevant is the link with companies and organizations and the activities that it manages to coordinate or execute as joint projects, discriminating the relevance of these companies and the impact of these activities. It is a measurement of the last three years. A first approach may be to measure the number of industrial patents and creations used in the productive sector or organizations.

Vocational training experience, track record, and background (Variable X4): Academics have accumulated prior to the last three years academic, professional, and management trajectories that can be measured. As mentioned above, his previous contribution to the last three years in management, research, and teaching can be seen in his career. Similarly, it should consider its awards at the national and international levels. It is possible to indicate their level of vocational training, and their levels achieved in terms of academic and professional degrees, courses, and diplomas. It is necessary to distinguish in each case the university from which each degree or diploma was obtained, which can be quantitatively related to the ranking of universities at a universal level that each house of studies has. Possibly, this can be summed up in a hierarchy of the academic, which must necessarily be equivalent to that conferred in the orb so that a holder in the institution "X" is also in the institution "Y." The fact that each institution has its own definitions complicates the measure.

University management (Variable X5): positions held in university management that relate to their dedication and relevance within the university, which is obviously expressed in the time of dedication according to the requirement of the position.

It is necessary that the qualifications in the performance of a teacher discriminate against his dedication in terms of his day, which can be one-quarter of a day, half a day, three-quarters of a day, and a full day.

Given the above and understanding that it is required that each of the above five dimensions should balance and weigh these attributes, it is necessary that each attribute establish formulations and quantitative relationships between them that allow to establish the level of achievement of the teacher in each dimension. Obviously, one could discriminate between those attributes that have more value or can be ranked.

We will assume that it is possible to establish these relationships by means of mathematical functions or

in a qualitative way, which allows us to establish on a scale of 0-100 % achievement in each dimension. Thus, it is possible to measure the Productivity over time (for example, the last three years) of an academic and his or her academic hierarchy). A quantitative measure is generally more objective than a qualitative measure.

University management tasks could be introduced into the model as hours of dedication, which should be subtracted from full-time so that the variable "T," related to the time of the academic day, could govern this dimension by reducing the number of variables in the model:

It is proposed to establish a productivity function in the form of:

$$Productividad (X1, X2, X3, X4, T - T_{gesti3n}) = (T - T_{gesti3n}) \left(\sum_{i=1}^4 \alpha_i^2 X_i \right)$$

In the above identity, T is the dedication of the teacher according to his contract with the university. As for example, if you want to compare the Productivity of a full-time worker with that of a part-time worker, it is necessary to weigh J differently depending on the hours of the contract.

A hierarchical role for academics can also be established. The way in which both functions are weighted, and their parameters are not necessarily weighed equally, Productivity should have a high weight in the actions carried out by the teacher in the last three years (recent Productivity). The hierarchy, on the other hand, should give greater weight to variables relating to its experience.

Productivity and hierarchy should also be measured on a scale of 1-100. There are two options or criteria for this. A function can be generated that compares with the orb, or it can be calibrated at the national level. It is possible, for example. Search the curriculum vitae of academics working in the world's best-ranked universities and be able to weigh their contribution to a scale ranging from 1-100 in these dimensions. Similarly, it is possible to establish whether these people are holders, associates, assistants, or instructors in such more prestigious institutions and to establish a reference value in an assessment that has been made. They are expected to have a good hierarchy. In this way, it is possible to establish intervals within which the function confers the belonging of the various hierarchies in quartiles. There is some arbitrariness in this since it relies on the hierarchy made by these institutions, which may have biases, but with data, there can exist a kind of error compensation for and against each measure. If a lot of data is available, it possibly achieves reasonable functions. Similarly, it is possible to establish a similar approach at the national level, which obviously provides for a different set of parameters.

It is possible to interview people from different disciplines in general productivity functions by discipline, understanding that in some of them, it is more significant to publish a Q1 article as lead author, and in

other cases, it could be more significant an award at an architecture biennial. Therefore, each university discipline should be assessed through expert opinions of specialists in the area so that it can be established how merit is achieved or measured in each discipline.

For example, an incumbent with 40% of his time devoted to management, who is full-time, could be measured in the engineering discipline with a National reference scale of the form:

$$Productividad (X1, X2, X3, X4, 1 - 0,4) = (0.8, 0.9, 0.3, 0.8, 0,6) = 0,9$$

Since a headline is one that moves between 75% and 100% in the metric upper quartile, it is considered that the function must have a value in this range (for example, 0.9). If it is one of the national reference points, it could have a value close to 1.0; if it has recently become a holder, a value close to 0.75. It is possible to feed a data set in this way so as to assign values to the different variables and construct the function by adjustments of least squares.

$$Productividad (X1, X2, X3, X4, T) = T \left(\sum_{i=1}^4 \alpha_i^2 X_i \right)$$

Similarly, if one wishes to give priority to the work of some dimensions over others since research and teaching are generally regarded as more important than others, the function may be modeled on:

$$Productividad (X1, X2, X3, X4, T) = T \left(\sum_{i=1}^4 \alpha_i^2 X_i^{\beta_i} \right)$$

Where the coefficients enhance or attenuate the relevance of the variable. β_i

The idea is that those academics who excel in each area approach 1.0 without exceeding this value and are strictly below it (100% achievement). If modeled on the best institutions in the world, this is assured. Could these institutions use the merits of the various academics and their relative hierarchies, achievements, and attributes to populate the matrix? Then use this function to measure academics locally at the national level. The function can be normalized so that the best score at the local level is 100%.

This quantitative tool could be of great help in establishing more reliable criteria for academic productivity measures. It is a complex model in so far as it aims to establish and consider multiple tasks, but it is considered robust and a fairer system since it considers experience, university management, and attributes that are not traditionally considered. It is obviously a challenge to be able to establish in each dimension how the various attributes are combined so that a scale metric (0-1) or (0-100%) can be established, which should be built on a case-by-case basis.

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The qualitative model in the determination of variables as a first approximation, which allows the achievement of high quality in measurement in a more integral and multidimensional way, but quantitative, when establishing academic Productivity, should be considered as a set of judgment elements capable of developing an evaluation strategy. The natural evolution is to be able to analyze future work scales that allow us to consider each area more objectively, with quantitative metrics, in particular contributions to teaching, research, and links with the environment. The effectiveness of these models and their continuous improvement will depend on the clarity of the criteria used, the training of evaluators, and the transparency of the evaluation process. If these implementations are not rigorous, this proposal may be discarded. Obviously, for its implementation, general quality data of these dimensions and sub-dimensions, in time and verifiability, is crucial.

The availability of technologies to collect and analyze data, moving from qualitative models to quantitative models, facilitates management and allows adjustments in the models, their variables, and the metrics and weights used. Quantitative metrics allow for more objective and rapid measurement.

A qualitative metric could also be accompanied by the **Inclusion of Self-Assessments and Peer Evaluations** to foster a culture of self-evaluation, and the inclusion of peer reviews can add valuable perspective and lessen the burden of evaluation alone from a higher authority. In addition, the **Establishment of Satisfaction Indicators**. The way to measure academic satisfaction with the evaluation process can provide important information about the perception of the model and its areas for improvement.

III. CONCLUSION

The present analysis of the qualitative proposal for the evaluation of the academic body reveals the need for a multidimensional approach that integrates both qualitative and quantitative aspects in the evaluation of the performance of university teachers. Throughout the study, it has become clear that academic quality cannot be measured solely through simplistic metrics; Rather, it is crucial to consider the diversity of contributions that academics make to teaching, research and linking with their environment. The time spent on these tasks should also be adjusted so as to establish staff commitment to university management issues and recognize the hierarchy and academic track record in these indicators.

The implementation of a model that prioritizes frontier research and the integral training of professionals establishes a projection toward an education of excellence capable of responding to the contemporary demands of society and the productive sector. The identification of dimensions such as teaching, research,

extension, university management, experience, and vocational training allows a more complete and fair evaluation of academic performance, in line with the expectations of quality and relevance required by educational institutions in the current context.

In order for this model to reach its full potential, it is essential to address certain areas of improvement. First, the priority is to develop clear and specific evaluation criteria that will guide the construction of a solid and homogeneous evaluation framework. In addition, continuous training of evaluators will help to ensure the objectivity and rigor of the process.

On the other hand, constant feedback and self-assessment should be integral components of this model, allowing academics and evaluators to reflect on the impact of their actions and orient themselves towards continuous improvement. Incorporating technology into data collection and analysis will also facilitate process management and alignment between local assessments and international academic standards.

In conclusion, the qualitative assessment proposal of the academic body has the potential to transform the evaluation culture in universities, promoting an environment where academic excellence is valued and enhanced. In this way, by adopting a holistic perspective that considers Productivity, the quality of academic contribution, and the connection with the environment, it will be possible to cultivate a more promising future for higher education aligned with the challenges of the 21st century.

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**Academic Excellence and Ethical Publishing in Chilean Higher Education: Challenges
and Strategies for Sustainable Knowledge Generation-Part I**

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Abstract

Higher education institutions face increasing pressure to produce original research that is published in national and international journals and aligned with their strategic plans and accreditation requirements. The National Accreditation Commission (CNA) oversees an institutional accreditation system that requires compliance with various academic and financial indicators. At the same time, the National Agency for Research and Development (ANID) offers funding opportunities for researchers and graduates, allowing the realization of projects that generate doctoral theses, articles, and patents within disciplines defined by the Government and the relevant academic bodies of the country. Accreditation, granted for a maximum of seven years, is considered a direct indicator of academic excellence, and non-accredited institutions may be excluded from the higher education system, affecting teachers, students, and administrative staff.

To meet these requirements, universities have had to establish an evaluation framework to measure the capacity of their members, especially in generating original research and academic publications. However, this approach has led to sustained growth in the number of scientific publications, albeit with adverse effects. Limited resources and the obligation to publish in greater numbers have led to problems affecting the quality of research and to harmful phenomena, such as the increase in the retraction of scientific articles or the proliferation of so-called predatory scientific journals driven by commercial interests rather than academic rigor.

This reflects a wider problem underlying an evaluation system that prioritizes the quantity of publications over their quality in an increasingly competitive and resource-intensive environment. This study examines whether the methods and metrics used to assess the quality of academic publications are adequate to ensure their alignment with national priorities and the principles of an academy oriented towards excellence. It also explores alternative publishing channels, such as articles in congresses (proceedings),

contrasting them with traditional publications in indexed journals. Proceedings articles are evaluated not only in terms of their academic merit but also in terms of their industrial relevance and impact on applied research and publications in scientific journals. In addition, it is questioned whether journals indexed and classified into quartiles should be the only means of evaluation or the most valuable one for measuring scientific production.

The study proposes a values-based framework that promotes meaningful academic progress, ensuring its alignment with local needs and promoting substantial contributions to national development. The importance of reviewing current methods for evaluating the quality of publications is also stressed, considering alternative forms of dissemination such as technical reports, technical regulations, and other documents that represent a direct contribution to society by establishing technical guidelines that often must be followed in a legal manner.

The results of this study highlight the need to revise current methods for evaluating the quality of scientific publications, which give excessive priority to indexed journals and quartile classification. Although these mechanisms have established standards within academic production, it is essential to consider other forms of knowledge dissemination that also generate a significant impact on society. In this regard, documents such as technical reports, technical standards, and other specialized publications play a crucial role in providing guidelines applicable in industrial, regulatory, and public policy contexts. These documents not only constitute a valuable source of knowledge but also mark technical guidelines that, in many cases, must be followed in a mandatory manner within legal and regulatory frameworks. Therefore, it is essential to move towards a system of evaluation of scientific production that equitably values both traditional publications and those with a direct impact on society. This will foster research that is more aligned with the needs of the country, promoting more inclusive, applied, and problem-oriented academic development.

Keywords: Academic Excellence, Higher Education, Publishing Ethics, Institutional Accreditation, Research Management.

I. Introduction

The implementation of indicators to measure the performance and quality of Higher Education Institutions is a crucial step toward achieving academic excellence. These indicators, ranging from basic to highly complex, serve as benchmarks for evaluating institutional effectiveness in areas such as research output, teaching quality, financial management, and societal impact. The challenge lies in ensuring that

these metrics do not become mere bureaucratic checkboxes but are genuinely reflective of the institution's mission and vision.

Academic accreditation, overseen by bodies like the CNA, is a key mechanism for maintaining standards. Accreditation years act as a visible metric of excellence, rewarding institutions that excel in producing impactful research, fostering innovation, and maintaining fiscal and ethical integrity. Institutions failing to meet these standards are excluded from the system, a necessary but often disruptive process that can destabilize students, staff, and broader academic networks. This underscores the importance of fostering a culture of continuous improvement and resilience within institutions.

Research should be motivated by curiosity and the desire to contribute to societal advancement. Institutions must create an environment that nurtures creativity, collaboration, and innovation. The establishment of inter and intra-disciplinary research teams can catalyze breakthroughs by combining diverse perspectives and expertise.

Funding agencies like ANID play a critical role in this context. By providing resources and opportunities for researchers to pursue ambitious projects, these agencies enable the development of doctoral theses, high-impact publications, and patents. However, funding should be tied to rigorous evaluation processes to ensure that projects align with societal needs and institutional goals.

Scientific research in Chile has invaded various areas of knowledge and has presented a significant development over the years. However, the individual development of some areas has been uneven, and some areas have shown greater growth potential. However, this characteristic does not represent growth and characterization through the number of published articles; it does not consider the specific particularities of each area.

1.1 Evaluation of Scientific Productivity in Chile

The evaluation of scientific productivity in Chile is based on a set of criteria that measure the impact and scope of researchers' academic output. In this context, various categories of documents indexed in international databases are considered, highlighting the Web of Science (WOS), which classifies publications into different types and levels of impact.

In the case of Chile, the evaluation of scientific production is based on the publication count in scientific journals indexed in indices such as WOS, Scopus, Scielo, and latindex, among others; however, priority has been given to those publications indexed in the WOS and Scopus index, leaving in the background the other indexes, as is the case of the engineering area. Similarly, for an article to be considered in the

evaluation, it must be published in one of the quarterly journals, giving preference to quartiles 1 and 2.

On the other hand, there are other alternative elements to the generation of academic writings that serve in the evaluation of a researcher's productivity, such as the generation of patents and the award of research projects. Each of these elements has its own characteristics and forms of contribution to the development of new knowledge. However, it is necessary to carry out an analysis of the real impact of these forms of evaluation and analyze their value in comparison with publication in scientific journals.

Another alternative element of evaluation of scientific productivity that is not always accepted is the publication of academic papers in conferences. The articles published in these events usually present advances in the investigative work of the different actors of each area and are submitted for peer review; the contents of the article are tested by the questions of the present.

I.2. Scientific Productivity Evaluation Criteria

The criteria for evaluating scientific productivity include both quantitative and qualitative metrics, providing a comprehensive framework for assessing academic performance.

I.2.1 Quantitative Metrics

Quantitative metrics are the basis for measuring productivity in research. These include tangible indicators such as the number of indexed publications, citation rates, and funds obtained through grants. The classification of journals in quartiles (Q1, Q2, Q3, and Q4) is a key indicator that reflects the visibility and impact of a publication within its discipline. Additionally, the number of funded projects and international collaborations can serve as indicators of a researcher's ability to attract resources and generate impact scientific networks.

I.2.2 Qualitative Metrics

Qualitative metrics allow the evaluation of more subjective aspects of scientific production, such as the relevance of research questions, the originality of studies, and their impact on society. These evaluations typically include peer reviews, expert testimony, and case studies that highlight the importance of research beyond publication and citation numbers. Contributions to the training of new researchers and influence on political or institutional decision-making are also considered.

I.3. Types of documents indexed in WOS

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Web of Science (WOS) is one of the main databases used for scientific output evaluation, classifying documents into 39 major types (Clarivate, 2024). These include journal articles, reviews, conference proceedings, book chapters, complete books, editorials, corrections, notes, letters, supplementary material, and technical papers. However, not all these types of documents are considered for the evaluation of academic productivity in Chile since certain types of publications do not meet the criteria of scientific indexation prioritized in formal evaluations.

Despite the wide variety of documents indexed in WOS, the evaluation of researchers in Chile focuses mainly on articles published in scientific journals categorized into quartiles (Q1, Q2, Q3, and Q4), as well as books and book chapters. Other types of documents, such as publications at conferences and congresses, although they may be indexed, are generally not considered in academic evaluations. This is because these documents do not always have the same level of validation as peer-reviewed articles in scientific journals.

I.4 Challenges in Productivity Assessment

Higher education institutions comprise various faculties and confer the corresponding academic degrees. Depending on the time and country, it may include colleges, institutes, departments, research centers, vocational schools, etc.

One of the main challenges in assessing scientific productivity is the over-reliance on quantitative metrics, which fosters a "publish or perish" culture. This pressure can lead to mass production of publications without necessarily guaranteeing their quality or impact on society. In addition, evaluation processes may be affected by structural biases favoring certain researchers or disciplines over others.

Furthermore, to address these limitations, the Integration of qualitative methodologies alongside traditional metrics has been proposed. Methods such as social impact analysis, altmetrics, and peer evaluation offer a more complete view of a researcher's contribution to their field. The implementation of these tools allows for a more holistic assessment, recognizing diversity in research and encouraging the development of emerging areas of knowledge.

New trends in scientific evaluation include the adoption of open-access models (Open Access) and the use of artificial intelligence to improve efficiency and equity in evaluation processes. These innovations allow for greater transparency and accessibility in scientific production but also present challenges in terms of funding and regulation.

In Chile, scientific productivity is a key criterion for the designation and categorization of academics

within universities and research centers. The evaluation of researchers focuses predominantly on their scientific output, leaving teaching performance in the background. Although teaching in university courses is an essential activity within the academy, its impact on the evaluation of researcher quality is less than its scientific output.

The courses assigned to researchers are often distributed with the aim of meeting institutional teaching burdens, without necessarily aligning with the researcher's specialization. In some cases, teaching assignments depend on the researcher's time availability or the academic offer of the institutional catalog rather than their specific area of expertise.

Although the teaching burden is part of the researcher's assessment, it is not a preponderant factor in assessing his academic quality. It is considered complementary work without the same weight as scientific production in measuring the researcher's impact on his field of study.

I.5 Historical Context of Scientific Productivity Assessment

Evaluation of the quality and productivity of research in universities has been a central aspect of academic management. Historically, evaluation approaches have evolved from highly quantitative systems to more comprehensive models that include qualitative metrics. The Research Assessment Exercise (RAE) in the United Kingdom marked a milestone in the institutionalization of structured evaluation processes (Council of Science, 2024).

Subsequently, several global reforms, such as those promoted by the Science Council of Japan, have stimulated greater Integration of indicators of social impact and scientific relevance (Academia.edu, 2024). This change responds to the limitations of traditional metrics, such as publication counts and impact factors, which do not always reflect the diversity and real value of scientific output (Stanford University, 2024).

In recent decades, the academic community has recognized the need for more holistic approaches to scientific evaluation. The San Francisco Declaration on Research Evaluation (DORA), established in 2012, calls for evaluation methods that go beyond traditional metrics, promoting the qualitative evaluation of research and considering its social impact and academic relevance (DORA, 2012). The 2015 Leiden Manifesto also emphasizes the importance of using quantitative indicators that complement peer evaluation, avoiding reliance on numerical metrics alone, and recognizing diversity in scientific contributions (Hicks et al., 2015). Digitization has played a crucial role in this evolution, facilitating access to a wide range of data and enabling more sophisticated analyses of scientific output. However, it

has also raised challenges, such as the proliferation of low-quality publications and the need to develop more rigorous criteria for assessing the validity and impact of scientific work (Giménez-Toledo, 2015).

In the Chilean context, the evaluation of scientific productivity has followed similar trends, adapting to the particularities of the national academic system. Chilean universities have implemented policies that seek to balance the quantity and quality of publications, promoting research that not only meets international standards but also responds to local needs and contributes to the sustainable development of the country (Didou, 2009).

The Publishing or Perish concept describes the pressure on researchers to publish in indexed journals as the main criterion for academic evaluation. This dynamic, which originated in the social and biomedical sciences, has spread to engineering disciplines, including civil engineering. According to Mula-Falcón et al. (2024), this system has conditioned the career path of researchers by prioritizing the number of publications on the real impact of their studies. Fanelli (2010) argues that academic productivity is currently measured by the number of publications and citations, ignoring other relevant indicators such as the applicability of research to industry or its contribution to infrastructure projects. Vuong (2019) adds that in some countries, such as Vietnam, mandatory publication requirements have been established for international journals, which has transformed the way researchers approach their projects and how their results are evaluated.

I.6 Impact on research quality

The publication-based evaluation system creates incentives for the segmentation of results (salami slicing) and the proliferation of articles with minimal contributions. Neill (2008) discusses the negative effects of this practice, suggesting that pressure to publish may lead to a reduction in methodological rigor in various disciplines.

In civil engineering, where projects require long-term Analysis, the need to publish regularly can shift researchers' focus towards partial or fragmented studies, reducing the quality of knowledge generated. In addition, Fanelli (2010) points out that the pressure to obtain "positive" results can induce bias in the interpretation and publication of data, affecting scientific objectivity. van Wesel (2016) highlights how traditional metrics do not consider the impact of research on society or its practical applicability in areas such as civil engineering.

The academic publishing system also favors the publication of studies with "impactful" results, relegating

research with null or contradictory findings. Fanelli (2010) and van Wesel (2016) have identified a publication bias that benefits studies with favorable findings over those with less conspicuous conclusions. This phenomenon is particularly problematic in civil engineering, where projects are often based on rigorous evaluations and predictive models, which do not always yield spectacular results. Garfield (1996) highlights how reliance on citation rates has led to a distorted assessment of the actual impact of studies, affecting research direction and decision-making in the scientific community. In addition, Vuong (2019) points out that this system has led to an increase in unethical practices, such as falsification of data and the use of co-authorship without real contributions, putting the credibility of the academic community at risk.

The impact of the Publish or Perish system is particularly strong on early-career researchers, who face significant pressure to establish a publication history in a short time. Mula-Falcón et al. (2021) point out that, in disciplines such as civil engineering, projects often require extensive periods of development before they can generate data for publication. However, academic evaluation based on publication numbers does not take these times into account, which may lead to fragmentation of work and the production of less impactful articles. Vuong (2019) looks at the case of Vietnam, where a mandatory publication requirement has been imposed for advanced degrees, which has intensified the pressure on young researchers and created a market for publications of dubious quality. In addition, Neill (2008) warns that this pressure can discourage teaching and mentoring, reduce the time available for training new researchers, and affect long-term academic development.

II. Scientific Productivity Evaluation Criteria

The evaluation of scientific productivity in universities is based on a combination of quantitative and qualitative metrics that seek to measure both the quantity and quality of research conducted. These criteria allow to generate a comprehensive picture of the academic, institutional and social impact of scientific production.

II.1 Quantitative Metrics

Quantitative metrics have historically been the fundamental pillar in evaluating scientific productivity. The main indicators include:

- Number of indexed publications: Reflects the number of scientific papers published by a researcher or institution in recognized journals and registered in international databases such as Web of Science and

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Scopus. In Chile, this criterion is fundamental for evaluating the scientific production of universities (UChile, 2024). According to Abramo and D'Angelo (2018), measuring productivity through the counting of publications can generate different rankings depending on the criterion used, which underlines the importance of standardization in evaluation systems.

- Citation rates and impact factors: They assess the influence and relevance of publications by counting the number of citations they receive. The impact factor of a journal measures the average frequency with which articles published in it are cited. However, it has been pointed out that these metrics may present biases, favoring certain scientific disciplines over others (Scielo, 2024). Bornmann and Daniel (2008) point out that the count of citations not only measures the quality of an article but also its visibility within the scientific community, which can generate distortions in the evaluation of a researcher's real impact.
- Journal quartiles (Q1, Q2, Q3, Q4): Scientific journals are grouped into quartiles according to their impact factor. These quartiles are established by dividing the journals within a specific category into four equal parts, where:
 - Q1 (First Quartile): It groups the top 25% of journals with a higher impact factor. Publishing in these journals is associated with the highest visibility and prestige within the scientific community (Springer, 2023).
 - Q2 (Second Quartile): Includes the following 25% of journals with a relevant impact, although less than those in Q1.
 - Q3 (Third Quartile): Includes journals with a moderate impact factor.
 - Q4 (Fourth Quartile): Contains 25% of journals with less impact on the ranking. Moed (2010) suggests that journal impact assessment should consider the disciplinary context since not all areas of study have the same citation structure.
- Funded projects and international collaborations: Obtaining external funding and participation in international cooperation projects reflect the ability of researchers to generate collaborative networks, capture resources, and enhance the development of high-impact research (Elsevier, 2023). Waltman and Van Eck (2012) propose a methodology that classifies publications at the individual level, allowing a more accurate assessment of scientific collaborations and the impact of funding on research productivity.

II.2 Qualitative Metrics

As quantitative metrics have been challenged by their limited approach, qualitative metrics have gained greater relevance in the assessment of scientific productivity. Some of the main indicators include:

- **Peer review:** The peer review process is one of the most widely used mechanisms for assessing the quality of research. Through the critical review of experts in the area, methodological rigor, originality, and contribution of studies to scientific knowledge are guaranteed (Taylor & Francis, 2024). Hicks et al. (2015) highlight the importance of complementing peer evaluation with well-contextualized bibliometric indicators to avoid bias in the selection of high-impact publications.
- **Social impact and relevance of research:** Refers to the ability of scientific results to positively influence society, whether by solving specific problems, formulating public policies, or improving quality of life. This indicator is becoming more important in modern scientific evaluation systems (Scielo, 2024). González Hernández (2020) demonstrates in his applied study on Cuban universities how a combined metric can improve the assessment of the social impact of research.
- **Contribution to public policies and the development of new lines of research:** Research that influences government decision-making or opens new fields of study has a high value in terms of impact and academic relevance. This approach is constantly evolving, with an increasing emphasis on the social benefit of research (UNESCO, 2023). Giménez-Toledo (2015) suggests that evaluation systems should more explicitly consider the influence of research on public policy formulation beyond traditional citation indicators.

The evaluation of scientific productivity in universities requires the use of specialized tools to measure, analyze and compare academic output at individual and institutional levels. These tools include bibliographic databases, bibliometric and altmetric indexes, as well as evaluation platforms, and institutional rankings.

The combination of these methodologies facilitates a more accurate assessment of the impact of scientific research in different disciplinary and geographical contexts (Abramo & D'Angelo, 2018).

Bibliographic databases allow the Collection, storage and Analysis of scientific publications, facilitating the monitoring of researchers' impact and their contributions to knowledge. These databases not only catalog scientific production but also provide key metrics to assess the relevance of work in the academic community (Giménez-Toledo, 2015).

- **Web of Science (WoS):** One of the most recognized databases worldwide for indexing and analyzing scientific production. It allows the identification of the impact of publications through metrics such as the

Impact Factor and the quotes received. Its structure facilitates the identification of scientific collaboration networks and research trends.

- Scopus: A platform developed by Elsevier that offers comprehensive citation analysis and scientific collaboration tools. Its multidisciplinary coverage allows for the assessment of research trends and provides advanced metrics such as CiteScore and SCImago Journal Rank (SJR) (Bornmann & Daniel, 2008).
- Google Scholar: Although it is an open-access tool with wide coverage, it has limitations in the quality of indexing documents and the absence of rigorous filters. However, it allows an overview of the academic impact of publications and the accessibility of scientific papers (González Hernández, 2020).

16.-) Bibliometric and Altmetric Indices

Bibliometric indices have been widely used to measure the productivity and impact of research. However, alternative metrics have recently emerged that complement traditional assessments (Abramo, Cicero & D'Angelo, 2018).

- H-index (h-index): Metric that evaluates the productivity and impact of a researcher based on the number of publications and their respective citations. Allows comparison of the relevance of researchers within the same field of study (Bornmann & Daniel, 2008).
- CiteScore: Developed by Scopus, it provides an alternative assessment of the WoS impact factor, calculating the Relationship between citations and publications over a given period. This index has proved particularly useful for assessing productivity in various scientific disciplines (Dagnino, 2007).
- Altmetrics: Measure the Impact of social media posts, academic blogs and other digital media. This complementary metric is relevant for assessing the social impact and dissemination of scientific knowledge outside the traditional academic setting. Altmetrics has been the subject of several studies because of its ability to reflect the non-academic scope of scientific publications (Giménez-Toledo, 2015).

II.3 Institutional Evaluation Platforms and Rankings

Assessment of scientific productivity at the institutional level is supported by rankings and platforms that analyze the visibility and impact of research in different universities and think tanks. In the international

context, these rankings have influenced university policy formulation and research resource allocation (Dagnino, 2007).

- Shanghai Ranking (ARWU - Academic Ranking of World Universities): Evaluates universities based on their scientific output, the number of highly cited researchers, and the number of articles published in high-impact journals.
- Times Higher Education (THE): Considers factors such as teaching, research, knowledge transfer, and international perspective. Its holistic approach allows for the Analysis of academic reputation and institutional performance.
- SCImago Journal Rank (SJR): Analyzes journals and countries in terms of their impact and international collaboration. This platform allows the classification of scientific production according to the influence of publications and recognition within the academic community (Abramo & D'Angelo, 2018).

While these tools and metrics have improved the systematization of scientific productivity assessment, still face challenges such as the standardization of criteria between disciplines and the need to include qualitative metrics that reflect the real impact of research on society (González Hernández, 2020).

II.3.1 Definition of Bibliometry and Altmetry

Bibliometry and altmetry have emerged as key tools in the evaluation of scientific output. Bibliometry is based on the quantitative Analysis of publications and citations, providing metrics that allow the evaluation of the influence of researchers, journals, and institutions (Bornmann, 2015). In contrast, altmetrics looks at digital interactions, including mentions on social networks, blogs, news, and other platforms, allowing a broader view of the academic impact on society (Priem, Groth & Taraborelli, 2012; Alperin, 2015).

II.3.2 History and Evolution of bibliometric indicators

The development of bibliometrics dates to the mid-20th century, when the first studies on publication counts and citations began. In the 1960s, Eugene Garfield introduced the Impact Factor as a metric for assessing the quality of scientific journals (Bornmann, 2014). The Bradford Act contributed to the Analysis of the distribution of publications between journals at different levels of impact. Starting in the 21st century, new metrics such as the h-index and standardized citations emerged, which allowed for a more accurate assessment of individual researchers' Impact (Baheti & Bhargava, 2017; Puerto-Sanabria et al., 2020). With the advance of the digital age, altmetrics emerged as a response to the need to assess the

impact of research on digital platforms and social networks (Alperin, 2015).

II.3.3 Main Bibliometric Indicators

Bibliometric indicators make it possible to measure the impact of scientific production through different quantitative approaches. The main indicators currently used are explained in detail below:

- **Impact Factor (JIF - Journal Impact Factor):** Introduced by Eugene Garfield, this indicator measures the relevance of a scientific journal based on the average number of citations received for articles published in it over a two-year period. Although it is a widely used metric, its main limitation is the variability between disciplines and its possible manipulation through editorial strategies (Bornmann, 2015; Didegah, Bowman & Holmberg, 2018).
- **Index h:** Proposed by Jorge Hirsch, this index simultaneously evaluates the productivity and impact of a researcher. Defined as the number of publications that have received at least h citations. It is useful for comparing researchers within the same discipline, although it is affected by the length of academic career and does not differentiate the quality of citations (Baheti & Bhargava, 2017; Zahedi, Costas & Wouters, 2014).
- **Immediacy index:** Measures how quickly articles in a journal are cited after publication. It is particularly useful for assessing relevance in areas where information advances rapidly, such as biomedicine and materials engineering (Priem, Groth & Taraborelli, 2012).
- **Eigenfactor:** Considers both the number of citations that a journal receives and the origin of those citations, giving more weight to those coming from journals with greater impact. It is based on a model like Google PageRank and offers a more nuanced perspective of the impact of a magazine than the Impact Factor (Bornmann, 2014).
- **Standardized citations by discipline:** Since citation patterns vary between disciplines, this metric adjusts the number of citations for an article based on the average number of citations in your field of study, allowing a more equitable comparison of the impact of research in different domains (Puerto-Sanabria et al., 2020).
- **Index g:** A variant of the h-index that gives more weight to publications with a higher number of citations. It was developed to address the limitation of the h index, which does not distinguish between articles with many citations and those with only those necessary to reach the threshold h (Bornmann, 2015).
- **Index m:** Related to the h-index but adjusted for the length of the researcher's career. It is calculated as the h-index divided by years of research activity, allowing researchers to compare with trajectories of different lengths (Claussen et al., 2013).

- **Altmetrics Score:** Although it is not a strictly bibliometric indicator, the Altmetrics Score measures the impact of an article on the web through mentions in social networks, blogs, and media. While it offers a broader perspective of impact, it may also be influenced by the topic's popularity rather than its scientific relevance (Baheti & Bhargava, 2017).

II.3.4 Limitations of Bibliometry in Scientific Evaluation

Despite its relevance and wide use, bibliometrics has several limitations that affect its applicability and accuracy in the assessment of research impact:

- **Reliance on citations only:** Traditional bibliometric indicators, such as the Impact Factor or h-index, depend largely on the number of citations received by an article or researcher. However, citations do not always reflect the quality of the work, as they may be influenced by the visibility of the author, collaboration with influential researchers, or even self-citation (Bornmann, 2015).
- **Disciplinary bias:** Different disciplines have different citation rates, which affects the comparability of bibliometric indicators. Natural and medical sciences tend to generate more citations than social sciences and humanities, which can distort assessments if appropriate normalizations are not applied (Didegah, Bowman & Holmberg, 2018).
- **Language and restricted access:** Most bibliometric databases favor publications in English, which reduces the visibility of research in other languages. In addition, many high-impact journals have restricted access, limiting the dissemination of studies by authors without access to institutional funds (Puerto-Sanabria et al., 2020).
- **Matthew effect and citation concentration:** The so-called Matthew effect means that researchers with a high number of citations continue to receive more citations. This may hinder the visibility of emerging researchers or innovative studies that have not yet been widely cited (Zahedi, Costas & Wouters, 2014).
- **Manipulation of indicators:** Some researchers and journals resort to strategies to artificially inflate their metrics, such as the excessive use of self-quotes, reciprocal citation networks, and editorial practices that favor the increase of the Impact Factor (Taylor, 2013).
- **Lack of qualitative evaluation:** Bibliometrics quantifies the impact by numbers but does not consider the intrinsic quality of the work or its real contribution to the advancement of knowledge. An article with many quotes is not necessarily more valuable than one with less if the quotes come from negative reviews or studies with low rigor (Torres-Salinas, 2020).

- Difficulties in the evaluation of multidisciplinary work: Conventional bibliometry classifies studies into established categories, which can be problematic for multi-discipline research.
- These may have difficulty in obtaining high impact in a single field, reducing their visibility in metric assessments (Claussen et al., 2013).

Open access and the proliferation of preprints have changed the way academic impact is measured. Open science allows for the free availability of research results, facilitating their dissemination and reuse at a global level (Priem, Groth & Taraborelli, 2012). This has led to greater visibility and accessibility of scientific work, allowing researchers from different regions and funding levels to access studies that were previously restricted by subscriptions. However, there are still challenges related to the quality of articles in open repositories, as some do not go through the same level of peer review as traditional journals.

In addition, altmetric data has shown that open-access articles tend to receive more mentions on social media and other digital platforms, amplifying their impact beyond the academic arena. This reinforces the need to improve validation and filtering mechanisms in these systems to avoid the proliferation of low-quality studies.

Altmetry influences government decision-making and research funding (Bornmann, 2014). In this sense, it has been proposed that the combination of bibliometry and altmetry in academic evaluation and research project planning can improve decision-making in scientific policies (Torres-Salinas, 2020). Governments and funding agencies have begun to use altmetric data to assess the impact of science on society and justify investments in certain areas of knowledge. However, the reliability of these data is still subject to debate, as social media interactions may be influenced by ephemeral trends or media agendas.

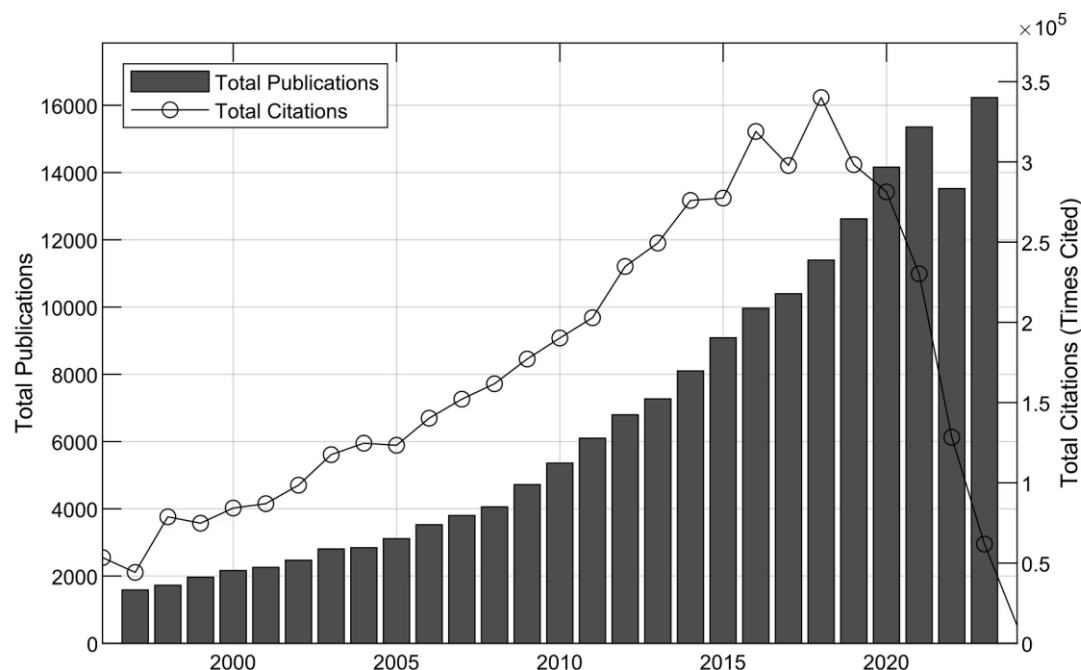
To improve the accuracy of these indicators, some agencies have developed hybrid models combining altmetry with traditional metrics. This allows you to assess the impact in multiple dimensions and minimize biases associated with social media volatility. The Integration of these metrics into science and technology policies is still a developing area, but their potential to provide a more holistic view of scientific impact is undeniable.

III. Evolution of scientific productivity in Chile

The number of Chilean publications in indexed journals has shown a constant increase considering the various areas of knowledge, where although some present a greater number of scientific contributions in a global context, all have seen an increase in the number of articles published in indexed and quarterly journals.

Figure 1 shows the number of articles published per year from 1997 to 2023 reported by WOS (Cite JCR). From the data, it is possible to observe the sustained exponential increase that has been presented by the country, which is consistent at the same time with the evolution of the GDP of the country; however, a decrease in 2022 is observed, which can be linked to the events associated with the COVID crisis, which involved a closure of university campuses and research centers, the main generators of articles in the country.

Figure1: Publication Growth in Chile.



In addition, it can be stated that, excluding pandemic effects, there has always been an increase over the previous measurement year, which is not consistent with changes in GDP, the latter being variable over time and related to the country's economic conditions. Data shows that the number of items is not affected by local variations in GDP. There isn't specific data available about the exact number of articles published in Chile in 2024, specifically reported by the Web of Science (WOS) or JCR, or within MDPI journals, that can be pulled from the search results provided.

It is useful to establish a brief economic framework to contextualize Chile's situation over the past 20 years regarding science and the economy. Between 2005 and 2010, more aggressive policies to support science were initiated. During this period, Chile was affected by the global financial crisis, which impacted the national economy. From 2011 to 2016, there was a notable growth in scientific publications. However, the economy began to slow down due to the end of the mining supercycle that had previously

benefited the country. Chile's GDP relies heavily on mining, particularly on the price of copper, which is traded on the international stock market.

Between 2017 and 2022, CONICYT (the national science council) was transformed into ANID, the new research agency through which the Chilean state primarily supports scientific development. This period also saw a social uprising and a global pandemic that affected research activities and contributed to economic deterioration. Chile's GDP has shown fluctuating trends. In 2024, Chile experienced a growth rate of 2.3%. The country maintains its position as the second-largest economy per capita in South America, but its growth is relatively low compared to previous decades.

Regarding indexed publications, there is a clear upward trend. According to a classification that ranks countries based on scientific performance measured through research articles published in a selection of 145 high-quality journals, Chile ranks among the top 33 countries globally in terms of scientific output and is second in Latin America, behind Brazil (*La Tercera*, 2025).

A study on Chilean publications in open-access scientific journals revealed a growing influence of the controversial Chinese publisher MDPI. Between 2017 and 2023, Chile increased its share of publications in MDPI journals from 1% to 13%, a figure that is raising concerns within the local academic community (*biobiochile.cl*).

Chile allocates only about 0.36% of its Gross Domestic Product (GDP) to research and development—far below the average of 2.72% among countries in the Organisation for Economic Co-operation and Development (OECD), and below the 1% minimum recommended by international organizations. **Table 1** summarizes Chile's overall performance in indexed publication productivity over the past 10 years:

Table 1: Chile's Indexed Publication Productivity Figures

Web of Science Documents	Publication Year	Times Cited	% Docs Cited	Category Normalized Citation Impact	All Open Access Documents	% Global Baseline (Docs)	% Documents in Top 1%	Gold Documents	% Last Author (2008-2024)	% Global Baseline (Cites)	Citation Impact	% Documents in Top 10%
12092	2015	277438	78,56	1,03892651	5509	0,40935089	1,3	2427	50,08	0,50940508	22,9439299	10,23
13414	2016	318961	79,06	1,11946042	6303	0,43210598	1,36	2866	48,4	0,60567069	23,7782168	11,09
14104	2017	297736	77,98	1,12608717	6703	0,43950099	1,44	3252	49,67	0,56996913	21,1100397	10,37
15450	2018	340077	78,28	1,19557274	7884	0,47120337	1,57	3944	49,15	0,67377401	22,0114563	10,94
16699	2019	298282	79,39	1,14836169	8624	0,47257059	1,45	4583	50,09	0,6030132	17,8622672	10,57
18404	2020	281302	80,38	1,07829268	10083	0,51498461	1,28	5600	48,89	0,5923847	15,2848294	10,12
19791	2021	230283	78,71	1,10131174	11698	0,53354433	1,52	6912	49,92	0,62213469	11,6357435	10,09
17870	2022	128402	72,43	1,11694135	11004	0,49015131	1,59	7169	49,28	0,5805597	7,18533856	10,05
17796	2023	61826	60,1	1,11534826	11021	0,51554918	1,49	7275	48,35	0,60118958	3,47415149	9,18
14800	2024	11081	27,99	1,13176243	8377	0,51295702	1,2	5662	48,97	0,61565865	0,74871622	7,43

During 2024, the National Institute of Industrial Property (INAPI) received 4,102 patent applications nationwide, representing a 2.6% increase compared to the 3,995 applications submitted in the previous

period (INAPI, 2025).

Of the total patent applications in 2024, 87% were filed by foreign applicants, while 12% came from residents in the country. The United States led the list with 1,084 applications, followed by Chile (389), Switzerland (183), Germany (177), and China (170). The main technological fields represented in invention patent applications included pharmaceuticals (25%), biotechnology (13%), processed organic products (10%), chemical engineering (7%), and materials chemistry (7%).

Of the total applications submitted in 2024, 39% came from universities, 32% from individuals, and 29% from legal entities (Emol.com, 2025). It is estimated that one out of every five patents in the country reaches industrial use.

III.1 Methodology

The methodology used in this study was designed to provide a comprehensive analysis of Chilean scientific production and its impact on both the academic context and the country's development. The selection of a quantitative and descriptive-correlational design approach responds to the need to characterize major trends, identify patterns, and explore relationships between various bibliometric variables. This study also seeks to assess how scientific production contributes to meeting local demands and promoting significant social, industrial, and technological advances. This chapter describes in detail the procedures, data collection, and analysis techniques, as well as the limitations associated with the study. This ensures the transparency and reproducibility of results, contributing to the understanding of scientific dynamics in a national context.

The present study takes a quantitative approach with a descriptive and correlational research design. This approach was selected with the objective of analyzing and characterizing the Chilean scientific production indexed in the Web of Science database, allowing the evaluation of its impact on both academic development and progress in the country. Descriptive Design facilitates the identification of trends and patterns within the collected data, while the correlational component allows exploring relationships between various bibliometric variables, such as the number of citations, the impact factor of journals, international collaboration, and major scientific disciplines included in the Web of Science classification system. In addition, the study seeks to establish the relationship between the quality of goods and the country's main economic parameters, such as gross domestic product (GDP) and investment in research and development (R&D).

The Design also incorporates retractable document analysis, a relevant element for evaluating ethical practices in academic research. This approach allows us not only to identify potential problems in the

quality of publications but also to propose strategies that improve the management of scientific production in Chile.

The study was composed of all scientific articles published by authors affiliated with Chilean institutions and indexed in the database mentioned above, covering the period from 1980 to the date of the last update of the database. From this set, a representative sample was selected through an exhaustive search, applying well-defined inclusion criteria. Included articles with at least one author affiliated with a Chilean institution, published between 1980 and the date of data update, written in Spanish or English. As for the type of documents considered, it included articles published in journals, articles from proceedings of conferences, books, book chapters, and reports, as well as retractable articles.

III.2 Collection of data

The data collection was carried out through a systematic search of the Web of Science database. Data was extracted directly from statistics provided by the Web of Science database, including information on titles, authors, institutional affiliation, journals, and retractable documents. This procedure ensured the inclusion of relevant and representative records of Chilean scientific production, guaranteeing the integrity of the data for Analysis.

For each article, key variables were collected that included bibliographic information (title, year of publication, journal, DOI, language and source of funding), authors' data (names, institutional affiliation, country of affiliation, and ORCID, when available), and bibliometric metrics (number of citations, journal impact factor, quartile, scientific discipline, document type, and Hirsch index h). In addition, indicators of international collaboration were included, such as the number of foreign authors per article, the percentage of international collaboration, and the distribution of publications in the main research areas according to the classification of Web of Science.

As regards the evaluation of the quality of documents, the main parameters used were the journal quartile for scientific articles and the number of citations received for all types of documents analyzed, including conference proceedings, book chapters, full books, and reports. These parameters allow to establish how the academic quality of authors is currently measured, emphasizing that an article closer to the Q1 quartile is generally better evaluated, while contributions such as reports, proceedings, and books are not usually considered in these traditional metrics.

Impact on the academic context, country development and industry were also assessed as a

complementary way of measuring the quality of academics. This includes analyzing the contribution of publications to strategic areas such as engineering, technological development, and applied sciences, and assessing their relevance and practical applicability in productive and industrial sectors.

Various analyses were carried out, starting with descriptive statistics to calculate measures of central tendency and dispersion, as well as frequency tables for qualitative variables. The temporal evolution of scientific production was examined by mathematical models that allowed the identification of significant patterns in the time series. Correlation coefficients were also calculated to assess the relationships between quantitative variables, such as the quality of articles and economic indicators for the country, including GDP and R&D investment. In addition, the number of articles published and the distribution of scientific disciplines according to the Web of Science classification were analyzed, with the aim of identifying priority research areas and their evolution over time.

The production of types of indexed documents that are not categorized into quartiles, such as book chapters, books and reports, was also examined because they tend to fall outside traditional academic quality metrics. This Analysis made it possible to assess the potential impact of these papers on academia and their contribution in specific research areas.

Other advanced analyses included the use of clustering techniques to classify Chilean institutions according to their scientific production profile, as well as an analysis of co-authoring networks. This made it possible to visualize the collaborations between national and international researchers. To make sure about the data quality, a thorough validation was carried out, identifying and correcting inconsistencies before the Analysis.

III.3 Analysis of the current situation in Chile. Impact of Scientific Productivity Evaluation on Academic Development

The evaluation of scientific productivity in Chile has had a significant impact on the academic development of higher education institutions. This assessment directly influences the planning of academic careers, determining aspects such as recruitment, promotion, and retention of researchers in universities. The criteria used to evaluate scientific productivity determine the strategies that researchers adopt to improve their visibility and positioning in the academic field.

There are significant differences in evaluation between different scientific disciplines. While in the exact and natural sciences, publications in high-impact journals and citations are given priority, in the humanities and social sciences, other types of academic production, such as books and book chapters, are

also valued. This disparity in evaluation criteria can lead to inequalities in the recognition and evaluation of academic work in different areas of knowledge.

Scientific collaboration and the formation of research networks are key aspects in evaluating academic productivity. Co-authoring metrics and international collaboration networks allow researchers to analyze their ability to network with other academics and participate in projects of global reach. Academic mobility, both national and international, has a positive impact on scientific productivity by facilitating the exchange of knowledge and the generation of new ideas.

Interdisciplinary work, although increasingly valued, still faces challenges in terms of its recognition in current evaluation systems. Investigations that cross disciplinary boundaries may have difficulties in being published in high-impact journals, which affects the evaluation of researchers who opt for this approach. Specific criteria need to be developed to properly assess the contribution of interdisciplinary research to the advancement of knowledge.

The current models for evaluating scientific productivity in Chile have several limitations and have been criticized by the academic community. One of the main limitations is the bias towards publication in English, which negatively affects the visibility and recognition of scientific production in Spanish and other languages. This linguistic bias may lead to under-representation of research relevant to the local and regional context.

Another important criticism concerns the uneven distribution of funds based on productivity metrics. Current systems tend to favor established research institutions and groups, making it difficult for emerging or less experienced researchers to access resources. This situation may perpetuate and widen existing gaps in the national scientific system.

In the face of these limitations, alternative proposals to traditional evaluation models have emerged, such as the San Francisco Declaration on Research Evaluation (DORA). This initiative advocates a more comprehensive evaluation of scientific production, considering not only quantitative metrics but also the content and real impact of research on society. The adoption of these alternative approaches could contribute to a more equitable and representative assessment of the diversity of scientific production in Chile.

III.3.1 Comparative experiences in different university systems

The Analysis of comparative experiences in different university systems offers valuable perspectives for improving scientific productivity evaluation models in Chile. In Latin America, Europe, and the United

States, there are different approaches to evaluating academic output, with significant variations in the criteria and methods used.

There are significant differences between public and private universities in the evaluation of scientific productivity. While some private institutions may prioritize aspects such as innovation and technology transfer, public universities usually emphasize the contribution to basic knowledge and the formation of advanced human capital.

A comparison between countries with high investment in R&D and developing countries reveals disparities in the resources available for research and in expectations of scientific productivity. Evaluation systems in developed countries tend to be more sophisticated and consider a greater diversity of indicators, whereas in developing countries, more basic and quantitative metrics may predominate.

There are successful cases of implementation of more equitable evaluation models, such as the Dutch system, which has incorporated social impact and industry relevance criteria into the evaluation of research. Also, models implemented in Asian countries such as Japan and South Korea have achieved a significant increase in global scientific productivity through policies to encourage research and development.

III.3.2 Challenges in Scientific Productivity Assessment

The evaluation of scientific productivity in Chile faces several challenges that affect its effectiveness and equity. One of the main challenges is over-reliance on quantitative metrics, such as the number of publications and journal impact factors. This dependency generates pressure to publish, which can compromise the quality and originality of research, prioritizing quantity over depth and relevance of studies.

Structural bias in evaluation is another significant challenge. These biases may manifest themselves in the form of preferences for certain disciplines, methodologies, or theoretical approaches, as well as in the undervaluation of research in emerging or interdisciplinary areas. Such biases may limit the diversity and innovative potential of national scientific production.

A third relevant challenge is the lack of recognition of the social and educational impact of research. Current assessment systems tend to focus on academic impact, measured mainly through citations, without adequately considering the contribution of research to solving social problems, the formulation of public policies, or the improvement of the quality of university education. This limitation may discourage research aimed at meeting local needs and generating knowledge applicable to specific contexts.

To overcome the challenges identified in scientific productivity assessment, it is essential to move toward the Integration of qualitative and quantitative assessments. This Integration would allow a more complete and balanced assessment of the contribution of researchers to the advancement of knowledge and development in the country.

Several more equitable and diverse evaluation models have been proposed, which consider not only the quantity of publications but also their quality, relevance, and impact in different areas. These models seek to recognize the diversity of academic profiles and ways of contributing to knowledge, adapting to the particularities of different disciplines and institutional contexts.

Hybrid and multidimensional assessment models combine traditional bibliometric indicators with qualitative assessments by peers and experts in each area. These models allow a more nuanced appreciation of scientific production, considering aspects such as originality, methodological rigor, and social relevance of research.

The use of altmetrics and contextualized assessment systems represents a promising trend in the evolution of evaluation methods. These tools measure the impact of research beyond the academic sphere, considering its diffusion in digital media, its influence on public policies, and its contribution to solving specific problems. The implementation of these innovative approaches could significantly enrich scientific productivity evaluation processes in Chile.

III.3.3 Future Trends in Research Evaluation

Future trends in research evaluation point to a significant transformation of the methods and criteria currently used. The growth of open access is changing the scientific publishing landscape, facilitating greater dissemination and visibility of research results. This change in the publication model requires an adaptation of evaluation systems, which will need to consider not only where it is published but also how the knowledge generated is shared and used.

Artificial intelligence and automation are beginning to play a relevant role in evaluation processes. These technologies make it possible to analyze large volumes of bibliometric and altmetric data, identify patterns and trends, and generate more sophisticated and contextualized indicators. However, its implementation poses ethical and methodological challenges that must be addressed to ensure the fairness and transparency of evaluation processes.

Evolving international policies are driving changes in the way research is evaluated. Initiatives such as Plan S in Europe or the recommendations of bodies like the OECD are driving a greater appreciation of

open science, international collaboration and the social impact of research. These global trends will inevitably influence the configuration of assessment systems at the national level, promoting greater alignment with international standards and practices.

III.3.4 Use of Scientific Productivity in Academic Categorization

The use of scientific productivity as the main criterion for academic categorization poses important challenges and opportunities for the Chilean university system. There are significant differences in the weighting of scientific productivity and the impact of teaching on academic evaluation and promotion processes. While some institutions give a predominant weight to research, others seek a better balance between the functions of teaching, research, and linking with the environment.

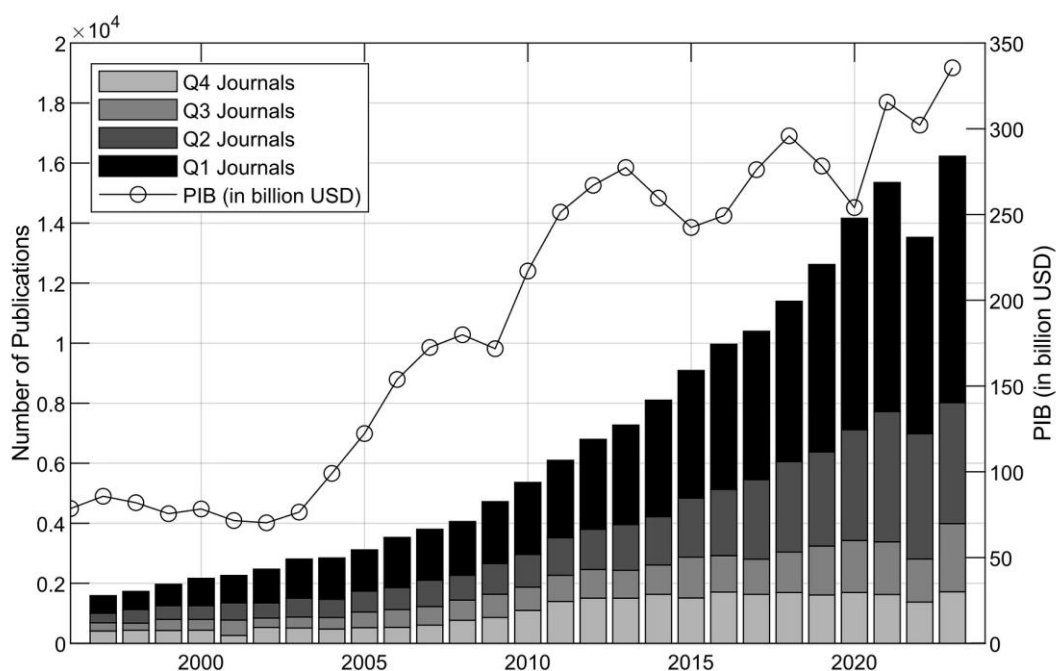
Scientific productivity has a direct impact on the allocation of funding and institutional recognition. Universities with higher scientific output often receive more resources for research, which can generate a virtuous circle of academic development. However, this system can also widen the gaps between institutions with different levels of consolidation in research.

Analysis of case studies of different university models reveals the existence of alternative approaches to academic categorization. Some models, such as implemented in Scandinavian universities, promote a more comprehensive assessment of academic performance, considering not only scientific productivity but also the quality of teaching, pedagogical innovation, and contribution to the community. The adoption of these more balanced approaches could contribute to a fairer and more comprehensive assessment of academic work in the Chilean context.

III.3.5 Impact on research quality

Analysis of the Evolution of scientific productivity in Chile shows a complex relationship between the number of publications and the quality of research. Figure 3 shows the evolution of the number of Chilean publications and the national gross domestic product (GDP) from 1997 to 2023.

Figure 3: Number of articles published per year from 1997 to 2023 reported by WOS (Cite JCR).



The results of the graph show that:

- In an extended time frame, both the number of items and GDP show an increase; however, the unit time intervals (1 year) are large enough for environmental effects to affect both the number of items and GDP; it is necessary to analyze each year.
- GDP shows fluctuations in growth and decline while the number of articles is constantly increasing, so fluctuations in GDP decrease do not affect growing scientific production.
- In the penultimate record, there is a decrease in the number of articles (only decrease), which is related to the COVID-19 pandemic, which involved a closure of university campuses and research centers, the main generators of articles in the country.

These data suggest that while there has been sustained growth in the number of scientific publications, it is necessary to assess whether this increase has translated into a commensurate improvement in the quality and impact of research. Pressure to publish can lead to practices that prioritize quantity over quality, such as fragmentation of results or premature publication of preliminary findings.

The evaluation and promotion of scientific output has traditionally focused on the publication of articles in high-impact journals. However, it is essential to recognize the need to diversify knowledge dissemination mechanisms by incorporating elements that facilitate and expand opportunities for

publication. This includes the development of tools and strategies to increase the number of publications and the implementation of mechanisms and channels that allow for the publication of alternative formats, such as books and technical reports, through their own publishing organizations.

Scientific productivity should not be limited to the generation of new knowledge through research articles but should include all those contributions that contribute to improving the understanding and application of knowledge. These include course guides, conference articles, and technical reports, which play a crucial role in the transmission of knowledge within the academic environment. The inclusion of these formats in the scientific productivity assessment will allow a more comprehensive assessment of the impact of researchers' work.

The prevailing criteria in universities tend to prioritize metrics based on the number of publications indexed in recognized databases, the impact factor of journals, and the number of citations received. While these indicators may reflect the relevance of research within a specific scientific community, they also have significant limitations. At present, the evaluation of researchers is almost exclusively based on the publication of scientific articles in indexed journals and their classification within quartiles, Placing greater emphasis on those in quartiles 1 and 2. This practice excludes or minimizes the importance of other academic production formats, such as books, technical reports, conference articles, and technical standards. This exclusion creates a bias that discourages researchers from diversifying their publications and limits the effective transmission of knowledge to the academic and professional community.

While it is understandable that certain types of publications have greater weight in terms of impact and academic prestige, this does not mean the exclusion of other formats. In this sense, a differentiated valuation for each type of contribution is proposed, assigning different scores according to their relevance and specific contribution. To do this, first define which types of contributions are valid and determine the scope of each. Once this is established, its relative importance in relation to other scientific contributions can be ranked. However, this process must also consider the complexity and difficulty of producing each type of material. For example, the generation of a guidebook represents a significantly greater effort than writing a conference article or even some indexed scientific articles. This differentiation will allow for balanced evaluation and appropriate recognition of the different types of scientific contributions within academia.

IV. Implementation of an equitable evaluation model

As for the implementation of an equitable evaluation model, a scoring system should be established that

values different contributions and encourages the generation of contributions not only from the perspective of knowledge creation but also from the impact on teaching and the Integration of research into university education. This system should encourage teaching to include the elements and topics developed by researchers, promoting a synergy between scientific production and academic training. The adequacy of this model would ensure that both the generation of new knowledge and its application in education are considered in the evaluation of researcher performance.

One of the main challenges in implementing a more inclusive evaluation system is the resilience of the bodies responsible for measuring and evaluating researchers and the organizational structure of universities and research agencies. Most universities follow the guidelines established by these agencies, which prioritize the publication of indexed articles and do not consider the development of teaching among their main objectives. This lack of recognition of teaching as a fundamental part of academic work contrasts with the criteria of university quality accreditation bodies, where the quality of teaching is a central factor in evaluation. This discrepancy between evaluation approaches makes it difficult to implement a model that fully values the contribution of researchers in all their dimensions.

To overcome this resistance, it is essential to give researchers greater freedom to generate inputs of different types and ensure that these are recognized within the evaluation system. The concept of scientific productivity must be redefined, moving from an approach based solely on the number of articles produced to one that considers the integral development of the researcher within the university. This new approach must recognize the researcher not only as a knowledge generator but also as a facilitator of its transfer to undergraduate and graduate students and those enrolled in programs such as diplomas or specialized courses.

The importance of scientific production in improving the quality of teaching should not be underestimated. In this context, some types of contributions, such as technical reports and guidebooks, may be even more relevant than research articles for academic training. These materials contribute significantly to the teaching processes in undergraduate and graduate programs, providing valuable resources that are not always considered in assessing the quality of researchers.

To ensure that research agencies and universities recognize the importance of teaching in the evaluation of researchers, it is essential to highlight the different types of contributions. This implies demonstrating how the diversity of contributions improves the different elements of work within the university, not only in terms of knowledge generation but also in academic training and transfer of knowledge to society. Integrating these elements into the researcher's assessment will contribute to a more holistic and equitable view of their performance.

Finally, to ensure that the university's institutional objectives are aligned with a broader approach to scientific evaluation, it is necessary to consider factors that are evaluated in quality accreditation processes. These criteria should serve as a reference for the definition of evaluation models that integrate both research and teaching, ensuring that the researcher's contribution is valued in all its dimensions.

In conclusion, the diversification of publication formats and the upgrading of different forms of scientific production will contribute to a more equitable evaluation of research work. This will strengthen the connection between research and teaching, ensuring that knowledge is not only generated but also transmitted and applied in society.

IV.1 Ethical and National Impact of Published Articles

There are various platforms that report data on publications in indexed journals. Perhaps the most efficient and wide-ranging ones are ResearchGate, Google Scholar, Scopus, and Orcid. These platforms include a substantial amount of information and classify the impact of publications by authors using specific metrics. Simple metrics include (a) the number of reads, (b) the total number of citations, and the well-known h-index, among other indicators. These metrics are distinct and specific to each researcher. For instance, an article may have X co-authors and Y affiliations. Some articles include many authors, but typically, there are one or two corresponding authors representing the team responsible for submitting the article for peer review. As my friend Professor Dr. Igor Saavedra used to say, if the number of reviews (or rejections) from the moment the article is submitted is even, the likelihood of publication is high. However, if the number is odd, the article is generally rejected.

There is no limit to the number of rejections an article or its authors can face. Typically, authors choose to submit their work to other journals, often with a similar or slightly lower impact factor. Being human, reviewers (or "censors") are prone to errors, as they may not always be fully aware of all the available information, and the probability of reviewer error is not negligible. Furthermore, institutional policies vary significantly. For example, in Poland, there is an institutional indicator that limits the number of authors and affiliations. If these limits are exceeded, the article is not considered an institutional contribution but still adds to the researcher's curriculum vitae.

In summary, there is no single method to measure the impact of publications from a Higher Education Institution (HEI), which should not be confused with a Research Institute. Universities conduct research to bring state-of-the-art knowledge into the classroom, aiming to train highly efficient and skilled professionals who can integrate effectively into the job market.

While further discussion on this topic is possible, scientific arguments must be concise and informative for the reader. The fundamental question is simple: Should Higher Education Institutions engage in research within their fields of expertise?

The answer is a resounding yes, as without research, students would lose the opportunity to participate in knowledge

creation and classroom learning.

What is debatable, however, is perceiving universities as though they were research institutes. The differences in vision and mission between the two are distinct, and reiterating concepts previously outlined in this article is unnecessary.

Publishing is an essential aspect of the academic ecosystem, but it must be approached with caution and responsibility. The emphasis should be on producing high-quality, original research that contributes to the global body of knowledge.

Institutions must discourage practices that prioritize quantity over quality, such as publishing in predatory journals or producing redundant articles.

The proliferation of retracted articles highlights the consequences of neglecting ethical and intellectual standards in publishing. Such practices erode trust in the academic system and waste valuable resources. To combat this, institutions must enforce strict ethical guidelines and provide training for researchers on responsible publishing practices.

The pursuit of academic excellence is a collective responsibility that requires commitment from all stakeholders, students, faculty, administrators, and policymakers. Institutions must focus on developing talent, fostering ethical practices, and creating a culture of intellectual rigor and innovation.

By aligning research efforts with societal needs, fostering interdisciplinary collaboration, and emphasizing ethical publishing, we can ensure that academic institutions remain relevant and impactful. The goal is to generate knowledge that not only advances science but also addresses the pressing challenges of our time, contributing to a more equitable and sustainable world.

In this journey, integrity, creativity, and a commitment to continuous improvement must be the guiding principles. Academic institutions have the potential to be beacons of light, driving progress and inspiring future generations to dream, create, and achieve with dignity and purpose. Let us embrace this challenge with humility and determination, building a legacy of excellence that transcends borders and generations.

IV.2 Further Remarks on Publishing as Knowledge Creation

Research is conducted simply because of the innate desire to better understand and know our environment with greater precision and scientific rigor. To achieve this, we require a process that naturally and spontaneously evolves toward a state of comfort. In this State, new ideas are generated, and correct answers are sought. We must not forget the principle of synergy, which emphatically reminds us that the sum of the parts is never equal to the whole.

This leads us inevitably to a virtuous path through which we dream, with humility and nobility, of transforming ourselves into integral beings. A scientist is a unique individual, often misunderstood, even by their "peers," who may not have reached the level of fulfillment where truthfulness, integrity, and ethics guide the process both implicitly and explicitly. Publishing does not necessarily make one a scientist; in fact, it can be detrimental, given human fragility and the risk of falling into intellectual drought or emptiness.

The State described above is the antithesis of a scientist and often applies to individuals outside academia (the elite group of mentors and disciples). Therefore, it is undesirable to demand publication from everyone merely to satisfy the demands of an unorganized society. In such societies, little statistical significance is produced in the realm of state-of-the-art research.

The true path of enlightenment lies in encouraging generations of inherently rare talents to focus on the problems we face as a society. No one is superfluous in this line of thought, but we must ensure opportunities for both individual and collective advancement.

IV.3 Ethical Considerations in Academic Publishing

A great Argentinian scientist once said with humility and respect: "You do not publish wherever you wish; rather, you publish where your results and ideas have reached a discreet maximum (far from excellence), where those results can be used by other scientists to develop the models and outcomes that society needs." It is essential to reflect and share these ideas rigorously with intellectually curious individuals eager to learn. In such an environment, we believe it is possible to grow and create in the broadest sense of the world. In science, a given word is an unwritten law universally accepted.

Let us seek the path of fulfillment and enlightenment by generating new and original knowledge. This is our task, to live and die with dignity. A person of integrity and ethics never experiences an idea drought

and always engages in magical, excellent-level academic conversations.

Conversely, it is disheartening to see articles accepted and published, often accompanied by exorbitant costs, in journals primarily driven by commercial transactions. Paying publication fees can lead to the inclusion of articles that do not serve the knowledge society. Increasingly, we hear with alarm about journals with retracted articles. These retractions reflect the knowledge society's response to flawed ideas that were never properly vetted as serious, responsible, and acceptable.

The system reacts, but the damage is done, and repairing it is nearly impossible. At a minimum, ethics and intellectual integrity are compromised, resulting in articles lacking creativity and simply repeating the same content and nauseam. Institutions must, therefore, monitor their academic bodies carefully, as "pseudo-knowledge" and repetition of obsolete content harm future generations, the engines of a nation's development.

V Conclusions

In this article, we have analytically addressed the outcomes of our years in academia, a virtuous place, meaning a community of teachers and disciples in the formal sense of the concept. Our focus has been on exploring strategies to advance the purity of knowledge and foster new ideas, which serve as the driving force behind the development of nations. This presentation does not entail criticism but rather the opposite seeks to acknowledge our realities. Quality and excellence must not, and cannot, depend on the geographical location of nations. Knowledge is universal and bears no flags; it is distinguished solely by excellence and the creation of new knowledge.

Based on our Analysis, we can conclude that the number of citations is a variable that should be included in the evaluation of researcher quality. It is more general and representative of the interest in published research. Additionally, non-quartile formats, which have an impact based on citations or interest in the presented research results, should be included in evaluation systems.

The current evaluation system in Chilean higher education institutions places excessive emphasis on publication in indexed journals, particularly those in the first and second quartiles. While this approach has established certain standards for academic production, it fails to recognize the value of other forms of knowledge dissemination that may have a significant societal impact. Documents such as technical reports, technical standards, conference proceedings, and books often provide applicable guidelines in industrial, regulatory, and public policy contexts, yet they are undervalued in traditional academic metrics.

Our research shows that the relationship between scientific productivity and economic indicators like GDP is complex. While both have generally increased over time, scientific publications have shown more consistent growth, even during periods of economic downturn. This suggests that research output is driven by factors beyond immediate economic conditions, including institutional policies, academic career requirements, and international collaboration networks.

To foster a more balanced and effective evaluation system, we propose a framework that values diverse types of academic contributions, recognizes the importance of teaching and knowledge transfer, and considers the actual impact of research on society and industry. This approach would encourage researchers to pursue meaningful investigations aligned with national needs and to communicate their findings through the most appropriate channels, whether these are high-impact journals, technical documents, or educational materials.

By broadening our understanding of what constitutes valuable academic work, we can promote a more inclusive, applied, and problem-solving-oriented academic development that better serves the needs of Chile and contributes more effectively to global knowledge.

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Evolving Brand Perceptions And Promotion Strategies In The Digital Age: Consumer Insights And Future Trends

Sheniz Shain⁶⁷

Abstract

In this age's rapidly evolving market, understanding consumer perceptions of brands and their promotional strategies is crucial for businesses to remain relevant and engaging. This research explores consumer attitudes towards brands, the key factors influencing brand perception, and emerging trends in brand promotion. Based on survey data, the findings indicate that majority of consumers have positive perception of brands, with product/service quality being the most influential factor in brand evaluation. Social media is identified as the dominant channel for brand discovery, far surpassing traditional media. Additionally, the study highlights the growing importance of authenticity and transparency in brand communication, as consumers increasingly value ethical business practices and responsiveness. Personalized messaging and engaging content are preferred methods for brand communication, emphasizing the need for brands to foster stronger connections with their audiences. Looking ahead, consumers predict that artificial intelligence (AI), augmented reality (AR) and virtual reality (VR), will revolutionize brand promotion through hyper-personalized marketing and immersive experiences. Influencer marketing, however, remains a powerful tool, though concerns about its long-term credibility persist. Sustainability and ethical branding are also gaining traction, reflecting a shift towards more responsible and value-driven brand strategies. Overall, this study underlines the dynamic nature of brand perception and the necessity for businesses to adapt to emerging digital trends to maintain consumer engagement and trust.

Keywords: Brand Perception, Social Media Marketing, Consumer Behaviour, Brand Authenticity, Emerging Trends, AI in Marketing

JEL Code: M31, D12, M37

Introduction

Promotional tactics and brand perception are changing dramatically in today's ever evolving digital environment. The rise of influencer marketing, social media, artificial intelligence, and real-time data analytics has completely changed how companies interact and connect with their target audience. Dynamic, interactive dialogues have replaced traditional one-way advertising, allowing customers to actively shape messages in addition to receiving them. For marketers looking to create powerful, genuine,

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and flexible brand identities, this evolution offers both opportunities and challenges. With an emphasis on how customers perceive, engage with, and impact brands online, this study investigates how brand perception is evolving in the digital era. It also looks at the tactics companies are using to stay competitive and relevant, from purpose-driven branding and sustainability message to immersive digital experiences and personalized content. This study finds new trends and behaviors that are changing promotional methods in a variety of industries by examining consumer insights and current market data. Brands looking to build lasting relationships and loyalty with their target customers must comprehend these changing dynamics. In an increasingly digital and customer-focused environment, the paper attempts to give a thorough review of present methods while forecasting future trends that will define the next generation of brand development.

Objectives

Examining how brand perceptions and promotional tactics are changing in response to the digital change of consumer behavior is the main goal of this study. The study specifically attempts to look into how consumers feel about modern branding, what influences how people perceive brands, and how modern consumers find and engage with businesses. Evaluating the increasing significance of authenticity, openness, and customization in branding initiatives is a major objective, particularly in light of social media and technology-driven communication.

Additionally, the study aims to determine which brand features and promotional strategies—such as product quality, brand reputation, and values—are currently most valued by consumers and how these preferences influence loyalty and purchase decisions. Additionally, it seeks to investigate how new technologies such as AI, AR, and VR are viewed in relation to upcoming marketing campaigns and brand engagement.

This study aims to offer useful insights into successful brand-building in the digital era by examining both quantitative and qualitative customer data. The ultimate goal is to help firms modify their promotional tactics to satisfy changing consumer demands and to predict trends that will probably influence branding and digital marketing in the future.

Research Questions

A number of important research questions that seek to understand the connection between changing brand strategies in the digital age and consumer perceptions serve as the foundation for this investigation. The main enquiry is:

1. In today's digital marketplace, how do customers view brands?

This inquiry investigates if the general attitude of consumers toward brands is favorable, indifferent, or unfavorable, as well as the main influences on these opinions.

2. What are the main determinants of consumer perceptions of brands?

In order to determine which factors, have the biggest effects on brand loyalty and trust, this study looks at factors such product/service quality, pricing, brand reputation, values and mission, and customer service.

3. What are the most common ways that consumers find new brands?

The dominance of social media over conventional media, such as print or television, and the part that online advertising and word-of-mouth play in brand discovery are the main topics of this inquiry.

4. How do customers want to be contacted by brands, particularly on social media?

It investigates how well interactive forms, responsiveness, targeted messaging, and interesting content may increase customer engagement.

5. How significant is consumer perception of brand authenticity, and how is it assessed?

This inquiry explores how a brand's perceived authenticity is shaped by ethical behavior, transparency, and customer responsiveness.

6. Which marketing tactics do consumers think will have the most effects going forward?

In order to determine what advances consumers, anticipate to dominate the branding environment in the upcoming ten years, it investigates perceptions of artificial intelligence, influencer marketing, interactive content, sustainability, and other themes.

Literature Review

The digital era has completely changed the way that companies communicate with their customers, moving away from mass media and toward more individualized, reciprocal interactions. Academics concur that peer evaluations, digital interactions, and consumer experiences are increasingly influencing brand perception in addition to advertising (Kapferer, 2012; Keller, 2013). Because of this, branding has become more dynamic and must constantly adjust to new technology and changing customer demands. The emergence of digital brand communities—where customers co-create brand meaning through user-generated material and online discussions—is one significant change noted in the literature (Muniz & O'Guinn, 2001; Dessart et al., 2015). These communities strengthen emotional bonds, which greatly increases trust and brand loyalty. However, research highlights the significance of brand authenticity, which is frequently assessed by ethical behavior, transparency, and platform consistency (Beverland, 2005). Social media has become an essential instrument for promoting brands since it provides chances for data-driven, targeted communication (Ashley & Tuten, 2015). The research also shows that influencer marketing, which uses parasocial connections to foster trust, is becoming more and more popular (Freberg et al., 2011). Recent studies, however, indicate that worries about oversaturation and authenticity may lessen its long-term efficacy (Djafarova & Trofimenko, 2019). Personalized brand experiences are increasingly reliant on emerging technologies like augmented reality (AR) and artificial intelligence (AI).

While AR improves engagement and immersion, AI makes it possible for hyper-targeted marketing and real-time consumer insights (Lemon & Verhoef, 2016). According to academics, these technologies will influence the direction of brand involvement in the future. Despite these developments, there are still unanswered questions about how customers in this technologically advanced age assess marketing tactics and brand values. In order to predict the future of branding and promotional strategy in a changing digital ecosystem, this study attempts to expand on current knowledge by integrating new consumer insights. Furthermore, the connection between brands and consumers has changed dramatically as a result of consumer empowerment via digital platforms. Social media's emergence has given customers the ability to actively shape brand narratives and hold companies accountable in real time (Labrecque et al., 2013). This change calls for a stronger focus on interactive and responsive communication tactics, where brands need to pay attention, adjust, and have deep discussions in order to remain relevant. Values-driven branding is also becoming more popular, according to recent surveys, particularly among younger generations like Gen Z and Millennials. According to Kotler et al. (2019) and Shetty et al. (2021), these customers are more inclined to support firms that share their values, such as sustainability, inclusivity, and ethical production. In order to cultivate emotional loyalty and stand out in crowded markets, advertising methods are consequently increasingly using brand purpose as a crucial messaging pillar. Additionally, whereas automation powered by AI and personalization improves productivity and convenience, experts caution about the possible threats to customer trust and data privacy (Martin & Murphy, 2017). Therefore, future branding success will depend on striking a balance between ethical issues and technological innovation. This changing environment necessitates ongoing research to evaluate the ways in which social, cultural, and technological factors interact to affect brand perception and the efficacy of promotions in the digital era.

Results and Analysis

The questionnaire for this research was conducted online with a sample of 81 respondents from the Balkan region, including North Macedonia, Kosovo, Serbia, Montenegro, Albania and Türkiye. The Survey was conducted over a period of three months, starting from June 2024 to August 2024. In the study a mixed-method approach has been utilized, incorporating both quantitative data from structured, closed-ended questions(mainly) and qualitative data from open-ended questions in order to provide a comprehensive analysis of both brand management and consumer attitudes. The online survey was completed autonomously by the participants. It was designed in a way to cover the key areas such as: Brand perception in modern society and predictions on future trends of brand development.

Brand Perception in Modern Society

How would you describe your overall perception of brands in the market?

81 responses

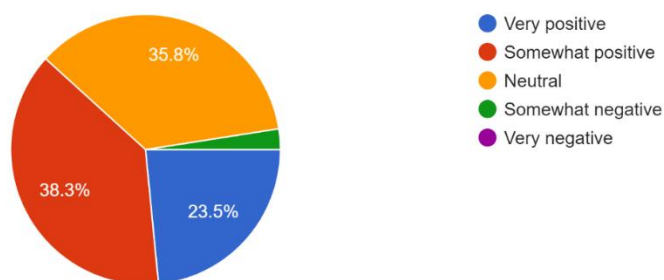


Figure 1.

For the question “How would you describe your overall perception of brands in the market?”, the data shows that the overall perception of brands in the market is dominantly positive, with 61% of the respondents expressing positive sentiments. However, a significant minority of 35,8% remained neutral, while very small fraction of about 2-4% have negative perceptions. In order for brands to attract and also retain its consumers, they should focus on improving the communication and interaction with its consumers/audience. Potentially effective strategies would include tailored messaging, constant efforts for increasing the visibility of the brand. And building community.

If you had to choose one, what factor mainly influences your attitudes towards brands?

81 responses

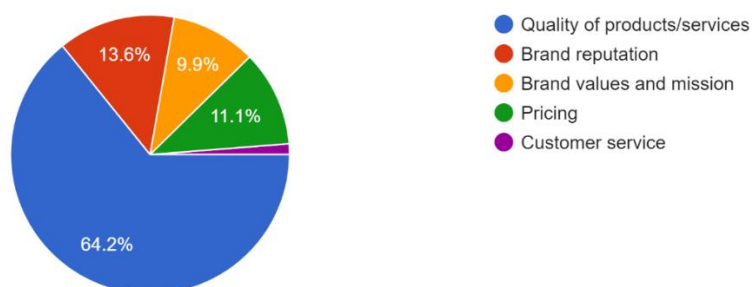


Figure 2.

The pie chart shows that overwhelming majority of the respondents prioritize the quality of products/services over the other factors when it comes to their attitudes towards brands. We can see that brand reputation and pricing also play significant role, but remain secondary to quality. A smaller influence, yet notable one has the Brand Values and Mission. We can also see that customer service is the least influential factor according to this data, though it still holds some importance.

How do you first become aware of/discover new brands?

81 responses

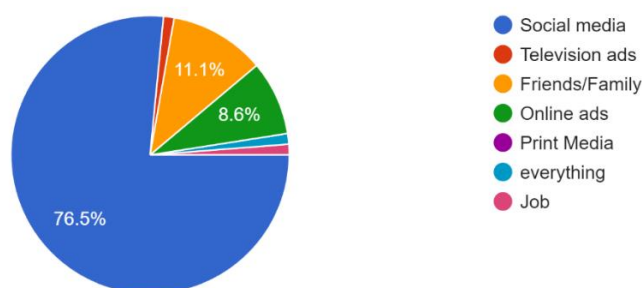


Figure 3.

Above we can see that 76.5% of the respondents tend to discover new brands by using social media. This proves that social media is the most dominant channel for discovering new brands. 11.1% of the respondents indicate that they become aware of new brands through TV ads. Showing that TV ads are significantly less effective, when compared to social media. A smaller percentage of 8.6% learn about new brands through friends and family, keeping the word of mouth a notable channel for brand discovery. Also, it is shown that online ads, print media, and everything have minimal impact in this case.

How do you mainly prefer brands to communicate with you on social media?

81 responses

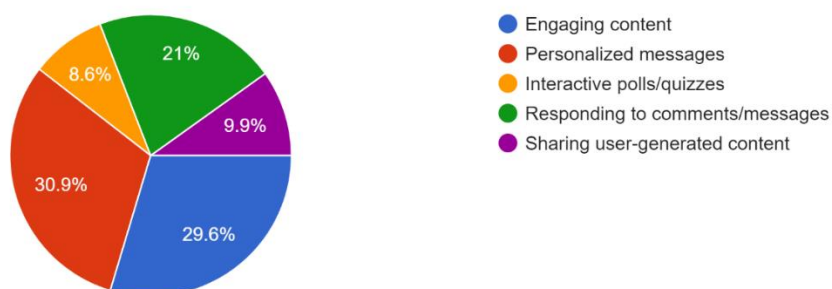


Figure 4.

When it comes to the question “How do you mainly prefer brands to communicate with you on social media?”, the most preferable method shows to be personalized messages (30.9%). However, it is closely followed by engaging content (29.6%). Also, responding to comments/messages (21%) remains a significantly preferred communication, while interactive polls/quizzes (8.6%) and sharing user-generated content (9.9%) share a respectively equal amount of less preferable communication methods.

How important is brand authenticity to you when interacting with brands on social media?

81 responses

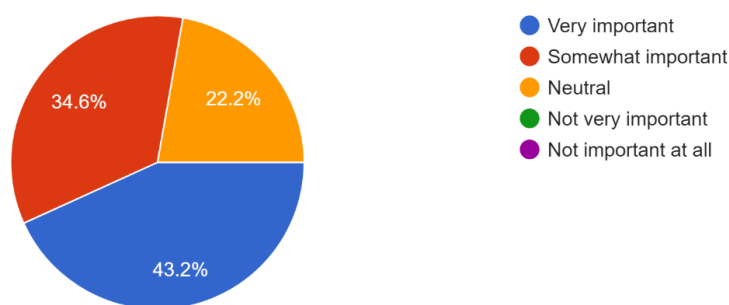


Figure 5.

In this pie chart we can see that, vast majority of the consumers value the authenticity of the brands. 43.2% rating it as very important, 34.6% as somewhat important, followed by 22.2% rating it as neutral. Nevertheless, not even one respondent noted it as not very important or not important at all. This means authenticity is a crucial characteristic for majority of consumers in their interactions with brands in today's contemporary society.

What factors do you consider when evaluating the authenticity of a brand's social media presence? (you can select multiple)

81 responses

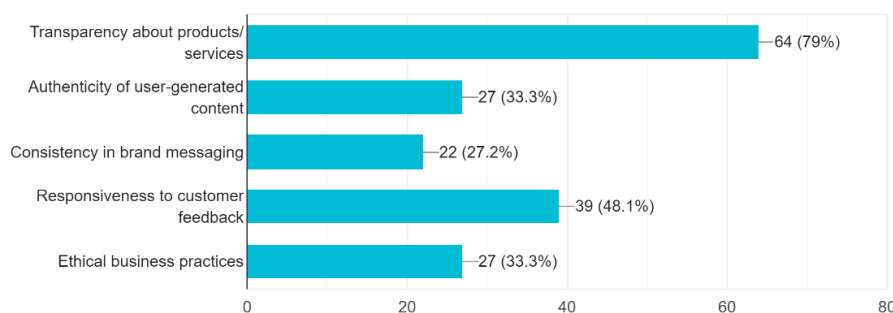


Figure 6.

For the question regarding what factors do consumers consider when evaluating the authenticity of a brands social media presence, 64 out of 81 respondents choose transparency as a crucial factor. Transparency is associated with honesty and vulnerability; this supports the fact that people/consumers value human characteristics. Good amount of value is given to Customer responsiveness and feedback. (48.1%), proving that consumers love to feel heard/seen and engaged in the story of the brand. Ethical

Business practices and Authenticity of UGC share the same consider ability of 33.3%, while the consistency in brand managing (27.2%) is the least considered factor.

Predictions on Future Trends of Brand Development:

Generally, how do you think brand promotion strategies will evolve in the next 5-10 years? (Select all that apply)

81 responses

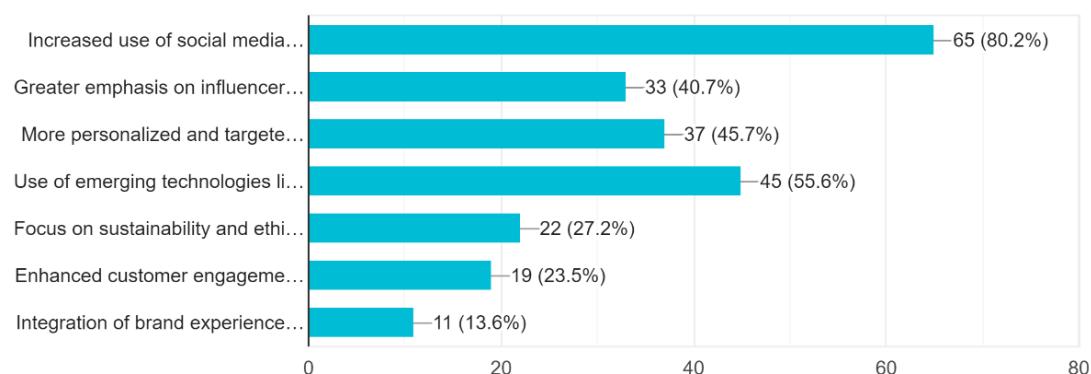


Figure 7.

When asked about the future evolution of brands promotion strategies, vast majority (80.2%) of the respondents indicated that they feel like social media is here to stay. Followed by 55.6% stating that the usage of emerging technologies like AI and AR/VR will gain power. Other factors are as follows; more personalized and targeted advertising (45.7%), greater emphasis on influencer marketing (40.7%), focus on sustainability and ethical branding (27.2%), enhanced customer engagement through interactive content (23.5%), integration of brand experiences in virtual spaces (e.g., metaverse) (13.6%)

How effective (5 being the most effective, 1 being the least effective) do you believe the following strategies will be in the future for brand promotion?

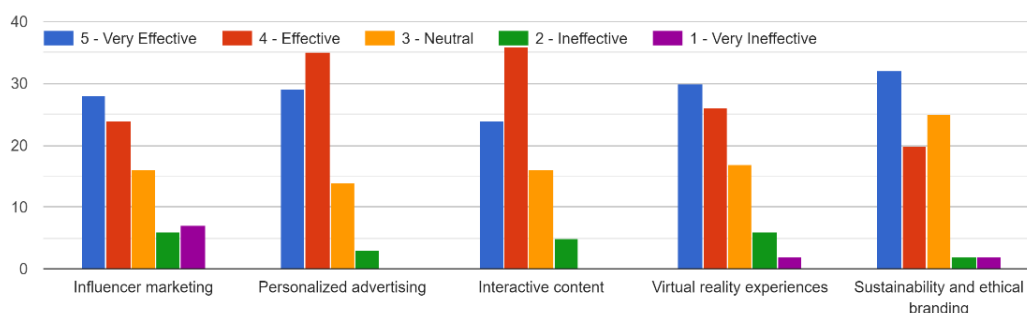


Figure 8.

The bar chart above illustrates how consumers perceive the effectiveness of five brand promotion strategies in the future; influencer marketing, personalized marketing, interactive content, virtual reality experiences, sustainability and ethical branding. The respondents of this research rated these strategies on a scale from 1 being very ineffective to 5 being very effective (Linkert scale)

The detailed analysis of the data are as follows:

Brand Promotion Strategy	Very Ineffective (1)	Ineffective (2)	Neutral (3)	Effective (4)	Very Effective (5)	Total Respondents
Influencer Marketing	7 (8.64%)	6 (7.4%)	16 (19.75%)	24 (19.62%)	28 (34.56%)	81(100%)
Personalized Marketing	0 (0.0%)	3 (3.7%)	14 (17.28%)	35 (43.2%)	29 (35.8%)	81(100%)
Interactive Content	0 (0.0%)	5 (6.17%)	16 (19.75%)	36 (44.44%)	24 (29.62%)	81(100%)
Virtual Reality Experiences	2 (2.46%)	6 (7.4%)	17 (20.98%)	26 (32%)	30 (37.03%)	81(100%)
Sustainability and Ethical Branding	2 (2.46%)	2 (2.46%)	25 (30.86%)	20 (24.69%)	32 (39.5%)	81(100%)

Table 1.

Based on this data, we can conclude that influencer marketing and virtual reality experiences are seen as very effective strategies for brand development in the future, having the highest number of consumers rating them as “very effective”.

Secondly, personal advertising is seeming to be the most consistently effective strategy, with having the greatest total number of participants rating this strategy as either “effective” or “very effective” A more balanced view has been seen when it comes to Interactive content, with noteworthy effectiveness but also a considerable amount of neutral stance.

Lastly, sustainability and ethical branding is rated as very effective by the majority, representing that there is a growing trend towards ethical considerations in brand building.

To sum it up, all of the strategies mentioned are generally seen as affective, tough with varying degrees of perceived effectiveness among the participants.

Last but not least, the last question of the survey stated: *“In your opinion, what will be the most*

significant change in brand promotion over the next decade, and why? ”.

This open-end question gave the participants a chance to express their opinions more openly, with no limitations or navigations. According to the majority of the respondents, artificial intelligence (AI) will achieve to have the greatest impact on brand development in the future. They suggest that artificial intelligence (AI) will enable hyper-personalized marketing, which will allow brands to offer interesting and relevant material that captures the taste and preferences of individuals. Additionally, it is predicted that the mixture of emerging technologies such as AR and VR along-head with AI would most possibly transform customer experiences through enhancing the engagement and effectiveness of brand promotions. Further observations highlight the need of ethical considerations and uniqueness/originality in branding, as well as the emerging trends related to digital and technology-driven techniques. Many responses are on the reduction of the credibility of influencer marketing, a few participants also anticipated that the reliability of brands on social media should be sustained. We can also note that most likely there will be a possible comeback of experiential marketing.

Discussion

The study's conclusions offer insightful information on how consumers view brands and how advertising tactics ought to change in the digital era. The majority of customers have a positive opinion of brands in the market, as seen by the 61% positive brand perception. The sizeable indifferent sector (35.8%), however, indicates that there may still be room for businesses to improve audience engagement and turn passive perceptions into active loyalty. This highlights the significance of strategic communication initiatives, including community-building techniques, consistent visibility, and customized messaging. A customer base that prioritizes measurable performance over image is shown in the emphasis placed on product/service quality over all other considerations, including price and brand reputation. However, even though they have less sway, company values and mission are still important, particularly when they complement moral and genuine message. It's interesting that customer service, which is frequently a pillar of brand loyalty, was ranked as the least important aspect. This could mean that customers now place greater emphasis on other differentiators since they expect a certain baseline level of care. With 76.5% of the brand discovery market, social media surpassed conventional media like TV and print by a wide margin. This change demonstrates the increasing significance of having a digital presence, particularly on platforms that enable customized content delivery and two-way interaction. Personalized message (30.9%) and engaging content (29.6%) were nearly equally regarded when it came to preferred brand communication, highlighting a customer desire for both entertainment and relevance. No respondent underestimated the significance of authenticity, which stood out as a crucial quality. Among the most important markers of authenticity, transparency, responsiveness, and moral conduct were emphasized.

This implies that in addition to seeming sincere, brands should conduct themselves in a manner that demonstrates transparency and honesty on social media.

In the future, respondents expected social media to continue to play a key role in brand promotion plans, supported by cutting-edge technology like artificial intelligence (AI), augmented reality (AR/VR), and personalization tools. Strong support for AI as a revolutionary force suggests that data-driven, hyper-personalized marketing will become commonplace in the future. These developments must be weighed against customer trust and ethical issues, particularly with regard to data privacy. It's interesting to note that although influencer marketing is now thought to be a successful tactic, several respondents expressed doubts about its long-term viability, suggesting that they may grow weary of or skeptical of paid collaborations. This is consistent with a predicted return to experiential marketing, wherein immersive, in-person connections can become more valuable.

In conclusion, the conversation reveals a branding environment that is becoming more digital, data-driven, and values-based. In addition to implementing new technologies, brands that want to succeed must cultivate authenticity, relevance, and trust in their dealings with customers. In the changing brand ecosystem, this dual emphasis on ethics and innovation seems to be the most viable course of action.

Implications and Conclusion

This study clarifies how shifting customer expectations and digital trends are changing how people perceive brands and how they promote them. One of the most obvious conclusions is that modern consumers expect firms to engage with them in meaningful and customized ways rather than merely selling them a product. This necessitates that companies spend in creating authentic connections via social media and other digital channels, going beyond conventional marketing.

1. Shifting Expectations Beyond Product:

Consumers of today have higher expectations and are no longer only concerned with product quality. They want to relate to the brand, comprehend its mission, and interact with it personally. This change calls on brands to take a more people-centric stance and abandon generic, one-size-fits-all messaging. It's becoming more important to build relationships than just make sales.

2. The value of Authenticity and Transparency

One important conclusion drawn from this study is how much value customers place on authenticity. They want brands to be truthful, open, and reliable. Brands that demonstrate their humanity, whether through consumer interaction, social duty, or narrative, gain greater trust. Disinterest or even brand

rejection could result from ignoring this trend.

3. Technology as a Tool, not a Replacement

AI, AR/VR, and customized algorithms are examples of emerging technologies that are seen as potent instruments for branding in the future. But they need to be applied carefully. Human interaction should be enhanced by technology, not replaced. Making communication more meaningful and relevant rather than robotic or excessively obtrusive is the aim.

4. Changing the Role of Influencer Marketing

Even while influencer marketing is still powerful, a lot of customers are becoming wary of overly promoted material. Once more, what sets you apart is authenticity. In the upcoming years, community-focused collaborations, genuine client endorsements, and micro-influencers might have a greater impact than massive endorsements.

5. The rise of Immersive and Interactive Experiences

Community-driven campaigns, virtual experiences, and interactive content are becoming more popular as passive advertising becomes less appealing. Brands can create more enduring loyalty and stronger emotional bonds by providing participation through polls, quizzes, live videos, and augmented reality try-ons.

6. Conclusion: Finding the Balance

To sum up, this study confirms that finding a careful and dynamic balance is key to effective brand promotion in the digital era. Brands need to skillfully blend data with creativity, automation with authenticity, and innovation with empathy. It is no longer enough to rely only on technology or conventional techniques. Rather, brands must constantly adjust, pay attention to their consumers, and maintain cultural relevance while adhering to their basic principles. This equilibrium is particularly important as customer expectations keep changing. Consumers now connect with brands based on their values rather than just their merchandise. As a result, moral behavior, openness, diversity, and narrative are equally as crucial as output or cost. Additionally, as new engagement opportunities are shaped by technologies like AI and AR/VR, organizations need to make sure that these tools complement rather than replace the human experience. On the other hand, personalization must be based on consent, trust, and true value; it should never feel intrusive. Brands that view their customers as active participants in their brand journey rather than only as data points will succeed. In the end, businesses that successfully balance

emotional connection with digital innovation will gain enduring loyalty and maintain their competitiveness in the rapidly evolving digital market

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The Effect of Distance Learning on High School Students' Interest in Science Education

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Abstract

In recent years, online learning has gained greater importance and popularity in the education system. Introducing technology into the teaching process is interesting for new generations, especially in high schools. The purpose of this research is to determine how and to what extent online lectures on chemistry, which is experimental content, impact students in grades 10, 11, and 12. Students who took the chemistry subject in English, which is not their native language, according to the results we received, as many as 75% of the students enjoyed the lessons held online; however, only 3% preferred online only, the rest are for hybrid or only with a physical presence. Although most of the students surveyed showed good results at the end of the school year, the academic performance of students can be improved by using different platforms, computer programs related to chemistry and virtual laboratory experiments which can be used during online lessons. Overall, the results highlight that while structural supports like technology access are necessary, fostering academic success and demonstrating the practical relevance of chemistry are key to improving student satisfaction and achievement in distance learning environments. Future research should explore interventions aimed at strengthening these aspects, potentially including increased opportunities for hands-on or applied science activities even in remote settings. The greatest role belongs to Chemistry teachers in how they can introduce the course material or their experience with these new technological tools into their 21st-century lessons.

Keywords: Distance learning, Chemistry education; High school students; Virtual labs

INTRODUCTION

The distance learning, has profoundly impacted educational behaviour worldwide by the global COVID-19 pandemic period. Distance learning, also known as online or remote education, refers to the use of digital technologies. While technology-enabled remote instruction has ensured the continuity of learning, it has also introduced new challenges related to student engagement. In science education, especially in Chemistry as an experimental science, where hands-on activities and in-person collaboration play a crucial role, understanding the effects of distance learning is particularly important (Mercie, et al., 2021; Amsen, 2021; Duc, 2022)

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Historically in the context of Chemistry education, distance learning began with the advent of the internet, the transition to online modes has required careful adaptation due to the subject's reliance on laboratory experiences, visual models, and academic concepts, education curriculum (Kennepohl, 2010; Samet, 2021). Effective Chemistry online education requires a pedagogical shift from traditional lectures to more learner-centered methods (Garrison et al., 2000).

A major concern in online Chemistry education, studies show (Pyatt & Sims, 2012), that virtual labs can effectively support of experimental procedures in the absence of hands-on laboratory work. To address this, a variety of virtual laboratories and simulations have been developed, STEM approach can increase students' learning motivation on reaction rate material (Pane, 2024). Laboratory applications are of significant importance in chemistry education. (Tatli & Ayas, 2013). Nonetheless, the virtual labs cannot fully replace the procedural experience of real laboratory work (Pyatt & Sims, 2012). Student engagement in online Chemistry education is often more difficult, such as isolation, low interactivity, and lack of immediate feedback can reduce motivation and learning outcomes. (Kebritchi et al., 2017). However, disparities in technology access and digital skills remain barriers (Reeves, 2021; Means et al., 2020).

The study further explored how factors such as gender, grade level, used language influenced students' academic performance. The survey collected data on demographics, technological access, experiences with distance learning, perceptions of chemistry education, and open-ended reflections on the course. Quantitative analysis included descriptive statistics and correlation studies to uncover relationships between key variables, such as final chemistry grades, course ratings, and perceived usefulness of chemistry.

The access to personal computing devices was nearly universal among respondents, it showed only minor course satisfaction. Instead, students' perceptions of chemistry's and their academic success emerged as more significant of course satisfaction. Gender-based analysis revealed subtle differences in course ratings, final grades, and engagement with science activities, while grade-level comparisons suggested evolving motivations and perceptions as students progressed through their education. Based on the findings the study suggests that when designing or implementing online science classes, students' engagement, teacher-faculty interaction, creating opportunities for students to cooperate and helping students to actively engage in the activities should be taken into consideration by teachers (Aslan Efe, 2023).

By integrating statistical analysis with sentiment evaluation and demographic insights, this study provides a multifaceted understanding of students' experiences with distance learning in chemistry. Hybrid learning, which combines online instruction with in-person labs, is increasingly seen as a sustainable and

effective model (Fidalgo et al., 2020). The findings offer valuable implications for educators' lack familiarity with digital assessment tools and online pedagogies (Trust & Whalen, 2020). Professional development programs that focus on instructional design (Koehler & Mishra, 2009), seeking to enhance remote science education, emphasizing the importance of fostering academic achievement and connecting curriculum content to practical, real-world contexts (Jegstad, 2024; Samet, 2021).

METHODOLOGY

Participants and Data Collection

The data for this study were collected through a structured survey distributed to students enrolled in a high school level chemistry course, at International Maarif School, Tetovo, North Macedonia, delivered via distance learning. A total of 70 students participated in the survey. Each are assigned a unique respondent ID number to maintain the anonymity.

Survey Instrument

The survey was consist of 33 items to capture both quantitative and qualitative data. The questionnaire included multiple-choice questions, Likert scale items, and open-ended questions. The design of the instrument allowed for the assessment of students' demographic characteristics, technological resources, learning experiences, and reflections on the chemistry course. Participants provided information on their grade level (10th, 11th, or 12th grade), age group (primarily 15–18 years), gender, primary language spoken at home, and ethnicity.

Questions assessed whether students had personal access to a home computer or had to share devices with family members, providing insight into the technological barriers that may influence distance learning effectiveness.

Items explored students' experiences with accessing distance learning platforms, their motivation and self-discipline, and the utilization of teacher-recorded lessons and other educational resources.

Students reported on the difficulty level of studying chemistry in a distance learning context, the perceived usefulness of textbooks, homework, and projects, and the practical relevance of chemistry for solving real-world problems. Participation in extracurricular science activities (in-person or online) was recorded, along with students' views on how such activities enhanced their understanding of the importance of science. Open-ended questions invited students to share memorable moments from the course, suggest potential improvements, assign an overall grade to the course, and provide final thoughts on their chemistry learning experience.

Data Preparation and Analysis

Quantitative data were prepared for statistical analysis by coding categorical responses and scaling Likert-type responses where appropriate. Qualitative responses were thematically analyzed to extract key patterns and representative sentiments regarding the students' experiences and suggestions. Correlation

analysis was also done to discover the relationship between the students' perceptions and the expected course grades. Sentiment analysis was conducted on students' open-ended responses to gain deeper insights into their emotional and subjective experiences.

RESULTS AND DISCUSSION

The survey captured responses from students predominantly enrolled in the 10th, 11th, and 12th high school grades, with a majority falling into the 15–18 year age range.

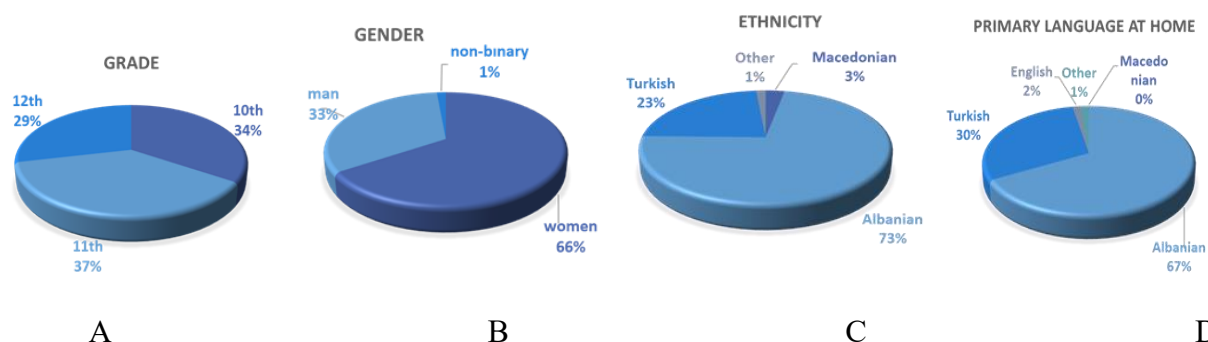


Figure 1. Percentage of students by grade (A), gender (B), ethnicity(C), and primary language at home (D).

This demographic distribution reflects the typical age and grade level of students engaging in upper-secondary chemistry courses. The study sample consists of three grade levels: 10th (34.3%), 11th (37.1%), and 12th (28.6%). This relatively balanced distribution ensures that the perspectives of students at different stages of secondary education are represented (Figure 1A). In terms of gender identity, the sample includes a majority of women (65.7%), followed by men (32.9%), and one non-binary student (1.4%). The inclusion of a non-binary participant, although minimal, reflects attention to gender diversity (Figure 2B). Regarding ethnicity, the sample is predominantly Albanian (71.4%), with smaller representations of Turkish (22.9%), Macedonian (2.9%), and other ethnic backgrounds (1.4%). This distribution suggests that findings may be particularly relevant to ethnic Albanian students in the region (Figure 1C). For primary language spoken at home (Figure 1D), Albanian is the most common (67.1%), primarily speak Albanian at home. This matches the count of students who reported Albanian as their primary language, with a small margin possibly explained by multilingual households or individual language preferences. Some non-Turkish ethnic students also speak Turkish at home (e.g., due to mixed families or community influence), or some Turkish students may have been grouped under "Other" ethnicity or reported a different primary language. The data strongly support the hypothesis that ethnicity and home language are closely linked, particularly among Albanian and Turkish students. Any discrepancies are minor and could be explored further through qualitative data or follow-up questions. This is important information, and a topic for another study in circumstances where the student belongs to

another nationality, uses a second language at home, while the school teaches science in English, what is the impact on the student's ultimate success.

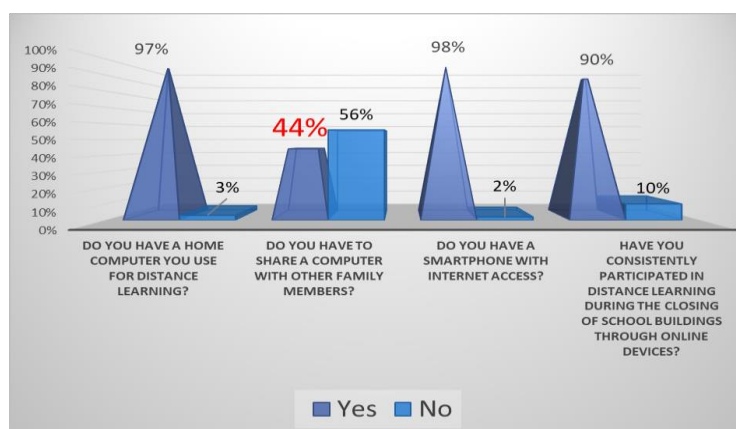


Figure 2. Technology access at distance learning of high school students.

A significant portion of the respondents reported having personal access to a home computer dedicated to distance learning (Figure 2). The data reveals that the vast majority of students were well-equipped for distance learning during school closures: 97% of students reported having a home computer for distance learning, while only 3% did not. 98% of students had access to a smartphone with internet, indicating high digital connectivity. 90% reported consistent participation in online distance learning, which suggests that technical access was not a major barrier for most. Overall, students had strong digital infrastructure at home, but the need to share devices remains a potential challenge that could influence the effectiveness of remote education. Studies show that the demographic, home environment, prior knowledge, scholastic ability, educational curriculum, and perceptions related to chemistry and science, and student perception of instructional practices are the variables correlated with student chemistry achievement (AlMahdavi, et al. 2021; Samet, 2021)

Table 1. Barriers to Effective Distance Learning

Answers options	What is your biggest barrier in effectively learning from home?	Answers options	How do you communicate with your teacher during the closing of school buildings?
Need to care for brothers or sisters	10 %	Classroom Web-based Platform	61 %
Lack of quiet workspace	14 %	Website	4 %
Lack of technology	0 %	Email	13 %
Something else	21 %	Social Media	9 %
Lack of internet	20 %	Phone	10 %

I don't have any barriers right now	34 %	Have not communication with teacher	0%

About the biggest barriers to learning from home, 34% students reported no barriers, indicating that a significant portion of the sample felt fully equipped and undisturbed in their home learning environment (table 1). Something else" (21%) – this open-ended category may include emotional, motivational, or household-related factors not specifically listed. However, a non-negligible number (45%) of students indicated the necessity of sharing devices with family members, highlighting potential limitations in accessing digital learning materials without interruption (Figure 2). Lack of internet (20%) – despite 98% reporting access to smartphones with internet, this suggests issues with connection stability or bandwidth, particularly when multiple family members are online. Lack of a quiet workspace (14%) and need to care for siblings (10%) are personal and environmental factors that can interfere with focus and availability. Students used a variety of channels to stay connected with teachers during the closure of school buildings: The dominant mode of communication was classroom web-based platforms (61%), suggesting that schools implemented structured systems (e.g., Google Classroom, Moodle). Importantly, no student reported a complete lack of communication, which reflects positively on the efforts made by educators to maintain contact during the remote learning period. While technological access was largely sufficient, environmental and personal challenges—like internet quality, caregiving responsibilities, and the need for quiet—remained significant for some students. Schools appear to have successfully maintained communication, primarily through formal online platforms, supporting continuity in education despite the shift to remote learning.

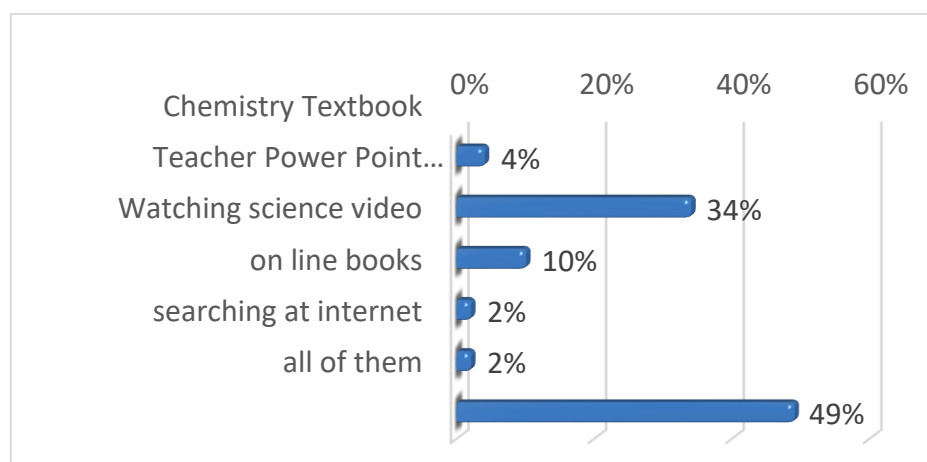


Figure 3. Preferred Learning Resources for Chemistry

Students were asked to choose the best option for learning chemistry, and the results reflect a strong preference for variety and multimedia approaches, 49% chose "all of them", indicating that most students benefit from a combination of learning resources. This supports the idea that blended learning approaches—integrating text, visuals, videos, and online tools—are more effective for engagement and

understanding. Preferred teacher PowerPoint presentations (34%), which suggests that teacher guidance combined with visual structuring of the material is highly valued and the importance of clear explanations and visual aids in science education. According the Figure 3, static or text-heavy materials are less favoured, possibly due to their lack of interactivity, difficulty in understanding without teacher support, or simply being less engaging.

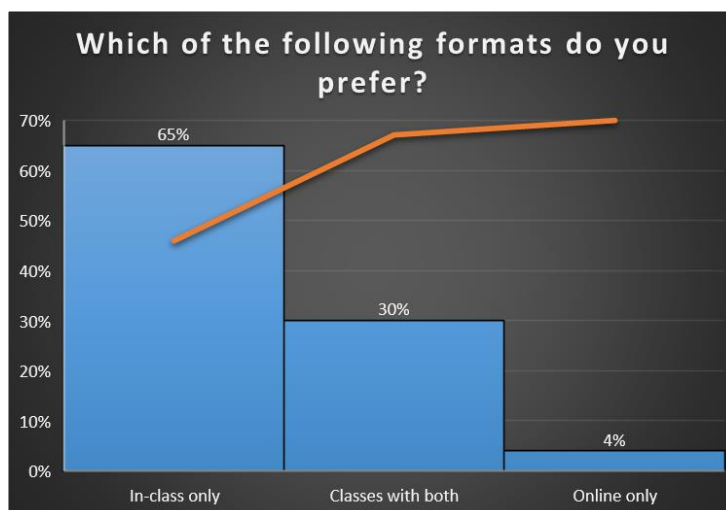


Figure 4. Preferred Learning Format

Table 2. Chemistry Learning Support and Engagement

	Do the homework and projects helps for better learning chemistry?	Do you think that science activities helps for understanding the importance of science?	Did you take part at any science activity at schools or on-line?	Do you enjoy learning in distance?
Yes	88%	81%	52%	23%
No	2%	2%	48%	77%
Maybe	10%	17%	/	/

This set of responses provides insight into students' engagement with chemistry education and their attitudes toward learning experiences, 88% of students believe homework and projects help them learn chemistry better, showing that structured, task-based learning is highly effective in reinforcing subject knowledge (Table 2). Only 2% disagreed, with 10% unsure, indicating broad support for this traditional learning strategy. 81% agreed that science activities help them understand the importance of science, suggesting these activities are meaningful and contribute to a deeper appreciation of the subject. Again, a small percentage (2%) disagreed, and 17% responded "maybe", possibly reflecting variability in the quality or frequency of such activities. 52% had taken part in a science activity, either in school or online, while 48% had not. Sharing devices (56% do not share, but 44% do) may have affected study time and focus, even if students had access (Figure 4). In the field of chemistry there are tasks that cannot be

replaced by digital alternatives, especially the laboratory practice and related know-how skills. Some alternatives such as MOOLs or simulation can nevertheless be proposed (Mercier, 2021). This nearly even split suggests room for improvement in offering and promoting science engagement opportunities. A significant 77% reported not enjoying distance learning, with only 23% expressing enjoyment. This stands out sharply compared to their otherwise positive attitudes toward chemistry activities and learning. It underscores that while students adapted to online formats out of necessity, they prefer in-person or more interactive environments.

A strong majority (65%) of students chose in-class only learning. 30% preferred a hybrid format combining in-person and online learning. Only 4% favoured online-only education. These preferences are consistent with earlier findings showing that, 77% of students did not enjoy distance learning. Most students benefit from structured, interactive environments—like teacher-led presentations and classroom science activities. The low support for fully online learning suggests that while students may appreciate digital tools, they value face-to-face interaction, hands-on experiences, and direct teacher support more highly. The 30% favoring a hybrid approach indicates some openness to flexibility and technology integration, as long as it is balanced with in-person learning (Figure 4).

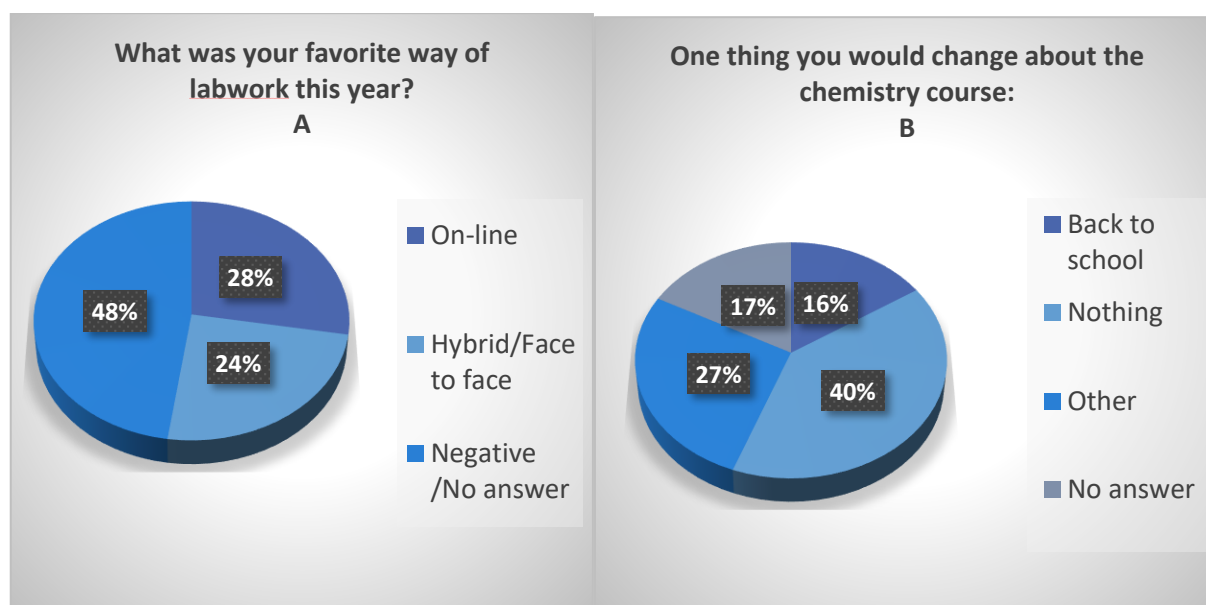


Figure 5. Student Suggestions for Favorited Lab Format (A) and Improving the Chemistry Course (B) The large number of negative/no responses (48%) may indicate that many students, did not find the lab activities engaging or memorable. Had limited or no access to meaningful lab experiences during the year—likely due to pandemic-related restrictions or did not perceive the labs (especially online ones) as effective or enjoyable (Figure 5A). The large “Nothing” response (43%) suggests either general contentment or limited student reflection on how the course could be improved (Figure 5B). The call for a

return to in-person learning underscores the dissatisfaction with remote formats, already seen throughout your data. The “Other” group signals room for course enhancement, particularly in delivery, materials, or interactivity—especially if the chemistry course was mostly online.

Table 3. Course Evaluation and Chemistry Grades

Grade	What grade would you give the course?	What is your final chemistry grade?
5	64%	77%
4	30%	14%
3	0.10%	0.70%
2	0.10%	0.10%
1	0.10%	0

Student Rating of the Course ("What grade would you give the course?") 64% gave it the highest rating (5), showing strong appreciation for the course overall. 30% gave a 4, suggesting it was seen as good but with minor areas for improvement. This indicates a very high level of student satisfaction, as over 94% rated the course a 4 or 5 (Table 3). 77% of students earned a 5, showing excellent academic performance and possibly good alignment between teaching strategies and student learning. This data confirms a positive correlation between student satisfaction and performance: Most students rated the course highly and achieved high final grades. The absence of failing grades (1s) and minimal lower scores indicates that students not only felt the course was well-structured but were also able to succeed in it. These results also reflect well on the course's teaching methods—despite challenges of distance or hybrid learning, students felt supported and managed to perform academically.

Correlations with Course Grade

Tables 4 and 5 show the strongest positive and negative correlations with the self-reported course grade.

Table 4. Positive Correlations

Factor	Correlation	Interpretation
Final chemistry grade	0.26	Those who scored higher also rated the course more positively.
Chemistry is useful for solving everyday problems	0.17	Students who found chemistry relevant to life rated the course higher.
Language spoken at home	0.15	A weak link might reflect cultural or language-related factors.
Found the textbook helpful	0.09	Somewhat helpful for success perception.

The correlation values indicate generally weak but positive relationships between various factors and students' attitudes toward the chemistry course. The strongest correlation ($r = 0.26$) is with final grades, suggesting that academic success moderately influences students' overall perception of the course. This

aligns with the idea that students tend to value subjects in which they perform well. Perceiving chemistry as useful for everyday problem-solving ($r = 0.17$) also shows a small but meaningful link to course appreciation, highlighting the importance of real-world relevance in science education. The correlation with the language spoken at home ($r = 0.15$) may reflect subtle cultural or communication barriers that can affect engagement or understanding, though the effect is limited. Lastly, the very low correlation with textbook helpfulness ($r = 0.09$) suggests that instructional materials alone are not strong determinants of students' attitudes, emphasizing the need for engaging teaching methods beyond static resources.

Table 5. Negative Correlations

Factor	Correlation	Interpretation
I only study chemistry if there are tests	-0.12	Students who cram for tests tend to rate the course lower.
No home computer	-0.1	Limited tech access may reduce satisfaction.
Prefers certain learning formats	-0.09	Preferences misaligned with course delivery could affect perception.

The negative correlations, although weak, suggest that certain attitudes and contextual factors are slightly associated with lower student satisfaction in the chemistry course (Table 5). The most notable is the tendency to study only for tests ($r = -0.12$), indicating that students who approach chemistry with a short-term, exam-focused mindset are less likely to appreciate the course—possibly due to lack of deeper engagement or intrinsic interest. Lack of a home computer ($r = -0.10$) also shows a small negative impact, suggesting that limited access to technology could slightly hinder students' ability to interact effectively with course materials, especially in digital or distance learning contexts. A preference for certain learning formats ($r = -0.09$) negatively correlates with course ratings, possibly pointing to a mismatch between students' favored learning styles and the instructional methods used. While these relationships are weak, they still highlight the importance of aligning pedagogy with student needs and ensuring equitable access to resources.

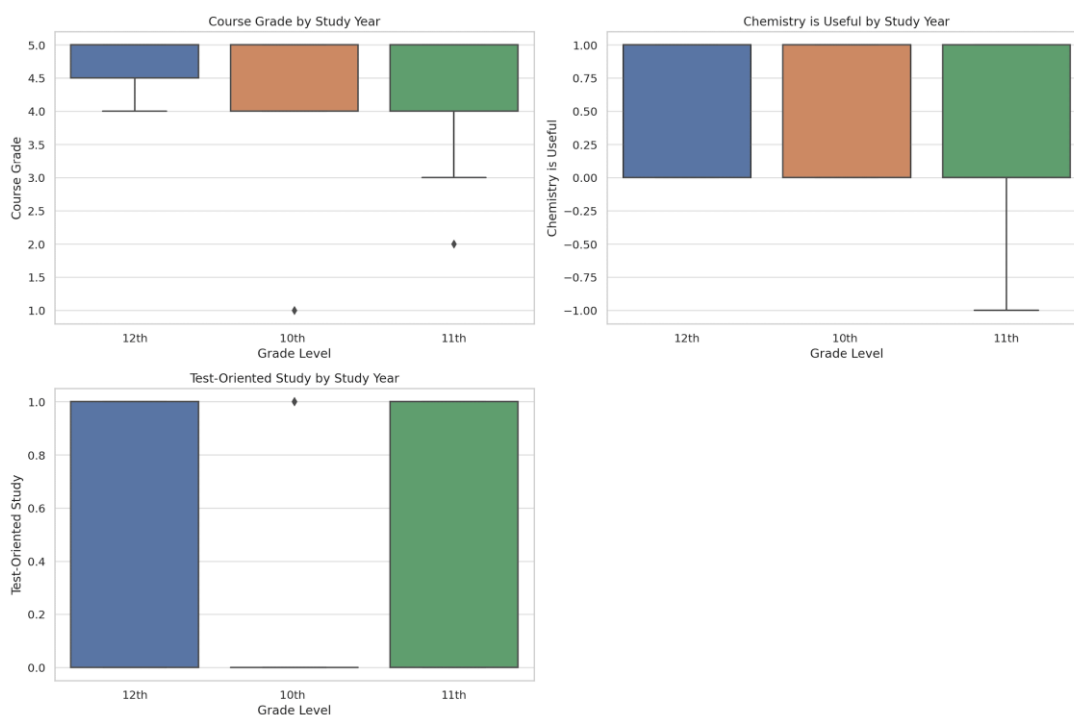


Figure 6. Test-Oriented Study by Study Year

Figure 6 illustrates the comparison across 10th, 11th, and 12th grades reveals some subtle trends in students' experiences and perceptions. The course grades remained fairly consistent across all grade levels, though there was a slight decline noted among 12th-grade students. When it came to the perceived usefulness of chemistry, 11th graders stood out, indicating a stronger belief in the subject's relevance compared to their younger and older peers. Additionally, 10th-grade students appeared more likely to engage in test-oriented studying, focusing their efforts primarily when assessments were approaching, a tendency that diminished as students advanced to higher grades. These patterns suggest gradual shifts in perception and motivation as students' progress through secondary education, potentially influenced by increasing academic maturity and changing priorities.

Sentiment Analysis

Overall sentiment was positive across all open-ended questions (Table 6). Students' final thoughts reflected the highest positivity, indicating a strong overall appreciation for the course. Comments about changes were only slightly positive, suggesting few major complaints or concerns. Memorable experiences were recounted with mild positivity, often focusing on specific activities or instructional methods that stood out.

The results of this study provide a nuanced understanding of students' experiences with distance learning in a chemistry course and the factors that influence their satisfaction and academic performance. Most

students assigned high ratings to the course, suggesting overall satisfaction with the learning experience despite the challenges posed by the distance learning format. Correlation analysis revealed that the final chemistry grade was the strongest predictor of course satisfaction, albeit with a moderate correlation ($r \approx 0.26$). This suggests that students who performed better academically were generally more satisfied with the course, which aligns with existing educational research indicating that perceived success often enhances satisfaction.

Table 6. Sentiment Analysis Results

Question	Average Polarity	Average Subjectivity	Interpretation
Final thoughts about the course?	0.46	0.54	Responses were generally positive and moderately subjective. Students expressed favorable final impressions.
One thing you would change about the chemistry course:	0.16	0.21	Responses were slightly positive and relatively objective. Many students had neutral feedback or minor suggestions for improvement.
One thing you'll always remember/will never forget from class:	0.13	0.21	Responses were mildly positive and objective, often mentioning memorable activities or experiences without strong emotional language.

Technology Access and Impact

While most students had access to a personal computer, a small proportion shared devices with family members. Interestingly, computer access and shared device usage exhibited negligible correlations with course ratings and final grades. This indicates that although technology access is necessary for participation, it did not significantly influence students' academic success or their satisfaction in this particular context.

Science Activities and Engagement

Participation in extracurricular science activities was relatively low. Correlations showed that engaging in such activities did not have a meaningful impact on either the final chemistry grade or the course rating. However, students who did participate in science activities tended to perceive chemistry as more useful, suggesting that while these activities may not directly improve academic performance or satisfaction, they can enhance the perceived relevance of scientific learning.

Perceived Usefulness of Chemistry

The perception of chemistry's usefulness showed a small but positive correlation with both final grades and course ratings. Students who recognized the real-world applications of chemistry were slightly more

likely to succeed academically and rate the course favorably. This reinforces the importance of emphasizing the practical relevance of scientific concepts in curriculum design.

Limitations

It is important to note that correlation does not imply causation. The relationships observed between variables may be influenced by numerous external and individual factors not captured in this study. Additionally, the reliance on self-reported data may introduce biases in students' responses.

CONCLUSION

This study examined students' experiences in a distance learning chemistry course, focusing on how various factors influenced both their academic outcomes and overall course satisfaction.

The data strongly support the hypothesis that ethnicity and home language are closely linked, particularly among Albanian and Turkish students. Any discrepancies are minor and could be explored further through qualitative data or follow-up questions. Overall, students had strong digital infrastructure at home, but the need to share devices remains a potential challenge that could influence the effectiveness of remote education.

While technological access was largely sufficient, environmental and personal challenges—like internet quality, caregiving responsibilities, and the need for quiet—remained significant for some students. Schools appear to have successfully maintained communication, primarily through formal online platforms, supporting continuity in education despite the shift to remote learning. The data highlights that students prefer multimodal learning when it comes to chemistry. Educators should aim to integrate various resources—PowerPoint lectures, videos, and supportive digital tools—rather than relying solely on textbooks or passive reading materials.

Students see clear value in homework, projects, and science-related activities, which positively contribute to their learning and engagement with chemistry. However, despite adequate access to technology, the low enjoyment of distance learning (77% negative) indicates that distance education may not meet students' social, interactive, or motivational needs, especially in subjects like chemistry that benefit from hands-on learning and real-time discussion.

Overall, students clearly prefer traditional classroom environments or a blended approach, rather than fully online instruction. This reinforces the importance of maintaining in-person educational experiences, particularly for complex and interactive subjects like chemistry.

Although some students appreciated both online and in-person lab formats, the high number of students who could not recall a favourite lab suggests a need for more engaging, interactive, and accessible lab

experiences, particularly during distance learning. This aligns with broader findings from your study that students prefer in-person formats and struggle to stay engaged in fully remote environments. While many students are satisfied with the chemistry course as it is, a notable portion wish for a return to face-to-face learning and some expressed a desire for unspecified improvements. These findings point to the importance of listening to student feedback and continuing to improve the engagement and delivery of the course, especially in hybrid or online contexts.

The chemistry course was highly rated by students both in terms of satisfaction and academic outcomes. This suggests that while students had strong preferences for in-person learning, the course itself was effectively delivered and well-received, supporting student achievement across the board.

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The Interplay of Language and Identity: A Sociolinguistic Perspective

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Abstract

Language operates not merely as a conduit for communication but as a vital force in the construction and negotiation of identity, deeply enmeshed in the social, cultural, and historical tapestries of human experience. This paper adopts a vivid sociolinguistic lens to examine how language acts as both a mirror and a mold for identity across multiple dimensions—ethnicity, gender, class, nationality, and digital presence. Drawing on interdisciplinary frameworks such as Social Identity Theory, Symbolic Interactionism, and poststructuralist performativity, the study elucidates how individuals deploy language to assert agency, forge belonging, and navigate societal structures. From the revival of minority languages to the linguistic strategies embedded in digital activism and urban semiotics, the analysis demonstrates that linguistic practices not only reflect but actively shape power dynamics and group affiliations. Through phenomena such as code-switching, translanguaging, and the emergence of hybrid and digital identities, the paper foregrounds the fluid, performative nature of identity in a globalized, digitized world. Further, it interrogates the role of language in perpetuating or challenging social inequalities, particularly in educational policy, digital access, and urban planning. By centering language as a tool of social justice and identity empowerment, this research underscores the need for inclusive, culturally responsive language policies. Its contribution lies in expanding the scope of sociolinguistic inquiry to encapsulate the transformative capacities of language in shaping inclusive, pluralistic societies while offering critical pathways for resistance and solidarity in an era of intensified globalization and digital convergence.

Keywords: Sociolinguistic Identity, Code-Switching and Multilingualism, Digital Linguistic Practices, Linguistic Justice, Poststructuralist Performativity, Globalization

1. Introduction

Language, as both a medium of communication and a bearer of cultural heritage, forms the crucible within which human identity is forged, reconstituted, and articulated. It is more than a mere collection of sounds or syntactic rules; language encapsulates the history, values, beliefs, and cognitive frameworks of its speakers. Embedded in the phonological cadences, syntactic structures, and lexical choices of any language are the echoes of the historical, political, and psychological trajectories of its speakers. Within

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the purview of sociolinguistics—the study of the interrelationships between language and society—language emerges not as a static system of symbols, but as a dynamic and context-bound practice intricately entwined with the construction, negotiation, and performance of identity. The present inquiry endeavors to unravel this intricate interplay between language and identity, situating its analysis within the wider sociolinguistic discourse while drawing upon the lived, embodied, and performative aspects of linguistic behavior.

In the complex matrix of human social existence, identity is not a monolithic or immutable entity; rather, it is a fluid, multifaceted, and context-sensitive construct. As Weedon and Bucholtz and Hall argue, identity is constituted through discourse and semiotic practices—an emergent, contingent phenomenon produced through interaction. Language is both a medium and a marker of this positioning. Through phonological variation, code-switching, language choice, and accent modulation, individuals align themselves with or distance themselves from particular social groups. These linguistic performances are not merely utilitarian; they are laden with ideological significance, often embedded within historical narratives of power, exclusion, and resistance. In multilingual and multicultural societies, such as India, Canada, Belgium, Switzerland, , and South Africa, language functions as a potent index of ethnicity, caste, class, and region, frequently reinforcing social hierarchies while simultaneously offering avenues for subversion and rearticulation.

A sociolinguistic perspective further underscores that identity is inextricably linked to *language ideologies*—beliefs and assumptions about the value, correctness, and appropriateness of particular linguistic forms. These ideologies are historically and politically charged, often serving as mechanisms of domination and marginalization. Bourdieu's concept of "linguistic capital" is especially instructive here: in stratified societies, access to prestigious varieties of language correlates with access to social mobility and symbolic legitimacy. Thus, speakers of non-dominant or stigmatized dialects, such as African American Vernacular English (AAVE) or regional creoles, often find their identities devalued or contested. Institutions like schools, workplaces, and media often enforce standard language ideologies, exacerbating linguistic insecurity and identity dissonance among minority speakers. However, resistance also flourishes within these constraints, as marginalized communities mobilize their linguistic repertoires to assert agency, authenticity, and collective pride.

The dialectical relationship between language and identity is profoundly shaped by sociopolitical hierarchies and historical contingencies. In postcolonial contexts, language often becomes a site of ideological contestation. Ngũgĩ wa Thiong'o's rejection of English in favor of Gikuyu symbolizes resistance against linguistic imperialism and the reclamation of cultural identity. Similarly, the

marginalization of indigenous languages in favor of dominant lingua francas like English, French, or Spanish frequently leads to linguistic subordination and erasure. Language in these contexts is weaponized, valorized, or silenced depending on its alignment with hegemonic ideologies. Understanding these dynamics through a sociolinguistic lens reveals how identity is simultaneously enabled and constrained by the very linguistic structures in which it is embedded.

In an era marked by intensified global flows—of people, capital, and media—the question of language and identity assumes even greater urgency. Transnational migration, diasporic affiliations, and digital technologies have profoundly altered traditional conceptions of linguistic community and identity anchorage. "Translanguaging" practices, wherein multilingual individuals fluidly draw upon their full linguistic repertoires, challenge rigid linguistic boundaries and essentialist notions of identity. Second-generation immigrants often experience identity as hybrid and context-dependent, navigating between ancestral language maintenance and integration into dominant linguistic ecologies. These negotiations reflect not merely pragmatic adaptations, but deeply ideological and affective struggles.

Moreover, the digital sphere has emerged as a pivotal arena for linguistic identity performance and innovation. Social media platforms, online forums, and virtual communities allow users to curate and disseminate linguistic identities that may be suppressed or marginalized in offline settings. Language in these digital spaces becomes a semiotic resource for stylization, self-branding, and ideological positioning. Androutsopoulos notes that the digital environment enables polylingual creativity and identity experimentation, blurring traditional boundaries between registers, languages, and discursive norms. Yet, these innovations are shaped by algorithms, platform governance, and global linguistic hierarchies—raising questions about access, visibility, and linguistic justice in the digital realm.

Equally significant are the implications of language policy and linguistic landscapes in shaping identity. Public signage, educational curricula, and governmental communication reflect and reinforce dominant language ideologies. Linguistic landscape studies provide a powerful empirical lens to analyze how the visibility of languages in public spaces indexes community presence, legitimacy, and belonging. These landscapes can both marginalize and empower, depending on how inclusive or exclusionary their semiotic configurations are. National language policies often vacillate between homogenizing tendencies and multicultural accommodations, revealing the political stakes of linguistic representation.

Against this backdrop, the present study endeavors to unpack the dynamic interplay of language and identity through a sociolinguistic lens, interrogating how individuals and communities utilize language to affirm, contest, and transform their social positions. Special attention will be accorded to contexts marked by multilingualism, migration, and marginalization, wherein the stakes of linguistic identity are most

acutely felt. This study aims not only to contribute to the growing literature on language and identity but to foreground the ethical and political imperatives of linguistic justice in a globalized yet unequal world.

Methodologically, this research draws upon a multidisciplinary assemblage of sources, encompassing sociolinguistics, discourse analysis, linguistic anthropology, and critical theory. It engages with seminal contributions from scholars such as Labov, Butler, and Rampton, integrating empirical case studies, theoretical frameworks, and ethnographic narratives to foreground the heterogeneity and situatedness of language-identity relations.

This paper also emphasizes the *performative* nature of identity, drawing on poststructuralist theories that challenge the notion of fixed, essential identities. From this perspective, identity is not something that individuals inherently possess but is something they actively construct and perform through language and other forms of social interaction. This performative aspect of identity is particularly evident in the case of gender, where linguistic practices such as the use of gendered pronouns and forms of address play a crucial role in the enactment of gender roles and norms. Similarly, the rise of LGBTQ+ identities has highlighted the importance of language in challenging binary gender norms and creating space for more fluid and inclusive understandings of identity. In addition to its theoretical contributions, this paper has important practical implications for addressing social inequalities and fostering inclusive societies. By recognizing the centrality of language in identity construction, policymakers, educators, and communities can develop more equitable and culturally responsive practices that honor the diversity of human experience. For example, bilingual and multilingual education programs can help to preserve minority languages and promote cultural diversity, while also providing students with the skills they need to succeed in a globalized world. Similarly, the use of inclusive language in public discourse can contribute to the visibility and acceptance of marginalized groups, thereby challenging stereotypes and promoting social justice.

In the fullness of time, the significance of this paper lies in its contribution to a more nuanced understanding of identity not as a pre-given essence but as a socially situated practice emergent through language. It resists reductive interpretations of linguistic behavior as merely functional or representational, instead foregrounding the affective, performative, and ideological dimensions of speech. By attending to the voices of those navigating complex linguistic terrains—immigrants, bilingual youth, indigenous speakers, and digital natives—this study hopes to illuminate the multifarious ways in which language becomes a site of self-making, community formation, and social struggle. In doing so, it aspires to enrich the ongoing dialogue in sociolinguistics and allied fields regarding the transformative power of language in shaping who we are, how we are perceived, and how we perceive ourselves.

2. Theoretical Frameworks

2.1. Social Identity Theory

Social Identity Theory (SIT), developed by Henri Tajfel and John Turner, explains how language plays a crucial role in shaping social identity. SIT suggests that individuals derive part of their *self-concept* from group membership, with language serving as a key marker of these affiliations. Language is more than a communication tool; it symbolizes identity, group boundaries, and social status. Dialects, accents, and language varieties often reinforce in-group unity and distinguish groups from one another. Through categorization, individuals classify themselves and others based on shared traits like language, which shapes perceptions and behaviors. For instance, minority language speakers may define themselves distinctly from dominant language speakers, reinforcing their cultural identity. This process can lead to *in-group favoritism*, where individuals view their own group positively compared to others, deepening social and linguistic divides.

SIT also emphasizes the fluid nature of identity, where individuals adapt their language use depending on social contexts. Code-switching, for example, allows bilinguals to shift between languages to align with different social roles. Using a heritage language in family settings may affirm ethnic identity, while adopting a dominant language in professional spaces can promote social mobility. SIT further highlights language-related power dynamics, where dominant groups often impose their language standards, marginalizing minority languages and fostering feelings of inferiority. However, minority groups may resist such dominance by reclaiming their language as a symbol of pride and resilience. Efforts to revive indigenous languages in postcolonial societies illustrate this resistance, as communities use language to assert cultural identity and challenge historical oppression.

2.2. Symbolic Interactionism

Symbolic Interactionism, developed from George Herbert Mead's work and expanded by Herbert Blumer, presents identity as a *fluid and evolving concept* shaped through social interactions. Rather than being fixed, identity is continuously constructed and redefined in response to social encounters. Language plays a vital role in this process, as individuals use both verbal and non-verbal communication to shape their self-concepts and social identities. For instance, language choices such as tone, register, or speech style reflect social roles, relationships, and power dynamics. Symbolic Interactionism highlights the role of context in language use, where individuals may adjust their linguistic behavior to align with social norms

or challenge authority, emphasizing the adaptable nature of identity.

This theory also underscores the symbolic meanings embedded in language. Words, phrases, and linguistic practices carry cultural and social significance, influencing how individuals express belonging or assert their status. For example, slang or jargon may strengthen group identity, while adopting a dominant language can reflect social mobility aspirations. By combining Symbolic Interactionism with sociolinguistics, researchers analyze language as both a reflection of identity and a tool for shaping it. This perspective reveals how individuals and communities use language to assert agency, reinforce cultural ties, and navigate complex social structures, from casual conversations to institutional settings.

2.3. Poststructuralist Approaches

Poststructuralist approaches to language and identity challenge traditional views of identity as fixed or inherent, emphasizing instead its fluid, dynamic, and socially constructed nature. Scholars like Judith Butler and Michel Foucault argue that identities are not pre-existing but are continually shaped through discourse and social practices. Butler's concept of '*performativity*' highlights that identity is something individuals '*do*' rather than '*are*', achieved through repeated linguistic and behavioral acts. For example, gender identities are constructed and maintained by adhering to cultural language norms such as pronouns, speech styles, or greetings. This performative process reveals language's power in reinforcing or challenging societal norms. Foucault's theory of discourse further emphasizes that language systems shape how people perceive themselves and others. These discourses, embedded with power relations, influence which identities are validated or marginalized. Institutional settings like education, media, or politics often promote dominant linguistic practices while stigmatizing others, thereby shaping identity construction.

Poststructuralist approaches also stress the intersectionality and multiplicity of identities. Rather than viewing identity as singular or stable, individuals are seen as occupying multiple and overlapping identity positions—such as race, gender, class, and nationality—each dynamically performed through language. This perspective highlights how language enables individuals to navigate complex social environments, resist dominant narratives, and assert alternative identities. By integrating poststructuralist insights into sociolinguistic research, scholars examine language as a site of identity formation, conflict, and change. This framework provides a valuable tool for understanding how individuals and communities use language to negotiate power dynamics and articulate diverse social identities across various contexts, from informal conversations to institutional discourse.

3. Language and Ethnic Identity

3.1. *Language as a Marker of Ethnic Identity*

Language is a fundamental marker of ethnic identity, serving as both a symbol of cultural heritage and a tool for fostering solidarity among group members. It encapsulates shared histories, values, and worldviews, making it a powerful vehicle for expressing and preserving ethnic identity. For instance, the use of indigenous languages among Native American communities is not merely a means of communication but also an act of cultural resistance against historical and ongoing processes of colonization and assimilation. Similarly, the revival of Hebrew in Israel exemplifies how language can be instrumental in constructing and revitalizing a collective national and ethnic identity. This phenomenon, known as '*language revitalization*', highlights the role of language in reclaiming cultural narratives and asserting autonomy in the face of external pressures.

Moreover, language often functions as a boundary marker, distinguishing one ethnic group from another. The use of specific dialects, accents, or linguistic practices can signal membership in a particular ethnic community, reinforcing a sense of belonging and shared identity. For example, the use of Catalan in Spain or Māori in New Zealand is deeply intertwined with the ethnic identities of these groups, serving as a means of asserting cultural distinctiveness in multicultural or multilingual societies.

3.2. *Language Maintenance and Shift*

The dynamics of language maintenance and shift are central to understanding the relationship between language and ethnic identity. *Language maintenance* refers to the efforts of a community to preserve its native language across generations, often as a means of safeguarding cultural heritage and identity. This is particularly evident in diasporic communities, where language serves as a link to ancestral roots and a way of resisting assimilation into dominant cultures. For example, the Chinese diaspora in various parts of the world has established language schools and cultural organizations to ensure the transmission of Mandarin or Cantonese to younger generations.

In contrast, language shift occurs when a community gradually adopts a dominant or majority language, often due to socioeconomic, political, or educational pressures. While language shift can facilitate integration and access to resources, it can also lead to the erosion of ethnic identity and cultural practices. For instance, many immigrant communities in the United States, such as Italian or Polish Americans, have experienced a decline in the use of their heritage languages over time, resulting in a diminished connection to their ethnic roots. However, it is important to note that language shift does not necessarily equate to the complete loss of ethnic identity. Communities often develop hybrid identities, blending elements of their heritage culture with those of the dominant culture.

3.3. Code-Switching and Hybrid Identities

Code-switching, the practice of alternating between two or more languages or language varieties, is a key linguistic strategy for navigating multiple identities and social contexts. It reflects the complex interplay between language and ethnic identity, particularly in multilingual or multicultural settings. For example, African American Vernacular English (AAVE) speakers often switch between AAVE and Standard American English depending on the social context, signaling different aspects of their identity. In professional or formal settings, the use of Standard American English may be preferred, while AAVE is used in informal or community contexts to express cultural solidarity and authenticity.

Code-switching also highlights the emergence of hybrid identities, where individuals draw on multiple linguistic and cultural resources to construct a fluid and dynamic sense of self. This is particularly evident in postcolonial contexts, where the legacy of colonialism has resulted in the coexistence of indigenous and colonial languages. For instance, in India, individuals may switch between Hindi, English, and regional languages, reflecting their multifaceted identities as both local and global citizens. Similarly, in Latin America, the use of Spanglish—a blend of Spanish and English—exemplifies how language can serve as a site of cultural negotiation and innovation.

Hybrid identities challenge rigid notions of ethnic identity, emphasizing its fluid and context-dependent nature. They also underscore the agency of individuals in shaping their identities through linguistic practices. By code-switching, individuals can navigate diverse social landscapes, assert their belonging to multiple communities, and resist monolithic categorizations of identity.

4. Power of Linguistic Identity

4.1. Language and Class Identity

Language is closely tied to social class, serving as both a marker and a tool for maintaining social hierarchies. Standard language varieties are often linked to higher social status, education, and economic power, while non-standard varieties are frequently stigmatized and associated with lower social standing. This divide can result in discrimination, where speakers of non-standard varieties face marginalization in academic, professional, and social settings. Pierre Bourdieu's concept of "*linguistic capital*" explains this dynamic, where individuals fluent in the dominant language variety gain greater access to opportunities and resources. Conversely, those lacking this linguistic capital may experience exclusion, reinforcing social inequality. Education plays a major role in this process, as schools often prioritize standard language varieties while undervaluing non-standard speech. This practice can disadvantage students from lower-class backgrounds, potentially causing feelings of inadequacy and alienation. However, efforts to

promote linguistic justice are emerging, encouraging educators to embrace students' home languages and dialects to foster inclusivity and validate diverse identities.

Despite pressures to conform to dominant language norms, marginalized communities frequently use language as a means of empowerment and resistance. For instance, African American Vernacular English (AAVE) has been a powerful tool for expressing cultural identity and challenging negative stereotypes. Through literature, music, and social interaction, AAVE has become a symbol of resilience and creativity. Similarly, working-class communities often embrace non-standard language varieties to assert their distinct identity and resist assimilation into mainstream norms. This act of *linguistic resistance* demonstrates the agency of individuals and communities in using language to shape their identities, challenge social boundaries, and foster cultural pride.

4.2. Language and National Identity

Language has long been a crucial factor in shaping national identities, particularly in nation-building efforts. The promotion of a standardized national language, often based on the language of the dominant group, has historically been used to unify populations and foster shared identity. For instance, the promotion of French in post-revolutionary France played a significant role in consolidating French national identity, while Modern Standard Arabic has been central to constructing a pan-Arab identity. However, this process often marginalizes minority languages, creating tension between dominant and minority groups. Cases such as Basque and Breton in Europe highlight how language suppression can fuel social conflict, prompting calls for linguistic diversity and minority rights. Nationalist movements frequently use language as a powerful symbol of cultural uniqueness and political resistance. The revival of the Irish language, for example, became a symbol of defiance against British colonialism, while Catalan's promotion reflects Catalonia's nationalist aspirations. Yet, this focus on language can also exclude minority groups, as seen with Tamil speakers in Sri Lanka and Kurdish speakers in Turkey.

Globalization has further complicated the link between language and national identity. The global rise of English has sparked concerns about the decline of national languages and cultural heritage, particularly among younger generations. English's dominance in education, business, and media has contributed to *language shift*, threatening linguistic diversity. However, globalization has also encouraged multilingualism and increased recognition of minority languages. The European Union's multilingual policy reflects a commitment to preserving linguistic diversity as a fundamental part of European identity. This dual impact demonstrates the complex role of language in both strengthening national identities and challenging traditional linguistic boundaries in a rapidly globalizing world.

5. Multilingualism and Identity

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5.1. Multilingualism as a Resource

Multilingualism is a powerful *resource* that enriches individuals and communities in numerous ways, offering cultural, social, economic, and cognitive benefits. Multilingual individuals can access diverse cultural narratives, customs, and traditions, allowing them to engage meaningfully with people from different backgrounds. This linguistic versatility equips individuals with enhanced communication skills, cultural awareness, and adaptability, which are highly valued in increasingly globalized societies. For instance, multilingual employees are often preferred in international businesses, diplomatic roles, and customer service positions due to their ability to mediate across linguistic and cultural divides. Multilingualism also enhances cognitive flexibility, improving memory, problem-solving skills, and creativity, as individuals regularly switch between linguistic systems.

On a community level, multilingualism strengthens social cohesion by fostering inclusive environments where multiple cultural identities coexist. Multilingual communities often use their linguistic diversity to preserve cultural heritage while adapting to evolving social landscapes. For example, in Canada, bilingualism in English and French has been key to preserving Quebec's distinct cultural identity while promoting national unity. Similarly, South Africa's recognition of 11 official languages reflects an effort to embrace its cultural diversity. This dual capacity to honor tradition while adapting to modern contexts underscores multilingualism's role as a resource for both personal growth and collective identity formation. By maintaining and valuing multiple languages, individuals and communities cultivate resilience, bridging generational and cultural divides.

5.2. Multilingualism and Identity Negotiation

Multilingual individuals frequently engage in complex identity negotiations, strategically adapting their language use to fit different social settings. This ability allows them to emphasize certain aspects of their identity depending on the language they are using. For example, a person fluent in both Mandarin and English may emphasize their Chinese heritage in Mandarin-speaking environments while adopting a more Westernized identity in English-speaking contexts. This shift in linguistic behavior demonstrates how multilingual individuals consciously navigate their social worlds, balancing cultural ties with broader societal norms.

This *identity negotiation* process is often driven by social expectations, power dynamics, and personal experiences. In professional or academic settings, individuals may adopt the dominant language to assert credibility, gain social acceptance, or align with cultural norms. Conversely, in family or community settings, they may revert to their heritage language to reinforce cultural bonds and preserve tradition. This strategic language use demonstrates how multilingual individuals perform their identities differently in

response to their environment. Such fluidity reveals that identity is not static but actively shaped through language choices, social interactions, and cultural contexts.

Furthermore, multilingual individuals may face identity conflicts when navigating multiple cultural norms. Immigrants, for instance, may struggle to balance their heritage language with the dominant language of their host country, feeling pressure to assimilate while maintaining cultural roots. Yet, this tension can also empower individuals to develop hybrid identities, combining elements from various cultural backgrounds. This blending allows them to construct unique identities that reflect their multicultural experiences, fostering adaptability and cultural competence.

5.3. Multilingualism and Language Shift

While multilingualism can be empowering, it can also contribute to language shift, a process where communities gradually abandon their heritage language in favor of a dominant language. Language shift is often driven by social, economic, and political pressures that marginalize minority languages. Globalization, urbanization, and educational systems that prioritize dominant languages can accelerate this shift, resulting in *linguistic erosion* and cultural loss. For example, the decline of Native American languages in the United States reflects broader patterns of forced assimilation and marginalization. Similarly, indigenous languages in Australia and Canada face the risk of extinction due to limited institutional support and declining *intergenerational transmission*.

Language shift can have profound consequences for identity, as language is deeply tied to cultural values, traditions, and social norms. When a language fades, communities risk losing unique worldviews and cultural knowledge embedded within it. Consequently, language revitalization efforts have become crucial in preserving cultural identity and fostering pride in linguistic heritage. Communities around the world are actively working to restore endangered languages through educational programs, digital platforms, and cultural initiatives. For instance, the revitalization of the Hawaiian language in schools has strengthened cultural pride and restored a sense of identity among Hawaiian youth. Similarly, the Welsh language has seen a resurgence in Wales through language immersion programs and media promotion, demonstrating that strategic revitalization efforts can counter language decline.

On the whole, multilingualism is a dynamic force that shapes individual and collective identities. While it offers immense social, economic, and cognitive benefits, it also presents challenges in contexts of language shift and cultural assimilation. By valuing multilingualism and supporting language preservation efforts, societies can foster greater inclusivity, celebrate cultural diversity, and ensure that linguistic heritage continues to thrive in an increasingly interconnected world.

6. Language and Identity in the Digital Age

6.1. Language and Online Identities

The digital age has revolutionized the ways in which language and identity are constructed, performed, and negotiated. Online platforms, such as social media, forums, and virtual communities, provide individuals with unprecedented opportunities to experiment with multiple identities and express themselves in diverse linguistic and cultural contexts. For instance, platforms like *Twitter*, *Instagram*, and *TikTok* allow users to craft curated online personas that may diverge significantly from their offline identities. This digital identity performance often involves the use of specific linguistic styles, hashtags, or memes that signal belonging to particular subcultures or communities. The anonymity and flexibility of online spaces enable individuals to explore aspects of their identity that may be suppressed or stigmatized in offline contexts, such as gender fluidity or minority cultural affiliations.

Code-switching and linguistic hybridity have become defining features of digital communication, reflecting the complex, multifaceted nature of online identities. Users frequently alternate between different linguistic registers, dialects, and even languages to navigate various digital communities and contexts. This linguistic repertoire constitutes what scholars term "*digital sociolects*"—specialized variants that emerge within specific online spaces and serve as markers of in-group solidarity. Additionally, the rapid evolution of digitally-mediated language practices has generated novel communicative phenomena, including emoji-based paralanguage, typographical innovations, and platform-specific discourse conventions. These linguistic resources function not merely as communication tools but as semiotic systems through which individuals perform, negotiate, and continuously reconstruct their digital identities within increasingly complex networks of power, technology, and culture.

6.2. Language and Digital Inequality

Despite the democratizing potential of digital technologies, the digital age also exacerbates existing inequalities, particularly in terms of access and linguistic proficiency. Digital inequality refers to the uneven distribution of access to technology and the skills needed to navigate digital spaces effectively. Individuals who lack access to digital devices or high-speed internet, or who are not proficient in the dominant language of the internet (often English), are at risk of being marginalized in the digital world. This *digital divide* reinforces social and economic disparities, as those excluded from digital participation are often denied opportunities for education, employment, and social connection. For example, non-English-speaking communities may struggle to access global online platforms, limiting their ability to participate in digital discourse and assert their identities on a global stage.

The sociolinguistic ramifications of digital inequality extend beyond mere access issues to encompass complex literacy hierarchies. Digital communication demands multilayered competencies—technical literacy, multimodal discourse comprehension, and platform-specific cultural knowledge—creating stratified participation levels even among those with basic access. Furthermore, *algorithmic governance* of online spaces frequently privileges standardized linguistic forms and Western communication norms, systematically devaluing non-standard varieties and indigenous communication practices. Research indicates that language-based digital exclusion operates through subtle mechanisms: interface design choices that presuppose particular literacy traditions, content moderation systems that disproportionately flag non-standard language varieties as problematic, and recommendation algorithms that amplify dominant linguistic practices while rendering minority language communities effectively invisible within the digital ecosystem.

6.3. Language and Globalization in the Digital Age

The digital age has accelerated globalization processes, creating a complex dialectical relationship between linguistic homogenization and diversification. While English dominance online raises concerns about eroding linguistic diversity and Anglo-American cultural hegemony, digital platforms simultaneously enable minority language revitalization and foster what scholars term "*superdiversity*" in online discourse. This apparent contradiction manifests through transnational digital communities that develop sociolinguistic repertoires transcending traditional boundaries, where code-meshing, translanguaging, and multimodal semiotic bricolage become normalized strategies reflecting *deterritorialized identities*—fluid self-representations drawing from global linguistic resources while indexing local cultural affiliations. These emerging linguistic practices constitute what sociolinguists identify as "*networked multilingualism*," characterized by the strategic deployment of plurilingual resources across digital contexts and the development of innovative communicative norms that challenge traditional conceptualizations of language as discrete, bounded systems.

The political economy of digital language practices reveals power dynamics beneath seemingly democratic spaces, with platform architectures, algorithmic visibility mechanisms, and ideologies of linguistic correctness continuing to privilege certain language varieties while marginalizing others. Nevertheless, ethnographic research documents significant linguistic resistance and creative appropriation through which minoritized communities leverage digital affordances to contest hegemonic hierarchies. This tension between domination and resistance characterizes the contemporary digital linguistic landscape, where the internet simultaneously threatens linguistic diversity through standardization while providing unprecedented opportunities for minority language communities to assert alternative identity

formations within increasingly globalized communicative ecosystems. *Digital linguistic citizenship* frameworks examine access to online discourse as fundamental to sociopolitical belonging. These theoretical approaches reconceptualize linguistic rights and identity recognition in contemporary digital contexts.

7. Linguistic Landscapes in Urban Spaces

7.1. Digital Augmentation of Urban Linguistic Landscapes

The proliferation of digital technologies has fundamentally transformed how urban linguistic landscapes are experienced and interpreted, creating layered semiotic environments that describe as "*augmented linguistic landscapes*." Mobile applications, QR codes, and augmented reality interfaces increasingly supplement physical signage, creating multilingual access points that transcend the spatial limitations of traditional signage. *Virtual linguistic landscapes* may offer translations, cultural context, or historical information that remains invisible in the physical environment yet shapes how spaces are experienced and understood. This digital augmentation potentially democratizes linguistic access while simultaneously introducing new forms of inequality based on technological literacy and connectivity.

Location-based social media platforms further contribute to the virtualization of linguistic landscapes, as users generate geocoded linguistic content that exists parallel to physical inscriptions. As writers argue, these virtual linguistic productions constitute a "cyberlandscape" that influences perceptions of place while potentially challenging official monolingual policies. Users may create multilingual digital annotations of urban spaces, effectively reclaiming linguistic territory in ways not possible through traditional means. For instance, immigrant communities might develop neighborhood-specific digital resources in heritage languages, creating a parallel linguistic landscape accessible only through technological mediation.

The intersection of physical and virtual linguistic landscapes also generates new methodological challenges and opportunities for researchers. Traditional approaches focusing solely on stationary physical signage cannot fully capture how contemporary urban dwellers navigate multilayered linguistic environments through mobile devices. This has prompted scholars like Pennycook and Otsuji to develop more dynamic methodologies incorporating *digital ethnography*, mobile tracking, and *participatory mapping* to understand the complex interplay between physical spaces, digital interfaces, and linguistic practices. These methodological innovations reflect broader theoretical shifts toward viewing linguistic landscapes as emergent, processual phenomena rather than static configurations, emphasizing the role of human mobility and technological mediation in constructing urban sociolinguistic realities.

7.2. Policy Implications for Inclusive Urban Spaces

The insights derived from linguistic landscape research have significant implications for urban planning, language policy, and social inclusion initiatives. As cities become increasingly diverse, municipal governments face complex decisions about how to manage multilingualism in public spaces while promoting social cohesion and accessibility. Research consistently demonstrates that inclusive linguistic landscapes—where multiple languages are visibly represented in public signage—contribute to minority communities' sense of belonging and legitimacy. However, implementing multilingual signage policies requires careful consideration of which languages to include, how to prioritize them visually, and how to balance practical communication needs with symbolic representation.

Proactive approaches to linguistic inclusion in urban planning have emerged in various global contexts, offering potential models for promoting equitable linguistic landscapes. For instance, Singapore's quadrilingual public signage policy formally recognizes the linguistic diversity of its population, while Barcelona's efforts to increase Catalan visibility demonstrate how linguistic landscapes can support language revitalization initiatives. However, as Shohamy and Gorter caution, top-down multilingual policies may sometimes implement superficial inclusion that fails to address deeper power asymmetries between language communities. Effective policies therefore require meaningful consultation with diverse linguistic communities and recognition of the complex ways in which language intersects with other aspects of identity and social position.

The growing importance of tourism in urban economies further complicates linguistic landscape management, as cities increasingly tailor their semiotic environments to international visitors. This phenomenon, termed "*touristic linguascaping*," often privileges global languages like English at the expense of local linguistic diversity. While such strategies may enhance economic competitiveness, they potentially contribute to linguistic gentrification processes that marginalize long-standing community languages. Finding balance between tourist accommodation, heritage preservation, and community needs represents a significant challenge for urban governance. Researchers like Van Mensel et al. have called for more integrated approaches that view linguistic landscapes as essential components of sustainable urban development, recognizing that linguistic diversity constitutes a valuable cultural resource rather than a problem to be managed.

7.3. Pedagogical Applications of Linguistic Landscape Studies

Linguistic landscape analysis has increasingly been recognized as a valuable pedagogical tool for developing critical language awareness and sociolinguistic competence. Educational approaches incorporating LL methodologies enable students to examine real-world manifestations of language policy,

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power dynamics, and identity construction in their immediate environments. Writers demonstrate, engaging students in documenting and analyzing neighborhood signage cultivates ethnographic observation skills while simultaneously raising awareness about linguistic diversity and inequality. These pedagogical applications extend beyond language education to encompass critical citizenship education, as students learn to interrogate how public spaces legitimize certain languages and identities while marginalizing others.

Furthermore, linguistic landscape projects provide authentic contexts for heritage language maintenance and revitalization efforts. When students from language minority backgrounds document and analyze the presence (or absence) of their heritage languages in public spaces, they develop deeper connections to their linguistic identities while critically examining societal attitudes toward linguistic diversity. Such projects align framework for *identity investment* in education, whereby affirming students' identities enhances academic engagement and linguistic development. Several successful initiatives have demonstrated how community-based linguistic landscape documentation can simultaneously advance educational objectives and advocacy goals, as students create multilingual signage or digital resources that increase the visibility of underrepresented languages.

The pedagogical value of linguistic landscape studies has been further enhanced through digital documentation methodologies that enable collaborative data collection and analysis. Mobile applications designed specifically for LL research allow students to capture, categorize, and geotag linguistic data, creating comprehensive digital archives of local linguistic landscapes. These technological tools facilitate comparative analyses across neighborhoods, cities, or countries, helping students identify patterns of linguistic inequality while developing digital literacy skills. Moreover, as Malinowski argues, such participatory approaches transform students from passive observers into active contributors to knowledge production about linguistic diversity, potentially inspiring greater civic engagement with language policy issues.

8. Language and Social Justice Movements

8.1. Digital Activism and Linguistic Solidarity

Digital technologies have fundamentally transformed how social movements mobilize language for collective action, with social media platforms enabling novel linguistic practices that transcend traditional spatial and temporal constraints. Perhaps most emblematic of this phenomenon is the hashtag—a linguistic innovation that merges technological affordances with discursive activism. Hashtags like #BlackLivesMatter, #MeToo, and #ClimateStrike function as what Bonilla and Rosa term "techno-linguistic objects" that simultaneously organize information, coordinate action, and construct collective

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identities across dispersed populations. These digital linguistic markers create what Castells describes as "networks of outrage and hope"—interconnected communicative spaces where solidarity can be expressed and reinforced through shared linguistic practices. The hashtag's ability to aggregate previously disconnected voices into visible collectives represents a significant evolution in how language operates within social movements, enabling rapid mobilization around emergent issues while establishing discursive connections across geographical boundaries.

Social media platforms have also fostered the development of what Milani calls "hashtag activism grammars"—distinctive linguistic conventions characterized by condensed political messaging, strategic amplification techniques, and intertextual referencing. These emergent communicative practices challenge traditional distinctions between written and spoken language, featuring hybrid forms that combine oral spontaneity with textual permanence. For instance, Twitter's character limitations have generated innovative linguistic compression strategies—including specialized abbreviations, strategic capitalization patterns, and condensed syntactic structures—that maximize communicative impact within constrained digital spaces. Similarly, meme culture has developed sophisticated visual-verbal communication systems that merge linguistic and imagistic elements to convey complex political critiques through seemingly simple formats. These evolving digital languages demonstrate what Androutsopoulos terms "networked multilingualism"—fluid linguistic practices that draw on diverse communicative resources to navigate complex transnational activism spaces.

However, digital linguistic activism simultaneously generates new forms of exclusion and privilege. As Florini observes, platform-specific linguistic conventions often presuppose particular forms of cultural capital and technological access, potentially marginalizing individuals without these resources. Similarly, the rapid circulation of activist terminology can lead to what critics term "performative activism"—the superficial adoption of movement language without substantive commitment to its underlying principles. This phenomenon highlights how activist language can be appropriated and commodified, raising complex questions about linguistic authenticity and political commitment in digital spaces. Nevertheless, as Jackson et al. demonstrate in their analysis of the #BlackLivesMatter movement, digital linguistic practices continue to serve as crucial tools for marginalized communities to circumvent traditional media gatekeepers and articulate counter-hegemonic narratives that challenge dominant power structures.

8.2. Decolonizing Language Practices

Increasingly prominent within social justice movements are efforts to decolonize language practices—critical interventions that challenge how colonial histories continue to shape contemporary linguistic hierarchies and knowledge production. These initiatives extend beyond merely documenting colonial

language policies to examining how colonial epistemologies remain embedded within seemingly neutral academic, legal, and political discourses. Indigenous language revitalization movements exemplify this approach, conceptualizing language reclamation as what Hinton terms "linguistic self-determination"—the reassertion of cultural sovereignty through renewed intergenerational language transmission. These movements challenge the linguistic manifestations of what Quijano terms the "coloniality of power"—persistent colonial structures that continue to privilege Eurocentric knowledge systems while marginalizing Indigenous epistemologies and communicative practices.

Within academic settings, decolonial language movements have critically examined disciplinary terminologies, citation practices, and methodological frameworks that reproduce colonial knowledge hierarchies. For instance, scholars like Tuhiwai Smith have identified how seemingly objective research vocabularies often embed Western ontological assumptions that fundamentally misrepresent Indigenous realities. Similarly, Alim et al. advocate for "raciolinguistic justice" in educational contexts, arguing that linguistic diversity should be approached as a resource rather than a deficit requiring remediation. These interventions challenge what Mignolo terms the "colonial matrix of power"—intersecting systems of control that regulate knowledge production through language policies, educational institutions, and publishing practices. By developing alternative "*decolonial vocabularies*" that center marginalized epistemologies, these movements create what Walsh describes as "decolonial cracks"—discursive openings that challenge colonial continuities in contemporary knowledge production.

Place-name restoration represents another significant decolonial language practice, with movements advocating for the official reinstatement of Indigenous toponyms to replace colonial impositions. As Alderman argues, place names constitute "commemorative landscapes" that normalize particular historical narratives while erasing others. When Indigenous names like Denali replace colonial designations like Mount McKinley, these linguistic shifts perform what Rose-Redwood terms "performative justice"—symbolic acts that acknowledge historical injustices while asserting Indigenous presence and continuity. Similarly, movements to replace colonial terminology in institutional contexts—such as substituting "enslaved person" for "slave" or "formerly incarcerated person" for "ex-convict"—reflect what Mills calls "semantic reappropriation," whereby linguistic adjustments challenge how grammatical structures can obscure agency and historical responsibility.

However, decolonial language movements face significant challenges, including accusations of symbolic politics detached from material change. Critics argue that linguistic interventions may function as what Ahmed terms "non-performatives"—declarations that appear transformative while actually substituting for substantive action. This critique highlights the need to connect linguistic decolonization to broader

structural transformations addressing land rights, resource distribution, and political representation. Nevertheless, as Wa Thiong'o powerfully argues in *"Decolonising the Mind,"* language itself constitutes a crucial battleground for decolonial struggles precisely because colonial power operates through the "control of people's culture... how people perceive themselves and their relationship to the world" (p. 16). This understanding positions language not as peripheral to material struggles but as a fundamental site where colonial power relations are both reproduced and contested.

8.3. Accessibility and Communication Justice

An emerging frontier in language-focused social justice work centers on accessibility and what scholars term "communication justice"—ensuring equitable access to information and expression across diverse linguistic abilities and communication styles. Disability justice movements have been particularly influential in developing this framework, challenging normative assumptions about language that marginalize neurodivergent individuals, deaf communities, and people with speech or language disabilities. These movements conceptualize communication access as a fundamental right rather than a charitable accommodation, shifting focus from individual *"impairments"* to socially constructed barriers that limit full participation. As Bauman and Murray argue in their development of "Deaf Gain" theory, linguistic diversity—including signed languages—represents a collective resource rather than a deficit requiring normalization.

Communication justice frameworks have generated significant linguistic innovations designed to increase accessibility across diverse needs. Plain language movements advocate for clearer communication in public information, legal documents, and healthcare materials, challenging what Charrow identifies as "jurisdictional language"—unnecessarily complex terminology that functions to maintain professional power while excluding laypeople. Similarly, *Easy Read* formats—which combine simplified language with supporting images—increase access for people with intellectual disabilities and language processing differences. These approaches reflect what Gibson et al. term "universal design for communication"—proactive approaches that anticipate diverse communication needs rather than requiring individuals to request specialized accommodations. Such innovations challenge the assumption that complex or abstract concepts necessarily require complex language, instead demonstrating how linguistic clarity can benefit all communication participants.

Digital technologies have further transformed accessibility landscapes, generating new communication possibilities while simultaneously creating novel barriers. Screen reader technology has made written content more accessible to blind and low-vision individuals, yet requires specific linguistic formatting to function effectively. Similarly, automatic captioning has increased access to audiovisual content for deaf

and hard-of-hearing individuals, though accuracy limitations remain significant barriers. These technologies highlight what Goggin and Newell term the "digital disability divide"—the gap between technological potential and actual accessibility for disabled users. Communication justice movements emphasize that addressing these gaps requires not merely technical solutions but fundamental shifts in how communication is conceptualized and valued. As Meekosha and Shuttleworth argue, achieving genuine communication access requires challenging ableist ideologies that privilege particular communication modes while devaluing others.

Communication justice frameworks have important implications for social movement organizing itself, highlighting how activist spaces may inadvertently reproduce accessibility barriers through communication practices that privilege particular linguistic abilities and communication styles. For instance, traditional protest formats like chanting or rapid-paced meetings may exclude individuals with speech disabilities, sensory processing differences, or alternative communication needs. Progressive movements have increasingly adopted accessibility practices like Communication Access Real-time Translation (CART), visual schedules, and multiple participation formats to create more inclusive movement spaces. These practices reflect what Mingus terms "access intimacy"—the understanding that accessibility is not merely a technical requirement but a fundamental aspect of building meaningful community across difference. By centering communication access as a core value rather than an afterthought, social justice movements model the communicative inclusion they advocate for in broader society.

Conclusion

The intricate interplay between language and identity emerges from this analysis as a dynamic, multifaceted phenomenon that transcends mere communicative functionality. Through the theoretical frameworks of Social Identity Theory, Symbolic Interactionism, and poststructuralist approaches, we have illuminated how language functions as both a reflective medium and constitutive force in identity formation across ethnic, class, gender, and national dimensions. The sociolinguistic landscape reveals language as a powerful instrument of inclusion and exclusion—simultaneously fostering solidarity among community members while potentially reinforcing existing power hierarchies. Particularly evident in multilingual contexts, individuals strategically navigate plural identities through code-switching, translanguaging, and hybrid linguistic practices, demonstrating agency in constructing fluid, contextually-responsive self-representations. The digital revolution has further transformed these dynamics, creating unprecedented opportunities for linguistic experimentation while simultaneously reproducing—and sometimes intensifying—sociolinguistic inequalities through algorithmic governance and platform

architectures.

As globalization continues to reconfigure linguistic ecologies worldwide, the findings compel us to reconceptualize language policies through a social justice lens. Educational institutions must evolve beyond monolingual paradigms to embrace culturally responsive pedagogies that affirm linguistic diversity as a resource rather than a deficit. Similarly, urban planning initiatives should incorporate inclusive linguistic landscapes that legitimize minority languages in public spaces. Digital activism movements demonstrate language's transformative potential in challenging hegemonic structures through innovative communicative practices like hashtag activism and decolonial vocabularies. Through this sociolinguistic lens, language emerges not only as a reflection but as a chisel sculpting social realities—a tool wielded by individuals and communities to navigate, resist, and reinvent the boundaries that define them. By recognizing language's centrality in human experience, we can develop more equitable approaches to linguistic diversity that honor the complex interplay between communication, identity, and social justice in our increasingly interconnected world.

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Analysis of Sharia Hotel Business Development Strategy in Indonesia

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Abstract

The Sharia hotel business in Indonesia has a large potential to maintain social capital and various other positive impacts on the economy. The potential of this Sharia hotel is supported by the interest of the community who need Sharia-based hotel services. However, the fact is that the development of Sharia hotels in getting customers is still far compared to conventional hotels because of their wider marketing networks. This study investigates strategies that can be carried out by Sharia hotels to improve their business performance. Specifically, the literature study used focuses on the factors that influence customer decisions to Sharia hotels. The findings revealed that four factors including brand image, halal awareness, promotion management, and Sharia compliance were found in many existing works of literature to influence the decision-making of visitors to use Sharia Hotels. This means that these factors can support the development of sharia hotels in the future. It is very important to build a strategic model for developing Sharia hotels based on the company's external and internal environment. Brand image and halal awareness as external factors make the customer experience more meaningful and attract more new customers. Meanwhile, promotion management in building relationships with customers and Sharia compliance as internal factors can support better corporate governance so that it can compete with conventional hotels.

Keywords: Sharia Hotel, Indonesia, Company Performance, Business Strategy

Introduction

The potential of the Sharia hotel business in Indonesia is very large. At least approximately 2,000 Sharia hotels will be operating until 2023. Several Sharia hotels such as the Sahid Azizah Syariah & Convention Kendari, RedDoorzs Syariah, and KoolKost Syariah have recorded quite good business performance growth (Andaresta, 2024). This indicates that market demand for sharia hotels is increasing. Based on data from the Ministry of Tourism of the Republic of Indonesia, it is explained that the market share of Sharia hotels in Indonesia is also inseparable from the number of foreign tourists visiting, reaching 13.9 million visits in 2024. This number of visits is the highest in the last five years. To support the

development of this business, the government also plays an active role in providing incentives and halal tourism policies.

Sharia hotel practices are managed commercially and provided for a person or group of people. Sharia hotels also provide accommodation services, halal food and drinks, and others by the development of needs and technology by Sharia principles (Rosidah *et al.*, 2025).

The establishment of a Sharia-based hotel carries a mission to prevent business from *gharar*, sin, and various other prohibitions that are not allowed in Islamic business. So it is hoped that the business will be able to realize the creation of public order and aspects of social solidarity (Kurniawan, 2024). Sharia hotels are hotels as usual, whose operations and services have been adjusted to the principles of sharia or Islamic teachings. The management of Sharia hotels in general is also no different from conventional hotels. Still subject to government regulations, still open 24 hours. Its marketing is also open to all groups, both Muslims and non-Muslims. It's just that the presentation of food and drinks uses halal ingredients and the drinks are avoided from alcohol content (Samori & Rahman, 2021).

Despite having various uniqueness and characteristics as one of the potential halal businesses, the growth of the Sharia hotel business is still unable to compete with the conventional hotel business. Their market share is much larger compared to Sharia hotels which have only developed in a few years. In terms of service and the number of business actors, it is also still far behind. In practice, in several countries, there are difficulties such as meeting various halal standards, the absence of Sharia hotel management standards, and government regulations that do not fully support them (Salleh *et al.*, 2014).

There is a lot of literature that reveals various factors that influence the performance of Sharia hotels such as customer loyalty (Darmawan *et al.*, 2023), tourist decisions (Devi & Sardiana, 2021), and various other competitive advantages such as excellent products, management, and services to increase sustainable business competitiveness (Bundo & Pratama, 2024; Kurniawan, 2024; Nasir *et al.*, 2022; Thudam, 2025; Sulaiman, *et al.*, 2022). However, there is not much evidence found discussing how these factors can specifically influence the development strategy of Sharia hotels in Indonesia. This study investigates the external and internal factors of Sharia hotels to support the existing literature.

Method

The literature study research method conducted by the researcher aims to collect data and review various kinds of literature relevant to the research topic on strategies for developing Sharia hotel businesses in Indonesia. The literature collected and reviewed is research conducted over ten years (2016-2025). Literature studies can identify new knowledge gaps that are very much needed for research in the field of

Sharia tourism, especially for Sharia-based businesses such as this Sharia hotel. This study also collects relevant evidence from various scientific works from nationally reputable journals that investigate the factors that influence the performance of sharia hotels in Indonesia.

Result and Discussion

Brand Image and Halal Awareness as External Factors of Sharia Hotel Business

The first finding revealed that brand image and halal awareness are external factors that influence customer decisions to visit Sharia hotels in Indonesia. Several literature studies have investigated the relationship between brand image and customer satisfaction in Sharia hotels. A strong brand image in creating a consistent identity and attracting more consumers contributes to the successful management of Sharia hotel businesses (Lailaturrahmi *et al.*, 2023; Mohsin *et al.*, 2016; Rahman *et al.*, 2019). Likewise, the relationship between halal awareness and customer satisfaction in Sharia hotels. Low public awareness of Sharia-based products and services will make the business face various obstacles in attracting the interest of the Muslim community. On the other hand, high public awareness of Sharia principles can increase the number of requests to use Sharia hotels (Anggraeni *et al.*, 2024; Martiasari & Hendratmi, 2022; Zaino *et al.*, 2019).

Brand image is a brand or symbol that has been imprinted in the minds of consumers about a product or service that has a positive effect on the company. Sharia hotels as a form of accommodation that adopts Sharia principles in their operations create a brand image as a hotel that applies open and inclusive principles for anyone, regardless of ethnicity, religion, race, and certain groups. These principles are in line with the values of justice, equality, and non-discrimination that are the basis of human rights (Sugeng, 2021). It is important to note that the brand image built by a Sharia hotel does not only include services to individuals but also to groups. In this context, hotels should not discriminate against certain groups, ensuring that access and services are provided equally to all guests regardless of their background (Sholeh *et al.*, 2021). This principle of openness must still comply with state laws and regulations. Branding development is also carried out by implementing ethical and moral principles as an integral part of Sharia hotel operations. These Sharia-compliant principles can make a positive contribution to public welfare and uphold the values of unity and harmony in society.

In the context of decoration and ornaments in Sharia hotels, it should be noted that these elements must be in harmony with the values of beauty in Islam and not violate Sharia principles. Interior design and decoration must reflect the elegance and beauty that is by Islamic teachings, creating an environment that gives a peaceful and harmonious impression to customers. The colors chosen for decoration can also reflect Islamic nuances. For example, neutral and natural colors such as green, blue, or cream can give a

peaceful and calming impression, while reflecting the natural beauty that is Allah's creation. In addition, the use of textiles with motifs that do not violate sharia principles can be a good choice. Floral, geometric, or calligraphic motifs on carpets, curtains, and other furniture can provide an artistic touch that follows Islamic values. It is also important to ensure that the decoration does not contain images or symbols that are contrary to Islamic religious values. For example, avoiding images of humans or animals used as the main ornaments (Ajidin, 2019).

The literature explains the importance of strategic brand image which lies in the strength of its influence on public perception. Circulating information can form positive or negative branding. So companies need to actively manage and improve their reputation. Conversely, inconsistency of behavior with business ethics can damage the company's brand image. Therefore, it is important to understand how leadership and individual behavior can reflect the company's overall brand image (Park *et al.*, 1986).

Brand image is created so that a company's identity can be easily recognized by the public. Brand image gives the public a first impression of a company's products or services. Through brand image, the public can get a general picture of a company. The presence of a strong brand image can attract the public's attention and curiosity. The better the brand image of a product, the higher the likelihood of consumers buying it (Ariawan *et al.*, 2014).

Another study found several dimensions in the brand image that partially influence the decision to stay. Starting from brand identity has a sig. Value of $0.004 < 0.05$, brand association has a sig. Value of $0.000 < 0.05$, brand benefit and competence have a sig. Value of $0.000 < 0.05$. So it can be concluded that out of 5 dimensions, 3 dimensions have a partial influence on the decision to stay at Hotel X (Iskandar, 2020).

Awareness of the halal status of a product and/or service influences purchasing decisions. If the level of halal awareness possessed by consumers is high, it will influence consumer behavior in determining their purchasing decisions. This awareness includes the willingness to seek halal information, the willingness to pay more for halal products, to active efforts to promote halal products to others. A high level of faith will cause Muslims to have a level of awareness of the halalness of the products they consume. In Islam, the concept of halal has a very broad and comprehensive meaning and applies to all aspects of people's lives, from diet to daily behavior.

Halal awareness of a product is also determined by positive community actions. Positive perceptions of halal awareness are called positive attitudes. Consumer attitudes can be caused by consumer knowledge of products that can increase consumer interest in buying a product (Rohmatun & Dewi, 2017).

People who have halal awareness usually have the habit of always ensuring the halal status of each

product before buying it. They also have sufficient and adequate knowledge before deciding to buy a product and/or service, for example, halal food products (Septiani & Ridlwan, 2020). Therefore, the level of halal awareness in consumer groups can be a key and primary factor in their purchasing decision-making process. The increasing understanding and knowledge of Muslim society about the meaning of halal for a product tends to make them more careful and selective in consuming or using products and services.

The application of Sharia principles in the production and distribution of products and the provision of services is believed to have a significant influence on the consumption behavior of Muslims. This is based on the views of Azam (2016) and Ryno *et al.* (2025) who explain that the level of awareness of Muslim individuals regarding the halal status of a product or service directly affects their purchasing decision-making process. This is what also supports the halal industry's growth today. Halal awareness is the accumulation of knowledge and personal experience of a Muslim in assessing whether a product or service has met the criteria for halal according to Islamic law or not. For Muslims, the issue of halal is a very sensitive matter and touches on their spiritual aspects. This is due to the belief that consuming or using non-halal products/services is considered to violate fundamental religious teachings, the impact of which is not only felt in the world but also the afterlife. Therefore, Muslims tend to be very careful in choosing products and services to ensure their compliance with halal principles. Thus, it can be concluded that the higher the level of halal awareness of Muslims, the stronger their preference for halal-labeled products and services, which in turn will lead them to buy and consume products and use services from companies that have achieved halal certification.

The first finding has revealed new evidence about two external factors, namely brand image and halal awareness in influencing the management of sharia hotel business in Indonesia. The findings based on various previous studies briefly explain that the brand image of a hotel is a competitive factor that influences consumer interest and the decision to stay at a Sharia hotel. A brand image that can win the hearts of customers will be able to attract customers to be loyal and encourage them to give positive reviews of the hotel. This is because a good and trusted brand image has become a signal of quality for the community in the hotel industry. So it has a direct impact on people's preferences in choosing a hotel to visit. The better the reputation and positive response of the market to a hotel brand, which is reflected in its brand image. The higher the tendency of prospective guests to be interested and finally decide to stay at the hotel compared to other competitors.

The high quality of service, privacy, and dignity upheld in such hotels also appeal to individuals with halal awareness. Halal-certified products and a more conservative environment in Sharia hotels can meet

the expectations of customers who want to experience accommodation by Islamic ethical principles. Social factors also play a role, support from friends, family, or communities that support halal awareness can encourage someone to choose such hotels. In this series, halal awareness is not only an important factor in the decision to visit a Sharia hotel, but also reflects a strong connection between religious values, accommodation choices, and customer experience. The success of hotel development through this external strategy becomes a competitive advantage that can drive the long-term development of Sharia hotels.

Promotion Management and Sharia Compliance as Internal Factors of Sharia Hotel Business

The second finding revealed that promotion management and Sharia compliance are internal company factors that can influence customer decisions to visit Sharia hotels in Indonesia. Literature studies that state findings on promotion management and Sharia compliance, for example, Noorsidi *et al.* (2024) related to Sharia compliance through online booking platform services. Promotion management helps Sharia hotels introduce various facilities and services provided to their customers (Mansur, 2019). This strategy can also increase brand awareness and encourage increased hotel room sales (Foroudi, 2019; Kryukova & Khetagurova, 2020).

Promotional activities for hotel brand recognition are aimed at attracting more potential consumers. This promotion is a method consisting of advertising, sales promotion, direct marketing, personal selling, and public relations. Promotional activities can be carried out to inform about products facilities and services available at a hotel. The more the availability of information provided, the more consumers can get more information in deciding to purchase. Promotional activities are closely related to consumer purchasing decisions (Acar *et al.*, 2012).

Effective promotional management efforts are by understanding the target market and choosing the right promotional media that is by the company's vision and mission. Clear promotional planning is a must in running a business. Likewise, the Sharia hotel business requires an effective promotional strategy, for example through social media, special promotional offers, cooperation with partners, and displaying customer testimonials. In terms of business planning, it is very much determined by the target market, promotional objectives, budget, and promotional media to the evaluation of the effectiveness of the promotion carried out by the company (Barich & Kotler, 1991).

Sharia hotels are required to provide excellent service based on Islamic principles that can meet customer expectations and satisfaction. Hotel services include physical services such as cleanliness and comfort of rooms, delicious halal-certified food and beverages, complete hotel facilities, availability of prayer facilities, and management must be by sharia. Sharia hotels also have several prohibitions such as access

to pornography, immoral acts, and alcoholic beverages. The prohibition of such activities makes Sharia hotels have several fairly strict rules for their customers.

Several studies reveal different facts. Although Sharia hotels apply several Sharia principles in operational activities, they are not optimal because they are constrained by financial access (Kurniawan & Safitri, 2023; Padli, 2018). There are still Sharia hotels that are not too strict in terms of financial services that must use the services of Sharia financial institutions because several customers, especially foreign tourists, use conventional banks (Sueb *et al.*, 2020).

Without promotion management, a hotel product or service, no matter how great, will not be known and in demand by potential consumers. Therefore, promotion is an important initial step for every hotel company in marketing its accommodation services to potential guests. The more attractive and effective the promotional strategy designed and implemented, the higher the interest of potential consumers in the hotel in question, which will ultimately increase the decision to purchase the hotel's services. On the other hand, if the hotel's promotion is considered unattractive and less precise in targeting its target market, this has the potential to reduce the enthusiasm of potential guests, thus negatively impacting their decision to stay at the hotel in question. Thus, designing a promotional strategy that is right on target and can significantly increase the awareness of potential consumers is an important key for hotels to be able to attract more guests and increase their occupancy rate (Bounsele *et al.*, 2018).

The importance of a series of effective promotional management in the context of Sharia tourism is to generate interest and trust in the quality and facilities offered (Basrowi *et al.*, 2020). In the hospitality industry, competition is getting tighter, therefore good promotion is the key to attracting attention and distinguishing yourself from competitors (Rasoki, 2020). Promotion management with the desired target market is needed in building an effective marketing strategy. For example, Sharia hotel promotions can be focused on Muslim families looking for a place to stay that provides facilities and services that suit their needs. This can be done through promotions on social media, websites, or through travel partners who specifically specialize in Sharia hotels (Zulfikri & Farihah, 2023). In addition, effective promotions should take into account the cultural and religious preferences of Muslim travelers. For example, promotions that are sensitive to religious and cultural values, such as respecting prayer times and providing adequate prayer spaces, can increase the appeal of Sharia hotels to Muslim customers (Rahmanto & Hartini, 2020).

Promotion can also involve testimonials from satisfied guests and recommendations from prominent Muslim figures or communities. This can provide confidence and trust to potential Muslim guests that the Sharia hotel does meet their needs and expectations (Priantianto *et al.*, 2019). With the right promotion,

Sharia hotels can attract the interest and trust of Muslim tourists, thereby increasing the number of visits and revenue. Effective promotion can help create a positive image and build sustainable customer loyalty.

Unfortunately, currently, no government regulation specifically regulates Sharia hotels. Regulation of the Minister of Tourism and Creative Economy Number 2 of 2014 concerning Guidelines for Organizing Sharia Hotel Businesses (“Permenparekraf 2/2014”) has been revoked by Regulation of the Minister of Tourism and Creative Economy Number 11 of 2016 concerning Revocation of Regulation of the Minister of Tourism and Creative Economy Number 2 of 2014 concerning Guidelines for Organizing Sharia Hotel Businesses because Permenparekraf 2/2014 is no longer under current tourism demands and developments. Permenparekraf 2/2014 is a mandate from Article 14 paragraph (2) of Law Number 10 of 2009 concerning Tourism (“Tourism Law”) before being amended by Law Number 11 of 2020 concerning Job Creation (“Job Creation Law”). However, the Permenparekraf was later revoked by the Indonesian government. Current Sharia hotel business activities are only guided by the Fatwa of the National Sharia Council of the Indonesian Ulema Council (“DSN-MUI”) Number 108/DSN-MU/X/2016 concerning Guidelines for Organizing Tourism Based on Sharia Principles (“DSN-MUI Fatwa 108/2016”) which contains provisions related to sharia hotels and other general provisions, namely the Tourism Law and Regulation of the Minister of Tourism and Creative Economy Number PM.53/HM.001/MPEK/2013 of 2013 concerning Hotel Business Standards (“Permenparekraf 53/2013”) and its amendments (Usanti, 2021).

Although there are no specific rules for Sharia hotels in Indonesia, these rules are a form of Sharia compliance that can also be a requirement for company management and employees if they want to truly comply with Sharia principles in business activities. Similarly, financial management is adjusted to the financial management system according to Islamic law (sharia accounting). Partnerships with financial institutions such as banks and insurance are carried out with Sharia financial and insurance institutions. If the entrepreneur has a profit that is sufficient for the zakat *nishab*, the company is obliged to pay zakat (Rizal *et al.*, 2023; Wiastuti *et al.*, 2023). Other evidence using the factor analysis method with 205 respondent samples revealed that Sharia compliance affects customer satisfaction with Sharia hotels. Muslim tourists who have positive assessments and experience of Sharia hotel services in implementing Sharia compliance tend to have higher satisfaction compared to tourists who do not have such an assessment (Hasan *et al.*, 2020).

The existence of an institution that oversees the operation of the hotel according to Sharia and provides direction and answers to problems that may arise in the field related to the implementation of hotel operations according to Sharia. This institution is the Sharia Supervisory Board. The people who sit in it

are people with a Sharia education background who know the legal principles of Islamic law.

This characteristic is what distinguishes the Sharia hotel business from conventional hotels. In addition, Sharia hotels are also required to provide good psychological services such as friendliness, professionalism, and satisfactory complaint handling. No less important, hotels must also provide security guarantees during guests' stays or use of hotel facilities. Thus, professional and high-quality hotel management is essential so that hotels can provide the best service and meet the expectations of their guests. A successful hotel can provide an unforgettable stay experience so that guests want to come back again or recommend the hotel to others. Understandably, the rules that must be followed by Sharia hotels are much more than hotels in general. However, this is what then becomes an attraction and a brand in the eyes of customers who want a halal-friendly hotel or guaranteed halal to reach wider visitors. Sharia hotel services are seen not only as a place to stay but also as a way of life that guarantees security and comfort that is qualified regardless of the halal lifestyle that is currently trending in society.

Conclusion

Based on the research results, it can be concluded that brand image, halal awareness, promotion, and Sharia compliance have a role in shaping better management of Sharia hotels. These findings provide an in-depth view of key external and internal factors that can influence the Sharia hotel business. The practical implication is that Sharia hotels in Indonesia need to consider developing a strong brand image, increasing halal awareness, and effective promotion management strategies as well as improving Sharia compliance as part of the Sharia hotel management strategy. Further research is needed to develop theoretical and practical aspects of the concept of brand image, halal awareness, promotion management, and sharia compliance of sharia hotels. This study can be used as part of the theoretical basis and framework for thinking about halal tourism research. Further researchers can explore other factors using hypotheses that can influence the performance of Sharia hotel businesses globally.

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Islamic Economic Review of Factors Influencing the Use of PayLater Platform and Generation Z Consumptive Behavior

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Abstract

The use of pay-later platforms continues to increase throughout the year and almost the majority are Generation Z (Gen Z). One of the main causes is the consumptive lifestyle of online shopping which has become a trend for later users. Low Islamic financial literacy worsens the situation. As a result, many of them are trapped in a cycle of debt which hurts their mental health. The qualitative method used aims to collect important information about the factors that influence the use of pay-later platforms and consumer behavior from the perspective of Gen Z as well as the Islamic economic view of the phenomenon. The research location is in Wayharong Village, Air Naningan District, Tanggamus Regency, Lampung Province. Five factors were found, namely installment payments for purchasing certain goods, promotional appeal, fulfilling lifestyles, attractive advertisements, and following their idols. From an Islamic economic perspective, it reveals two pros and cons regarding the two themes. The use of pay later in economic activities is permitted if it does not contain usury elements and is already labeled as sharia or supervised by the National Sharia Council (DSN) of the Indonesian Ulema Council (MUI). While the cons are because of the additional costs or late fines required in advance. The use of the pa-later platform to fulfill the consumptive lifestyle of Gen Z is strictly prohibited. Because the purpose of its use is not based on fulfilling needs based on Islamic economic principles.

Keywords: Islamic Economy, Pay-later, Consumption Behavior, Generation Z

Introduction

The emergence of digital platforms in increasing people's purchasing power has caused a change in people's behavior. In the past, people could only shop offline, but now they can use digital platforms very easily to meet various needs. Because it is enough to be done online from home by only preparing gadgets and the internet (Karim *et al.*, 2024). The quality of online services is considered better than cash purchases and the strong personal branding of digital platforms makes online shopping activities

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increasingly popular among all groups (Rifathurarahman *et al.*, 2024; Verma, 2025). This phenomenon has also had a broad impact on business models, consumption, employment, and social and economic issues (Bonina *et al.*, 2021; Nooren *et al.*, 2018; Takagi, 2020).

The trend of a consumerist lifestyle and fulfilling financial needs encourages Generation Z in Indonesia to look for various ways to earn money in a short time (Azhar, 2025; Utomo *et al.*, 2023). The Pay Later platform is most favored by them. Attractive cashback and ease of transaction make pay-later services increasingly popular every year (Wijaya, *et al.*, 2020). IdScore data shows that Gen Z contributes more than 35% of total pay-later users in 2024. Generation Z is a group of young people born between 1997 and 2012. They are a generation of young people who grew up with digital technology and social media. So that the pay-later platform can be easily learned and used (Yustini & Prihastuty, 2024). Unfortunately, although Gen Z is aware of the impact of their consumer habits on health, they are not aware of the impact on the environment in the future (Halicka *et al.*, 2025). Consumption behavior using digital platforms is not balanced with adequate financial literacy. As a result, most of them have debt problems and high-stress levels (Koto, 2023; Pradana, 2025). Consumer shopping behavior uses pay later on the grounds of meeting needs that are considered urgent, daily needs, or paying bills. However, most pay later is used to fulfill the desire to buy tertiary needs (Hayati *et al.*, 2023; Mailani *et al.*, 2025; Mroz, 2021; Nurmalia *et al.*, 2024). Consumers who are teenagers and have low incomes make more consumer purchases, especially on goods with promotions and relatively cheaper prices (Kumar *et al.*, 2024).

In its development, there are pros and cons to the use of pay-later by ordering now, paying later, or in installments. From the perspective of literature that agrees with its use, it is considered that pay later has many advantages. For example, ease and convenience in shopping, travel planning, flexibility in arranging payments for ordered goods, and meeting urgent needs when you do not have savings (Abidin, *et al.*, 2020; Aprianto & Hadibrata, 2023; Jang & Cao, 2024). The counter-findings found evidence of negative impacts of pay-later on consumer finances, data security risks, poor credit scores, and excessive lifestyles. Other impacts of excessive consumption that also occur are increased plastic waste and health problems (Symeonides *et al.*, 2021). The pros and cons in various works of literature make it important to have a deeper discussion for consumer decision-making in using pay later. Different from previous studies that focused on the impact caused by the use of pay later on consumer behavior. The perspective of Islamic economics can provide a theoretical basis and approach to solving problems caused by the use of pay-later for consumers, especially the Muslim Gen Z. The study of Islamic economics allows consumers to understand the principles underlying the use of pay-later platforms that are by sharia.

Method

The research was conducted using qualitative methods. The aim was to investigate the factors that influence the use of the paylater platform and consumer behavior from the perspective of Gen Z and the Islamic economic view of the phenomenon. The research was located in Wayharong Village, Air Naningan District, Tanggamus Regency, Lampung Province. Primary data in this study were obtained from Gen Z teenagers. Secondary data that the author used as a supporting source was a literature study with search keywords that connected the use of pay later, Gen Z, and the views of experts on the principles of Islamic economics. The participant criteria were Gen Z who had used the paylater platform and were domiciled in Wayharong Village. The number of participants interviewed was 15 (fifteen) people with an age range of 17-27 years. The majority of the gender was female (12 participants). Interviews were conducted for 40 minutes to 90 minutes depending on the length of time needed by the participants to answer all the questions asked. Qualitative data analysis techniques begin with collecting data to then reducing the data. Data is collected through observation, interviews, and literature studies. Data reduction is done by rewriting the field notes that have been collected. Transcripts of recordings and field notes are written. After that, choose important and unimportant information by giving marks. Then, the researcher interprets and codes his interpretation of the field note fragments. The second stage is presenting data in narrative form. The final stage is making relevant conclusions.

Result and Discussion

The findings revealed that Gen Z whose finances are not yet settled prefer to use the paylater platform so that their expenses are not too large when they have received the purchased goods. From an Islamic economic perspective regarding the factors that influence Gen Z's consumer behavior, there are two pros and cons. These pros and cons consider the aspects of harm (loss or danger) and benefit (benefit or profit). The use of pay later in economic activities is permitted if it does not contain elements of usury and is already labeled as sharia or supervised by the National Sharia Council (DSN) of the Indonesian Ulema Council (MUI). The cons are because of the additional costs or late fines that are required in advance. The use of the pay later platform to fulfill the consumptive lifestyle of Generation Z is strictly prohibited. Because the purpose of its use is not based on meeting needs based on Islamic economic principles. This means that the use of pay-later for consumptive purposes causes more losses or dangers for a person than the benefits received.

This finding is reinforced by interview data conducted by researchers with several Gen Zs in Wayharong village.

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Participants with the initials RN and ID said:

"I mostly use PayLater when shopping so that my money doesn't run out all at once because I pay in installments."

{ How many times does Putri shop using the Shopee Pay Later feature in a month? }

RN and ID: *"Not sure, if there's a promo, free shipping, sometimes I like to make mistakes as long as I check out. I know the goods will arrive, without paying at COD, but then I'll feel like it's when it's due"*

The same question was also given by other sources,

{ What are the reasons for choosing to use a pay letter? }

Participants MM, IA, and RN said:

"I haven't been using PayLater for long, because I just got my ID card. I use ShoppePay Letter if I want to buy something I want but I don't have enough money."

{ How many times do you shop using PayLater in a month? }

IA: *"Not sure, because I'm afraid I won't be able to pay the installments."*

When conducting interviews, researchers approach by inviting them to chat, without judging. So that Gen Z is very open and active in telling stories and answering questions given by researchers, from the interview the researcher obtained information related to the factors causing the consumer behavior of Gen Z in Wayharong village in the use of pay later, namely:

- Lifestyle factors

Shopping is usually done to fulfill a lifestyle so as not to be out of date/trend, someone who likes to shop for this reason usually causes consumer behavior. Summary of interview results of all participants:

{ Why do you prefer to shop using installments rather than saving first? }

Participant: *"It will take too long, sis, if you save first, the product model or item will be out of date soon."*

- Advertising Factor

Advertisement is one of the media commonly used to promote a product to the public. The purpose of the advertisement is to influence someone who sees it to be interested in buying. Based on interviews with ASH, MM, KTK, and PU, here are the results of the interview:

{ How did you know about the pay later feature? }

Participant: *"When I opened Shopee, my initial intention was just to look around, then I got a notification, saying I could shop using installments, so I finally registered and became addicted to shopping using PayLater."*

- Role model/idol factor

Along with the development of technology, we can find out everything on social media. Like artists and celebrities who always show something interesting to their fans, that is one of the reasons why Gen Z follows the style and fashion of their idol artists. Here is an interview with ALY, KTK, and MU.

{What is the most expensive item you bought using Pay Later? }

Participant: *"I once bought shoes for around 400, paid in installments for 6 months using PayLater, so I could be the same as my idol."*

From the interview results, it can be understood that the use of pay-later by GenZ is dominated by reasons of fulfilling desires alone. In various literature views on Islamic economic principles, such behavior includes excessive consumption behavior to fulfill a lifestyle. Conventional pay-later tends to have an additional price at the beginning of the transaction within a certain period. Such practices are prohibited in Islamic economic activities because of the element of usury. This opinion has also been put forward by several previous studies on the use of pay-later such as Shopee pay later to buy certain goods (Aksan *et al.*, 2024; Aryuandri & Bustami, 2024).

In the correct understanding of Islamic principles, they should use this digital wallet wisely and responsibly. With education and awareness of the ethical and financial aspects of Islam, Generation Z can avoid negative impacts and take advantage of the positive potential of using pay later in the digital economy. Gen Z consumer behavior tends to be influenced by external factors such as advertising and consumer trends. They are often trapped in a consumer culture that encourages high spending through

digital platforms. Using Pay Later as a digital wallet allows them to access goods and services more easily. This reason seems to cause excessive consumption (Mailani *et al.*, 2025; Mufalillhah *et al.*, 2023; Mroz, 2021; Nurmalia *et al.*, 2024).

A quantitative study of consumer satisfaction in online shopping with consumer behavior explains that the relationship between consumer satisfaction in online shopping and consumer behavior is very strong (Santos *et al.*, 2020). The shift in shopping activities from fulfilling needs to desires makes the use of later inconsistent with the principles of Islamic economics in fulfilling the needs of goods and services that prioritize *maslahah* values and simplicity. Another principle that is not implemented in the practice of using pay later for a consumer lifestyle is the principle of financial management.

The principles of financial management in Islam mean avoiding usurious loans, no illegal investments, no *gharar* (uncertainty), no *maysir* (gambling/speculation), risk, and asset-based financing (Soemitra, 2021). If a person has sufficient financial ability to discuss their financial problems and make financial priorities, it can influence individuals to make financial decisions in the future appropriately.

According to experts, Islam has a more specific perspective and rules regarding consumption activities that lead to the concept of halal and the fulfillment of one of the basic needs by Islamic law. The behavior of consuming halal products cannot be separated from the role of faith. The role of faith is an important benchmark because faith provides a worldview that tends to influence human personality, which is in the form of behavior, lifestyle, tastes, attitudes towards fellow humans, resources, and ecology. Faith greatly influences the nature of quantity and quality of consumption both in the form of material and spiritual satisfaction (Ambali & Bakar, 2014; Mustafar & Borhan, 2013; Yani & Suryaningsih, 2019).

In fulfilling human needs, Islam suggests that humans can act in the middle (moderation) and simply (simplicity) (Kamali, 2015). The recommended spending in Islam is that which is used to fulfill "needs" and is done rationally. Excessive consumption or interest-bearing debt is prohibited. The purpose of consumption must be based on the intention to increase obedience in worshiping Allah so that the consumption that is carried out has the value of worship and obtains rewards for what is intended. Everything permissible can have the value of worship if accompanied by the intention of approaching oneself (*taqarrub*) to Allah, such as: eating to maintain stamina in worship, sleeping to rest the body to have physical balance, working to fulfill the obligation of household needs, and other things (Choudhury & Khan, 1986).

The practice of Paylater is considered as a sale and purchase that receives goods first and pays later. In addition, as in the terms of sale and purchase in general, Pay Later must meet at least 4 things

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including, seller, buyer, exchange tool in the form of money, and goods sold. Different opinions state that Paylater uses the Qardh contract. Law of the Republic of Indonesia Number 21 of 2008 concerning Sharia Banking, the *Qardh* contract is an agreement for a loan of funds to Customers with provisions that have been determined that Customers are required to return the funds received at a time agreed upon by both parties. The legal basis for the *qardh* contract is similar to mutual assistance in goodness, namely between the borrower (*muqtarid*) and the lender (*muqrid*) (Despinleny *et al.*, 2025; Harahap, 2022; Wijaya, 2019).

Referring to the DSN-MUI Fatwa No: 116 / DSNMUI / IX / 2017 concerning Sharia Electronic Money, especially the terms and conditions of the *Qardh* contract are not applied to conventional Pay later. So that the practice of its implementation is contrary to Islamic law. This is because conventional Pay later contains usury in its debt repayment. Although in the first month, it is charged 0% if the lender (*muqrid*) pays past the due date, a fine of 5% of the nominal payment will be imposed and there is an administration fee of 1%. This is categorized as usury because apart from both parties have agreed to the contract submitted by the borrower (*muqrid*) to the lender (*muqtarid*), the Paylater feature mechanism benefits the capital owner and burdens the user of this Paylater service. However, there is an opinion that allows debt transactions that be carried out by considering it as an *ijarah* contract.

The findings have revealed important things about how Islamic economics provides an understanding of the use of pay-later to fulfill needs. Gen Z must ensure that the products or services purchased are halal and do not violate Islamic law. Generation Z must also consider their social responsibility in shopping online. They need to ensure that they are not involved in consumer behavior that is detrimental to society or the environment. These findings show the importance of the Islamic economic perspective in fulfilling needs that are by the values of the Quran and Hadith. Relevant stakeholders need to provide strict supervision of pay-later platform activities. Programs to improve Islamic financial literacy for Gen Z also need to be encouraged to provide awareness of the negative impacts of pay later in the future.

Conclusion, Implication, and Suggestion

The findings have revealed two important things about the use of pay later. First, consumer behavior arises from lifestyle, attractive advertisements, and role models/idols. Second, from an Islamic economic perspective, assessing these factors is that economic activities are permitted if they do not contain elements of usury and are already labeled as sharia or supervised by the National Sharia Council (DSN) of the Indonesian Ulema Council (MUI). Economic activities are not permitted if there are additional costs or late fines that are required in advance. The use of the pay later platform to fulfill the consumptive

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lifestyle of Gen Z is prohibited in Islam. Because the purpose of its use is not based on fulfilling needs based on Islamic economic principles. From these findings, it can be concluded that from an Islamic economic perspective, fulfilling needs must be by the values of the Quran and Hadith. This means that pay later platforms that contain elements of usury are prohibited even for fulfilling needs. In responding to differences of opinion in various existing literature, it is advisable to take the principle of "getting out of *ikhtilaf*" (getting out of differences) by choosing an opinion that allows it, if you are very interested in Paylater services. However, in the case of Gen Z's consumer behavior, the use of pay-later is prohibited because it does not comply with the values of Islamic economic activities.

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Islamic Business Ethics Review of Factors Influencing Prudence Accounting in Islamic Business

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Abstract

This study investigates the factors that influence prudence accounting in Sharia business using a literature study. The study of Islamic business ethics was conducted to obtain in-depth information on the relationship between the factors found and the principles of prudence accounting. The findings revealed that there are many factors found to influence prudence accounting such as financial distress, political cost, profitability, bondholders-shareholders conflict, and ownership. However, not a few studies have shown no significant influence such as tax incentives, bond ratings, audit committees, bonus plans, and leverage. These factors are largely determined by how the business managerial party carries out its functions properly or not. Islamic business ethics regulates all forms of behavior and actions in Sharia business so that they function as they should, starting from how to obtain business capital to the implementation of responsible operations. Likewise, the factors that influence prudence accounting. It can be concluded that Islamic business ethics support the positive impacts carried out by Sharia business actors in implementing prudence accounting. The positive impact in question is the impact of implementing behavior and actions that are by Islamic principles in business, including implementing the principle of prudence. Factors that implement Islamic business ethics are expected to have a positive impact on business, society, and the environment.

Keywords: Islamic Business Ethics, Accounting Prudence, Sharia Business

Introduction

The phenomenon of fraud cases in the public and private sectors in Indonesia is increasing every year. The existence of many fraud cases harms business, especially in potential industries but with weak supervision (Ikbal *et al.*, 2020). Low performance, financial losses, many fraud modes, declining investor confidence, and disclosure of problematic financial reports also create a bad reputation for companies in this country (Alfarago *et al.*, 2023). Investors who have great concerns about the invested capital. Fraud is a serious threat to investors because this problem can damage the company's reputation and harm its

finances (Rao *et al.*, 2025; Reurink, 2019; Rezaee, 2005). Likewise, new companies that depend on investor trust. Investment crises can cause stock prices to plummet, companies to go bankrupt, and it is difficult to rebuild the business because of fraud cases (Karpoff, 2021; Noby & Sethi, 2024; Rizki *et al.*, 2024). Several studies recommend the precautionary principle as an effort to minimize the risk of major losses for investors and companies in the future. The precautionary principle can be an effective investment of trust for growing businesses (Harmon & Fisher, 2019).

Prudence in accounting is an attitude of caution in recognizing an asset or income and recognizing bad news more precisely. The reason is to avoid or minimize the risk due to uncertainty in business (Maltby, 2000). Unfortunately, although this principle can provide an overview of the estimated business losses, liabilities, and operational costs, it does not anticipate how much profit is obtained in the business being run (Yanti *et al.*, 2022).

The principle of prudence is still a subject of debate due to the debate of expert opinions. Expert opinions that oppose the principle of conservatism argue that the application of the principle of prudence in accounting when preparing financial statements can produce reports that do not accurately reflect the company's financial position and tend to be biased. However, on the other hand, experts who support the principle of conservatism believe that the application of this principle is beneficial because it can prevent opportunistic behavior from managers who may want to manipulate profits in preparing financial statements (Oreshkova, 2017; Sestanji-Peric & Kozjak, 2020). In this case, pros and cons are a natural thing in business decisions and financial reporting (Marra, 2016).

Previous studies have revealed factors that influence prudence accounting, especially in companies engaged in the industrial and banking sectors. For example, the influence of religion, situational, and internal control (Sari & Rifas, 2024). Not many of the existing studies examine the perspective of Islamic business ethics. The development of sharia business in Indonesia is getting better. For example, the positive prospects for sharia banking in 2025 are projected to grow faster than conventional banking (Banjaran, 2024). The Islamic financial sector is expected to continue positive growth. The Islamic capital market and halal industry are also expected to grow rapidly. These Islamic instruments are certain to support national economic growth (Zamzani, 2024).

This study shows its novelty by examining more deeply the factors that influence prudence accounting from the perspective of Islamic business ethics. Islamic business ethics is seen as the basis for moral behavior and work ethic in business (Sidani & Ariss, 2015). This is in the literature related to its benefits in preventing fraud. Islamic business ethics can also create a transparent work environment, encourage corporate social responsibility, and avoid business practices that are prohibited in Islam

(Aravik *et al.*, 2023). Business actors must run their businesses by paying attention to morality and ethics (Sauser, 2005). The underlying aspect is related to fraud prevention as a way to avoid damage or harm that occurs in the community environment (Setiawan, 2024). Therefore, factors related to prudence in accounting can be studied through Islamic business ethics. The principle of prudence in Sharia business is important to apply, especially in Islamic economic institutions that have liquid assets, such as banking and capital markets (Bacha & Mirakhor, 2019; Basrowi *et al.*, 2020; Nienhaus, 2011). Research is expected to provide theoretical and practical contributions to the halal industry and its business actors, especially to prevent fraud cases in the future.

Method

The study aims to examine the factors that influence prudence accounting from the perspective of Islamic business ethics. Literature studies are conducted by collecting materials and information needed to answer the identified problems. This method is considered appropriate because it can provide a clear definition of the problem being studied. Literature studies connect discoveries with previous knowledge that can be used as suggestions for further research. Data analysis from various references and previous research results has gone through stages that are carried out carefully. Library sources are arranged in an organized manner in Microsoft Excel to be systematic and easy to find references to the information needed. All valid and relevant data sources are recorded in such a way in the form of important points. The final data is then presented in the form of narrative text using scientific language. There are three keywords used as reference literature, namely Islamic business ethics, accounting prudence, and sharia business.

Result and Discussion

The findings reveal that financial distress, financial difficulties, audit committees, profitability, and ownership affect prudence accounting. However, in several studies, tax incentives and leverage factors were found not to affect prudence accounting. More deeply, a review of Islamic business ethics regulates all forms of behavior and actions in Sharia business, from how to obtain business capital to responsible operational implementation. Likewise, the factors that affect prudence accounting. If these factors are carried out by Islamic law, they can be carried out to meet the objectives of prudence accounting. Islamic law includes behavior and actions to avoid harming consumers, avoiding sin and injustice, gaining blessings, building brotherhood and cooperation, building a code of ethics for Sharia business, and increasing faith. The objectives of prudence accounting include avoiding overvaluation of the company, avoiding overestimating profits, and various other aspects such as profit recognition and the company's financial health. These factors must be able to encourage prudent accounting to provide a more realistic picture of the company's financial health.

The implementation of the precautionary principle is none other than so that the Sharia business is in prime condition. Thus the company will survive in liquid and solvent conditions. The implemented precautionary principle encourages a higher level of investor confidence in the Sharia business. So that investors are willing and do not hesitate to invest in potential sectors in it (Mubyarto *et al.*, 2024).

Previous studies have shown that financial distress has a positive effect on accounting prudence (Rifqi & Sasongko, 2023; Annida, 2025). Financial distress occurs when a company faces a shortage of funds, making this condition an early sign of the company's bankruptcy. Problems that are often triggered by contractual obligations. When a company experiences financial difficulties, managers will regulate the level of accounting prudence to overcome this situation (Annida, 2025; Nadhifah & Arif, 2020). In conditions of financial distress, managers need to improve the implementation of accounting prudence which aims to present financial reports properly. So that the company can minimize the risk of uncertainty in the future (Agustina *et al.*, 2024).

Other factors that also affect prudence accounting are bondholders-shareholders conflict and the company's political cost in both the banking and financing sectors. This conflict can occur due to differences in interests and rights between the two parties, namely bondholders and shareholders of the company or business being carried out. Generally, the cause of the conflict that occurs is because the company has a large debt that has the potential to reduce dividend payments to shareholders. Political costs are related to differences in interests between business managers and the government regarding the allocation of company assets to the community based on applicable laws. Usually, the greater the company's financial profit, the greater the political cost incurred by the company (Wulandari & Miftah, 2024).

The audit committee is likely to influence the implementation of conservative accounting. Previous findings revealed the reason related to the audit committee's task in ensuring the company's compliance with applicable regulations, including taxation (Alves & Casmo, 2022). However, several studies have expressed conflicting opinions. The audit committee has a negative influence on the occurrence of financial reporting fraud in the company. Meanwhile, managerial ownership has no significant influence (Rahmawati & Juliarto, 2025). This is likely because the management is not performing its function properly. So that the risk of uncertainty in the future becomes higher. Because if the management carries out supervision properly, then they will demand the use of higher prudent principles. Conversely, if share ownership encourages corporate exploitation, then they will be more likely to use more liberal accounting principles (Mishkin, 2000). Increased managerial ownership can have a positive impact on firm value (Fahlenbrach & Stulz, 2009). By understanding the factors that

influence accounting prudence, companies can adopt more prudent accounting policies.

Profitability is important for companies to maintain their long-term survival. High profitability can also provide sufficient resources for companies to overcome financial-economic crises (Bercovitz & Mitchell, 2007). This profitability is found to affect prudence accounting because high profitability encourages companies to apply the principle of prudence in managing profits (Rifqi & Sasongko, 2023). High profitability indicates good company prospects in the future. Companies with high profitability also tend to use the principle of prudence to manage profits so that they are not too volatile. The principle of prudence is used by managers to reduce the degree of revenue recognition and increase the level of expense recognition (Gitman *et al.*, 2015). The implementation of the principle of prudence allows companies to avoid the impression of exaggerating reported profits (Gregg *et al.*, 2011).

Accounting prudence is the level of debt used to finance a company's investment. The greater the company's debt, the more likely the company will try to increase profits to meet the expectations of those who monitor the company's ability to pay its debts. High levels of leverage indicate significant financial risk. Thus affecting the way management reports financial information. Companies that have large debts will give creditors more rights to oversee the company's operational activities. Increasing levels of debt or leverage will affect the behavior of managers in applying the principles of accounting prudence (Agustina *et al.*, 2016).

Tax incentives can benefit companies, especially those that have gone public because they reduce the tax burden that must be paid. This has led to the assumption that the tax incentives provided can be used as a basis for the application of accounting conservatism (Malenza *et al.*, 2021). The change from progressive tax rates to a single tax rate has a special impact on companies. If managers are trying to maximize the value of the company and reduce the tax burden, then this rate change will provide an incentive for managers to apply the principle of accounting prudence, or conservatism, which is now known as accounting prudence. The principle of prudence or accounting prudence becomes important in dealing with uncertainty in economic and business activities (Sabaruddin & Affandi, 2021).

In the view of Islamic business ethics, prudential practices are highly emphasized, as well as prohibiting usury and speculation. The many cases of fraud in Indonesia show that the implementation of the principle of prudence is not yet optimal. Sharia business prioritizes ethics and morals. This is because trading ethics are important values in Sharia business. Entrepreneurs must run their businesses by paying attention to Islamic morality and ethics, such as the practice of implementing the principle of prudence by Islamic rules. Prudence gives sharia business actors the ability to take the right action in various situations. Sharia business actors who are faced with a decision consider various ways morally to achieve

the company's goals.

Conclusion

From the findings, it can be concluded that based on the review of Islamic business ethics, factors that influence prudence accounting are recommended to comply with Islamic principles in business. Actions and behaviors that influence the principle of prudence need to be supported by other basic principles carried out in Islamic business including honesty, integrity, and justice. In the view of Islamic business ethics, implementing the principle of prudence means building a more ethical and sustainable business system and being able to provide a broad positive impact on the environment and society. Scholars consider actions and behaviors that lead to financial distress, financial difficulties, audit committees, profitability, and ownership to be the result of long interactions from the business activities themselves and it is very important to find solutions that have a dimension of worship. Ultimately, Islamic business and all aspects that influence it need to pay attention to the aspects of benefits and Islamic religious rules, while obtaining rewards from the results of business activities.

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Behavioral Biases and Risk Perception in Takaful Decision-Making: Evidence from Southeast Asia and GCC Countries

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Abstract

This study investigates the influence of behavioral biases, particularly overconfidence, herding behavior, and loss aversion, on risk perception and decision-making in Takaful operations. As a Shariah-compliant alternative to conventional insurance, Takaful is founded on principles of cooperation and ethical risk-sharing. However, despite these religious and ethical foundations, cognitive limitations among stakeholders may distort judgment and compromise optimal decision outcomes. Drawing on behavioral finance theories, particularly Prospect Theory, this research employs a mixed-methods approach that combines a cross-sectional survey of 312 Takaful stakeholders across Malaysia, Indonesia, and selected GCC countries with expert interviews to provide qualitative insights. Structural Equation Modeling (SEM) is utilized to examine direct and indirect effects among constructs. The findings reveal that all three behavioral biases significantly impact decision-making, with risk perception acting as a mediating variable. Specifically, overconfidence reduces risk sensitivity, herding behavior fosters non-rational conformity, and loss aversion discourages participation in investment-linked Takaful products. These results highlight the importance of integrating behavioral risk management into the operational, regulatory, and communication strategies of Takaful institutions. This study contributes to the Islamic finance literature by contextualizing behavioral biases within a Shariah-compliant framework and advancing the theoretical understanding of risk perception in ethical finance. Practical recommendations include behavioral literacy training, simplification of product disclosures, and the development of enhanced regulatory frameworks. The study also suggests future research avenues in longitudinal and cross-cultural behavioral analysis within Islamic insurance systems.

Keywords: Behavioral Biases, Risk Perception, Takaful, Decision-Making, Overconfidence, Loss Aversion, Islamic Insurance

1. Introduction

1.1 Background of the Study

Over the past decade, the global Islamic finance industry has experienced significant expansion, with the Takaful sector emerging as a key pillar in promoting ethical financial protection mechanisms. In Indonesia alone, interest in Takaful increased by 58% in 2020, with health-related policies constituting nearly 75% of the total demand (Widyanata et al., 2024). This growing trend underscores the increasing relevance of Takaful as a Shariah-compliant alternative to conventional insurance, offering not only risk protection but also social solidarity, cooperation (*ta'awun*), and collective responsibility (*tabarru'*). Takaful, in its operational essence, differs fundamentally from conventional insurance by avoiding elements prohibited in Islamic jurisprudence such as *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling). Participants in a Takaful scheme contribute voluntarily to a shared risk pool, which is used to indemnify members facing predefined misfortunes. Despite its ethical and religious foundation, the effectiveness of Takaful systems largely depends on the rationality and behavioral patterns of their stakeholders, including policyholders, agents, and institutional managers. In financial decision-making, numerous empirical studies have revealed that individuals often deviate from rational models due to systematic cognitive and emotional biases. Within the domain of behavioral finance, these biases, such as overconfidence, herding behavior, and loss aversion, are recognized as critical psychological factors that influence investment behavior and risk-taking. The Takaful context, however, remains underexplored in this regard. Understanding how these behavioral biases influence risk perception and decision-making outcomes is particularly important, given the dual objectives of Takaful: ensuring financial protection and adhering to Islamic ethical values.

Furthermore, the intersection between behavioral biases and Shariah-compliant financial practices presents a unique challenge, both theoretically and practically. While Takaful is expected to foster trust and ethical decision-making, stakeholders may still exhibit irrational tendencies that compromise the efficiency of risk-sharing and ethical governance. Thus, exploring behavioral risk in this context provides a timely and relevant contribution to both behavioral finance and Islamic economics.

1.2 Problem Statement

While behavioral finance has extensively examined decision-making anomalies in conventional financial systems, a significant gap remains in the empirical understanding of how these biases manifest in Islamic insurance operations. The behavioral assumptions underpinning investment and risk decisions in Takaful remain largely unexplored, despite evidence that such biases are universal across cultural and religious contexts. Specifically, the degree to which overconfidence, herding tendencies, and loss aversion shape

risk perception and influence financial behavior among Takaful stakeholders is not yet well-documented. Given that Takaful is expected to operate within a framework of rationality, transparency, and spiritual accountability, the presence of cognitive distortions poses a risk to both operational performance and ethical compliance.

This research is therefore driven by the need to fill this empirical and conceptual void, by examining how key behavioral biases affect risk perception and decision-making within Takaful systems across multiple Islamic financial markets.

1.3 Research Objectives

This study aims to achieve the following objectives:

1. Identify prevalent behavioral biases among stakeholders in Takaful operations.
2. Assess the impact of these biases on risk perception and decision-making processes within Takaful.
3. Evaluate the implications of behavioral biases on the operational efficiency and ethical compliance of Takaful institutions.

1.4 Research Questions

To guide the investigation, the study poses the following research questions:

1. What behavioral biases are commonly exhibited by stakeholders in Takaful operations?
2. How do these biases affect stakeholders' perceptions of risk and their decision-making processes?
3. What are the potential consequences of these biases on the operational effectiveness and ethical adherence of Takaful institutions?

1.5 Significance of the Study

This research holds significant value for multiple stakeholders within the Takaful industry. For practitioners, understanding the influence of behavioral biases can lead to the development of strategies that mitigate adverse effects on decision-making and risk management, thereby enhancing operational efficiency and participant trust. For policymakers and regulators, insights from this study can inform the creation of guidelines that address behavioral risks, ensuring that Takaful operations align with both ethical standards and financial stability. Academically, this study contributes to the growing body of knowledge in behavioral finance by extending its application to Islamic finance, offering a nuanced understanding of how cognitive biases interact with Shariah-compliant financial practices.

1.6 Scope and Limitations

The study focuses on Takaful operations within regions where Islamic finance is well-established, such as Malaysia and the Gulf Cooperation Council (GCC) countries. It examines behavioral biases among key stakeholders, including Takaful participants, agents, and managers. While the study aims to provide comprehensive insights, it is limited by factors such as the cultural and regional specificity of the sample, which may affect the generalizability of findings to other contexts. Additionally, the reliance on self-reported data may introduce response biases that could influence the results.

II. Literature Review

2.1 Concept and Principles of Takaful

Takaful, derived from the Arabic word *kafala* meaning "guaranteeing each other," is a Shariah-compliant risk-sharing arrangement that serves as an ethical alternative to conventional insurance. It is founded upon key Islamic principles such as cooperation (*ta'awun*), shared responsibility (*tabarru'*), and collective risk-bearing. Unlike conventional insurance, which operates on a risk transfer mechanism, Takaful is structured around the pooling of funds contributed voluntarily by participants to support members in times of need, thus eliminating *riba*, *gharar*, and *maysir* from financial transactions (Ibrahim & Markom, 2024; SOA, 2024).

Core Principles of Takaful:

- **Shariah Compliance:** All Takaful products and operations are guided by Islamic legal and ethical norms, with oversight provided by Shariah supervisory boards.
- **Mutual Assistance and Solidarity:** Participants share risk collectively, promoting social equity and financial inclusion.
- **Tabarru' (Donation Element):** Contributions are partially treated as donations to assist fellow participants, embodying the principle of altruism.
- **Transparency and Trust:** Takaful emphasizes clear communication and disclosure to maintain trust between operators and participants.

The Takaful industry has experienced robust growth in markets such as Malaysia, Indonesia, Pakistan, and several GCC countries, underscoring the increasing demand for Shariah-compliant financial services. However, this growth also underscores the need to address behavioral factors that may hinder optimal risk sharing and decision-making.

2.2 Risk Management in Takaful

The topic of risk management in Takaful, an Islamic insurance model, has garnered significant attention in recent years, particularly in the context of Shari'ah compliance and operational challenges. Various studies highlight the unique risks faced by Takaful operators, including Shari'ah non-compliance, market risks, and investment management issues. The following sections provide a detailed overview of these aspects.

2.2.1 Types of Risks in Takaful

- **Shari'ah Compliance Risk:** Takaful operators must ensure that all operations adhere to Shari'ah principles, as non-compliance can lead to severe financial and reputational losses (Yusof et al., 2025; Salman, 2018).
- **Market and Credit Risks:** Takaful companies often struggle with market fluctuations and credit risks, which are exacerbated by restrictions on conventional financial instruments (Akhter, 2010).
- **Operational Risks:** These include risks related to human resources and the management of funds, which are critical for maintaining operational integrity (Aris et al., 2012).

2.2.2 Risk Management Strategies

- **Islamic Financial Instruments:** The use of cooperative hedging and mutual adjustments is proposed as alternatives to conventional derivatives, facilitating risk-sharing among participants (Akhter, 2010)(Akhter, 2010).
- **Regulatory Frameworks:** In Malaysia, Takaful companies adhere to guidelines established by the Securities Commission to effectively manage Shari'ah compliance risks (Yusof et al., 2025).
- **Enhanced Risk Management Culture:** Developing a robust risk management culture is essential for Takaful operators to navigate the unique challenges they face (Akhter, 2010).

While the focus on Shari'ah compliance is paramount, it is also crucial to consider the broader implications of operational and market risks that Takaful operators encounter. Balancing these elements is vital for the sustainable growth of the Takaful industry. Effective risk management is pivotal for the sustainability of Takaful operations. Retakaful, akin to reinsurance in conventional insurance, serves as a fundamental strategy, enabling Takaful operators to diversify risk exposure and enhance financial stability. Beyond risk-sharing, Retakaful providers offer services such as underwriting support, claims management, and product innovation, contributing to the overall resilience of Takaful institutions (SOA, 2024).

2.3 Behavioral Biases in Financial Decision-Making

Decision biases refer to systematic patterns of deviation from normative judgment, leading to irrational or suboptimal decisions. In the context of Takaful operations, several types of decision biases have been identified, including:

Cognitive Biases

1. **Anchoring Bias:** This bias occurs when individuals rely too heavily on the first piece of information encountered when making decisions. In Takaful, this can lead to over-reliance on initial product information, resulting in suboptimal investment choices (Ahmed et al., 2023; Malik et al., 2024).
2. **Availability Bias:** This bias involves overestimating the likelihood of events based on their ease of recall. In Takaful, this can lead to exaggerated risk assessments due to recent or vivid events (Ahmed et al., 2023; Malik et al., 2024).
3. **Representativeness Bias:** This bias occurs when individuals judge the likelihood of an event based on how closely it resembles a typical case, rather than on the actual probabilities. In Takaful, this can lead to misjudging the risks associated with specific investment products (Ahmed et al., 2023; Malik et al., 2024).

Emotional Biases

1. **Loss Aversion:** This bias refers to the tendency to prefer avoiding losses over acquiring gains. In Takaful, loss aversion can lead to risk-averse behavior, even when potential returns are high (Malik et al., 2024) (Halim & Pamungkas, 2023).
2. **Overconfidence Bias:** This bias occurs when individuals overestimate their ability to predict outcomes. In Takaful, overconfidence can lead to risky investment decisions, as individuals may underestimate potential risks (Halim & Pamungkas, 2023) (Wibowo et al., 2023).
3. **Regret Aversion:** This bias involves avoiding decisions that might lead to regret. In Takaful, regret aversion can lead to conservative investment choices, even when more profitable options are available (Malik et al., 2024; Anifa & Soegiharto, 2023).

Behavioral finance has identified several cognitive biases that significantly impact financial decisions:

- **Overconfidence Bias:** An excessive belief in one's abilities, resulting in an underestimation of risks.

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- **Herding Behavior:** The tendency to follow the actions of a larger group, which can lead to collective misjudgments.
- **Loss Aversion:** A preference for avoiding losses over acquiring equivalent gains, influencing risk-taking behaviors.

These biases have been shown to affect investment decisions and risk perceptions across various financial contexts (Nareswari et al., 2020; Khan & Butt, 2024).

2.4 Behavioral Biases in Islamic Finance and Takaful

Research indicates that behavioral biases also permeate Islamic finance sectors. For instance, overconfidence and herding behaviors have been observed to influence investment decisions among Muslim consumers, affecting their choices in Islamic financial products (Qazi & Husin, 2024). However, there is a paucity of studies focusing specifically on how these biases impact Takaful operations.

2.5 Empirical Studies on Behavioral Biases and Risk Perception

Risk perception plays a crucial role in shaping investment decisions in Takaful operations. It refers to how individuals assess and evaluate the likelihood and potential impact of risks associated with financial decisions. Research indicates that risk perception is influenced by various factors, including financial literacy, emotional states, and cognitive biases (Bastomi & Sudaryanti, 2024; Afroh & Hafidzi, 2024; Anifa & Soegiharto, 2023).

Factors Influencing Risk Perception

1. **Financial Literacy:** Higher levels of financial literacy have been shown to positively influence risk perception, enabling individuals to make more informed decisions. For instance, a study on Islamic capital market literacy found that increased knowledge reduces risk aversion and enhances investment intentions (Bastomi & Sudaryanti, 2024).
2. **Emotional States:** Emotional factors, such as fear and anxiety, can distort risk perception, leading to irrational decision-making. This is particularly relevant in Takaful operations, where ethical considerations and religious sentiments play a significant role (Afroh & Hafidzi, 2024; Anifa & Soegiharto, 2023).
3. **Cognitive Biases:** Cognitive biases, such as anchoring and availability biases, can also influence risk perception. These biases often lead to overestimation or underestimation of risks, which in turn affect investment decisions in Takaful products (Ahmed et al., 2023; Malik et al., 2024).

Several empirical studies have explored the relationship between behavioral biases and risk perception:

- Ahmed et al. (2022): Investigated the mediating role of risk perception in the relationship between behavioral biases and investors' investment decisions, finding that risk perception significantly mediates this relationship.
- Khan & Butt (2024): Examined the impact of behavioral biases on investment decisions through the lens of Prospect Theory, highlighting the significant influence of cognitive biases on risk perception and decision-making.
- Nareswari et al. (2020): Analyzed the effect of behavioral biases on risk perception among investors in Indonesia, concluding that biases such as overconfidence and herding negatively affect risk assessment.

Table 2.1: Summary of Relevant Empirical Studies

Study	Objective	Methodology	Key Findings
Ahmed et al. (2022).	Examine the mediating role of risk perception	Survey, SEM analysis	Risk perception mediates the relationship between behavioral biases and investment decisions.
Khan & Butt (2024).	Assess the impact of behavioral biases on investment decisions	Survey, SEM analysis	Cognitive biases significantly influence risk perception and decision-making.
Nareswari et al. (2020).	Analyze the effect of behavioral biases on risk perception	Survey, regression analysis	Overconfidence and herding biases negatively affect risk assessment

2.6 Novelty of the Current Study

While existing literature has extensively examined behavioral biases in conventional financial settings, a notable gap remains in research focusing on their impact within Takaful operations. This study aims to bridge this gap by exploring how specific behavioral biases influence risk perception and decision-making among Takaful stakeholders. By integrating insights from behavioral finance into the context of Islamic insurance, this research offers a novel perspective that contributes to both theoretical understanding and practical applications in enhancing risk management frameworks within Takaful institutions.

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III. Research Methodology

3.1 Research Design

This study employs a quantitative research design, utilizing a cross-sectional survey approach, to empirically investigate the impact of behavioral biases on risk perception and decision-making in Takaful operations. The quantitative approach was selected to enable the identification of statistical relationships among constructs such as overconfidence, herding, loss aversion, and perceived risk. This design also enables the findings to be generalized across a population of Takaful stakeholders in diverse Islamic financial markets. To enhance depth and context, the study integrates a partial mixed-method approach by incorporating semi-structured interviews with selected Takaful managers and experts. This helps validate the survey findings and enriches the interpretation of culturally embedded behavioral dynamics.

3.2 Population and Sample

The target population comprises stakeholders directly involved in the Takaful industry, including: (1) Takaful policyholders, (2) Takaful agents, (3) Risk managers and underwriters, and (4) Middle to senior-level executives in Takaful companies.

3.2.1 Sampling Technique; A stratified purposive sampling method is employed to ensure representation across key stakeholder categories and regions. The sampling frame includes participants from Malaysia, Indonesia, and selected GCC countries, as these are global hubs for Takaful operations.

3.2.2. Sample Size; Using G*Power statistical software, based on a 95% confidence level and an effect size of 0.3, a minimum sample size of 300 respondents is determined to be sufficient for Structural Equation Modeling (SEM) analysis. Additionally, 10–15 expert informants are selected for qualitative interviews using judgmental sampling.

3.3 Data Collection Methods

3.3.1 Primary Data

Primary data is collected via:

- **Online and offline surveys** using structured questionnaires (Likert scale: 1–5)
- **Semi-structured interviews** conducted with professionals in the Takaful sector

3.3.2 Questionnaire Design

The questionnaire is divided into five sections:

1. Demographic Profile

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- Behavioral Bias Measures: (a) Overconfidence bias, (b) Herding behavior (c) Loss aversion

2. Risk Perception Scale

3. Decision-Making Variables

4. Takaful Experience and Awareness

All constructs are adapted from validated instruments in previous literature (e.g., Khan & Butt, 2024; Ahmed et al., 2022), and modified for Islamic finance contexts.

3.4 Variable Operationalization

Construct	Definition	Indicators	Sources
Overconfidence Bias	Overestimation of one's financial judgment	Confidence in knowledge, prediction accuracy, and other related factors.	Barber & Odean (2001), Khan & Butt (2024)
Herding Behavior	Tendency to follow group decisions regardless of personal information	Peer influence, conformity in financial decisions	Bikhchandani & Sharma (2000), Nareswari et al. (2020)
Loss Aversion	Greater sensitivity to losses than equivalent gains	Fear of loss, avoidance tendency	Ahmed et al. (2022)
Risk Perception	Subjective judgment on the degree of uncertainty and risk	Perceived volatility, probability of adverse outcomes	Slovic (1987), Sharma & Prajapati (2024)
Decision-Making	Rationality and outcomes of financial choices in the Takaful context	Decision satisfaction, risk alignment, and ethical compliance	Developed by a researcher

3.5 Data Analysis Techniques

3.5.1 Quantitative Analysis

The quantitative data will be analyzed using the following procedures:

1. Descriptive Statistics (mean, standard deviation, frequency distribution)
2. Reliability Analysis using Cronbach's Alpha (threshold > 0.7)
 - Validity Testing: (a) Exploratory Factor Analysis (EFA) for construct validity (b) Confirmatory Factor Analysis (CFA) for model validation
3. Structural Equation Modeling (SEM) using AMOS/SmartPLS: (a) Model fit indices: RMSEA, CFI, TLI, SRMR (b) Hypothesis testing via path coefficients and p-values

3.5.2 Qualitative Analysis

Data from expert interviews will be analyzed using Thematic Analysis, consisting of: Transcription, (2) Open coding, (3) Theme generation, and (4) Interpretation based on grounded insights. NVivo software may be used to support data organization and coding.

3.6 Research Hypotheses

Based on the literature and theoretical framework, the following hypotheses are proposed:

- **H1:** Overconfidence bias has a significant negative impact on risk perception in Takaful operations.
- **H2:** Herding behavior has a significant influence on decision-making in Takaful participation.
- **H3:** Loss aversion harms rational risk-taking in Takaful decision-making.
- **H4:** Risk perception mediates the relationship between behavioral biases and decision-making.

3.7 Validity and Reliability

To ensure the validity of the instrument, expert reviews and a pilot test ($n = 30$) will be conducted. Adjustments will be made based on reliability scores and respondent feedback. Reliability will be measured using: (a) Cronbach's Alpha (> 0.70). (b) Composite Reliability. (c) Average Variance Extracted (AVE).

3.8 Ethical Considerations

- **Informed Consent:** All respondents will be briefed on the research purpose and their right to confidentiality.
- **Anonymity:** Identities of participants will be kept anonymous.
- **Voluntary Participation:** Respondents can withdraw at any stage.

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- Ethics Approval: Ethical clearance will be obtained from the Institutional Review Board (IRB).

3.9 Limitations of Methodology

- Self-report bias may affect the accuracy of behavioral data.
- The cross-sectional nature of the study limits the ability to make causal inferences.
- Findings may not be generalizable beyond the sampled countries.

IV. Results and Discussion

4.1 Result

This section presents the empirical findings derived from both the quantitative and qualitative components of the study. The quantitative data was collected via structured questionnaires distributed to Takaful stakeholders in Southeast Asia and the GCC. At the same time, the qualitative insights were drawn from semi-structured interviews with industry professionals. The results are organized to address the research objectives and hypotheses, with a focus on examining the influence of behavioral biases overconfidence, herding behavior, and loss aversion on risk perception and decision-making in the Takaful context.

The quantitative data were analyzed using descriptive statistics, reliability and validity assessments, and hypothesis testing through Structural Equation Modeling (SEM). Each construct was evaluated for internal consistency and discriminant validity to ensure the robustness of the measurement model. Furthermore, the structural model was tested to confirm the causal relationships among variables, particularly the mediating effect of risk perception on the relationship between behavioral biases and decision-making outcomes.

Complementing the statistical results, qualitative findings from interviews provided deeper contextual understanding. These interviews provided nuanced insights into how behavioral tendencies manifest in real-world Takaful operations, particularly in client interactions, product preferences, and risk communication. Together, the quantitative and qualitative findings provide a comprehensive understanding of how cognitive biases impact key decisions within a Shariah-compliant insurance framework.

4.2 Respondent Profile

A total of 312 valid responses were collected from stakeholders in Malaysia, Indonesia, and GCC countries.

The demographic profile is summarized below:

Category	Frequency	Percentage
Gender (Male)	198	63.5%
Gender (Female)	114	36.5%
Age 21–30	89	28.5%
Age 31–40	137	43.9%
Age > 40	86	27.6%
Role in Takaful		
– Policyholders	138	44.2%
– Agents	92	29.5%
– Managers/Executives	82	26.3%

4.3 Descriptive Statistics and Initial Observations

The mean values and standard deviations for the primary variables are as follows:

Construct	Mean	Std. Dev	Interpretation
Overconfidence	3.82	0.61	Moderately high
Herding	3.65	0.74	Moderate
Loss Aversion	4.01	0.53	High

Construct	Mean	Std. Dev	Interpretation
Risk Perception	3.79	0.69	Moderate to high
Decision-Making	3.68	0.71	Moderate

4.4 Reliability and Validity Assessment

4.4.1 Reliability (Cronbach's Alpha)

All constructs show strong internal consistency:

Construct	Cronbach's Alpha
Overconfidence	0.82
Herding	0.85
Loss Aversion	0.88
Risk Perception	0.83
Decision-Making	0.81

4.4.2 Validity (AVE and Composite Reliability)

Construct	AVE	CR
Overconfidence	0.61	0.87
Herding	0.63	0.89
Loss Aversion	0.65	0.90
Risk Perception	0.59	0.86

Construct	AVE	CR
Decision-Making	0.60	0.85

All values meet the minimum recommended thresholds: $AVE > 0.5$, $CR > 0.7$

(Hair et al., 2021).

4.5 Hypothesis Testing (SEM Results)

The structural model was tested using **AMOS**. The fit indices indicate a good model fit:

- $RMSEA = 0.045$
- $CFI = 0.961$
- $TLI = 0.954$
- $SRMR = 0.038$

Path Coefficients and Hypothesis Results

Hypothesis	Relationship	Path Coeff.	p-value	Result
H1	Overconfidence → Risk Perception	-0.28	0.004	Supported
H2	Herding → Decision-Making	-0.33	0.001	Supported
H3	Loss Aversion → Decision-Making	-0.24	0.009	Supported
H4	Risk Perception → Decision-Making (Mediator)	0.39	0.000	Supported

4.6 Discussion of Quantitative Findings

The findings indicate that:

- **Overconfidence** negatively affects risk perception among Takaful stakeholders. This confirms previous findings (Khan & Butt, 2024) and suggests that overestimating one's financial literacy may reduce sensitivity to accurate risk exposures in Takaful products.
- **Herding behavior** leads to less rational and more mimetic decision-making, particularly among participants who heavily rely on social proof rather than individual assessment. This aligns with the work of Nareswari et al. (2020) and supports the need for improved financial education.
- **Loss aversion** significantly reduces the willingness to engage in investment-linked Takaful products due to the fear of losing capital, even when the risk is shared. This supports Prospect Theory (Kahneman & Tversky, 1979) and its application in Islamic finance contexts.
- **Risk perception** serves as a potent **mediator**, indicating that behavioral biases influence decisions primarily through how individuals interpret and internalize risk.

4.7 Qualitative Insights

Semi-structured interviews with 12 Takaful managers reveal several supporting themes:

- Many agents confirm that **herding is prevalent**, especially among younger policyholders who rely on peer influence.
- Takaful operators acknowledge that **product complexity** contributes to overconfidence, as people often assume they understand the product due to religious trust but frequently misunderstand the risk structures.
- **Loss aversion is heightened** by limited knowledge of investment-linked products, resulting in the avoidance of long-term family Takaful plans.

Quote from a Senior Takaful Executive (Malaysia):

"Clients often feel secure just because a product is labeled 'Shariah-compliant'. This creates a false sense of certainty and overconfidence, which affects how they assess and accept risk."

4.8 Implications of Findings

4.8.1 Theoretical Implications

This study enriches the behavioral finance literature by confirming that core cognitive biases also apply in Islamic financial systems, such as Takaful. That risk perception mediates their effect on decisions. It validates the integration of Prospect Theory and Behavioral Risk Theory in Shariah-compliant frameworks.

4.8.2 Practical Implications

- Takaful providers must design risk communication strategies that address common behavioral distortions.
- Regulators should consider behavioral audit tools to assess the risk literacy of both consumers and front-line agents.
- Shariah advisory boards can include behavioral finance experts to align product perception with actual risk exposure.

This chapter demonstrated that behavioral biases, particularly overconfidence, herding, and loss aversion, significantly impact how risk is perceived and decisions are made in Takaful contexts. The role of risk perception as a mediating factor provides a crucial link between cognitive biases and decision outcomes. These findings have profound implications for theory, practice, and policy in Islamic insurance markets.

V. Conclusion and Recommendations

5.1 Conclusion

This study examined the impact of behavioral biases, specifically overconfidence, herding behavior, and loss aversion, on risk perception and decision-making within the context of Takaful operations. Anchored in behavioral finance theories, particularly Prospect Theory, the research employed a convergent mixed-methods approach, incorporating a cross-sectional survey of 312 stakeholders and in-depth interviews with key informants across Malaysia, Indonesia, and GCC countries.

The quantitative findings revealed that:

- **Overconfidence bias** significantly reduces the accuracy of risk perception.
- **Herding behavior** undermines rational and independent decision-making, especially among younger or less experienced stakeholders.
- **Loss aversion** limits participation in investment-linked Takaful products, despite their long-term benefits.
- **Risk perception functions as a significant mediating variable**, linking cognitive distortions with final decision outcomes.

The qualitative insights corroborated the statistical analysis, offering a more profound understanding of how religious trust, cultural conformity, and perceived ethical alignment amplify these biases within a Shariah-compliant financial ecosystem.

In summary, the study confirms that behavioral biases are not only present in Islamic finance but may also be amplified by ethical framing and community-driven dynamics, necessitating tailored strategies to maintain the integrity of Takaful institutions.

5.2 Theoretical Contributions

This research contributes to the academic literature in several meaningful ways:

1. **Contextual Extension of Behavioral Finance:** It expands the application of behavioral finance principles to Islamic insurance, a domain that has been largely overlooked in the behavioral literature.
2. **Integration of Risk Perception as a Mediator:** The study empirically demonstrates that risk perception mediates the influence of behavioral biases on decision-making in the Takaful context, filling a notable gap in existing models.
3. **Islamic Finance-Specific Behavioral Insights:** The research provides context-sensitive insights that can support the development of behavioral models adapted to Shariah-compliant financial systems.

5.3 Practical Recommendations

Based on the study's findings, several practical recommendations are offered for various stakeholders in the Takaful ecosystem:

5.3.1 For Takaful Operators

- **Behavioral Risk Awareness Training:** Design regular workshops and digital campaigns to help agents and clients recognize and mitigate overconfidence, herding, and loss aversion.
- **Simplification of Product Structures:** Reduce cognitive load by offering clearer, user-friendly descriptions of risk-sharing mechanisms, particularly in family and investment-linked Takaful products.
- **Use of Decision Support Tools:** Develop AI-driven tools that help users simulate potential risks and returns, thereby reducing bias in their evaluations.

5.3.2 For Policymakers and Regulators

- **Behavioral Disclosure Requirements:** Mandate disclosures that highlight behavioral risks in product brochures and marketing materials.

- **Standardized Risk Literacy Assessments:** Implement tools to evaluate the behavioral risk literacy of both Takaful agents and clients prior to high-stakes policy decisions.

5.3.3 For Shariah Advisory Boards

- **Behavioral Risk Integration in Shariah Review:** Incorporate behavioral considerations into the product screening and fatwa issuance processes to ensure alignment between perceived and actual ethical risks.

5.4 Limitations of the Study

Despite its contributions, this research is subject to several limitations:

- **Geographical Scope:** The sample was concentrated in Southeast Asia and the GCC region, which limits the generalizability of the findings to other Islamic finance markets, such as South Asia and North Africa.
- **Cross-Sectional Design:** The study captures behavior at a single point in time, which may not reflect changes over time or during market crises.
- **Self-Reported Biases:** Data collected through self-reporting may be subject to social desirability bias or misreporting of internal beliefs.

5.5 Suggestions for Future Research

Future studies may consider the following directions:

- **Longitudinal Studies:** Examining how behavioral biases develop over time, particularly in response to major financial events (e.g., post-COVID insurance behavior).
- **Experimental Designs:** Using controlled behavioral experiments to isolate the impact of specific biases in product choice.
- **Cross-Cultural Comparisons:** Comparing behavioral bias patterns between Takaful participants in different Islamic societies to identify cultural moderators.
- **Gender-Based Behavioral Analysis:** Examining whether risk perception and behavioral biases vary significantly between male and female participants in Takaful.

5.6 Final Remarks

This study highlights that behavioral biases are not exclusive to conventional financial systems; they are equally prevalent and perhaps more nuanced in Islamic financial institutions, such as Takaful.

Recognizing and addressing these biases is essential to preserve the ethical and cooperative essence of

Takaful. Integrating behavioral risk frameworks can lead to more transparent, participant-centered, and Shariah-aligned insurance operations. In doing so, the Takaful industry can evolve not only in terms of size but also in substance, embodying both the letter and the spirit of Islamic finance.

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Empowering Islamic Finance: The Role of Sharia Insurance Education in Indonesia

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Abstract

This study examines the importance of Sharia insurance (*takaful*) education in fostering the development of the Islamic economy in Indonesia. Despite the country's significant Muslim population and increasing development in Islamic finance, the penetration of Sharia insurance remains remarkably low. The primary cause of this underperformance lies in limited financial literacy, especially concerning Sharia-compliant financial instruments. Using a qualitative-descriptive approach and an extensive literature review spanning 2020-2024, this research investigates how financial education, both formal and informal, influences public awareness, trust, and the adoption of Sharia-compliant insurance products. Findings indicate that comprehensive and targeted educational interventions significantly enhance individuals' understanding of *takaful*, which in turn improves participation and supports broader goals of financial inclusion. Furthermore, Sharia insurance plays a crucial role in providing ethical risk management solutions, supporting economic resilience, and aligning with the principles of Islamic socio-economic justice. The study recommends integrating Sharia insurance education into national financial literacy programs, utilizing community-based learning models, and utilizing digital platforms for broader outreach. By investing in education, Indonesia can unlock the full potential of its Islamic financial ecosystem and establish a more inclusive, sustainable, and value-driven economy grounded in Sharia principles.

Keywords: Sharia insurance, *takaful*, Islamic finance, financial literacy, insurance inclusion, Indonesia, Islamic economy

JEL Codes: G22, I25, D14, O16, Z12

I. Introduction

With its sizable Muslim population, Indonesia presents a significant opportunity for the growth of financial services that adhere to Sharia law, particularly in the insurance sector (*takaful*). Sharia insurance products are still not widely used or penetrated, despite this potential. The general lack of

knowledge and awareness regarding the benefits and principles of Sharia insurance is a significant contributing cause to this underutilization. Enhancing financial literacy, particularly regarding Islamic financial products, is crucial to bridging this gap and promoting broader acceptance of *takaful* services. The Financial Services Authority (OJK) of Indonesia reported in 2023 that the national financial literacy index stood at 65.43%, while the financial inclusion index was at 75.02%. However, the Sharia financial literacy index was significantly lower at 39.11%, with the Sharia financial inclusion index even lower at 12.88%. This disparity highlights a significant knowledge gap regarding Sharia-compliant financial products, which hinders the growth of the Islamic finance sector in the country. (SNLIK OJK, 2023). Addressing this issue requires targeted educational initiatives aimed at increasing public comprehension of Sharia insurance. Studies have shown that improved financial literacy has a positive impact on individuals' financial behaviors and decisions, leading to increased utilization of financial services. In the context of Islamic finance, a well-informed populace is more likely to engage with Sharia-compliant products, thereby fostering the expansion of the *takaful* industry. (Mubyarto et al., 2024). Furthermore, integrating Sharia insurance education into broader financial literacy programs can enhance overall financial inclusion. By equipping individuals with the necessary knowledge and skills to make informed financial choices, such initiatives can contribute to economic empowerment and stability. Therefore, prioritizing education on Sharia insurance is not only vital for the growth of the Islamic finance sector but also for the broader objective of achieving inclusive economic development in Indonesia. (Nurdin & Rahmawati, 2024).

1.1 Research Background

The world's second-largest Muslim population, Indonesia, has enormous potential to develop into a center for Islamic finance and economy. Over the last decade, Indonesia's Islamic financial sector has made significant strides, particularly in areas such as Sharia capital markets, Islamic banking, and the halal business. However, in terms of market penetration and its economic contribution to the country, the Sharia insurance industry (*takaful*) is still lagging. According to the Financial Services Authority (OJK) in 2023, the market share of Sharia insurance stood at only 4.76% of the total national insurance industry, significantly lower than conventional insurance, which accounted for 50.32% of the market. (OJK, 2023).

Limited public participation in Sharia insurance products is strongly linked to low levels of Sharia financial literacy and inclusion. The 2024 National Survey on Financial Literacy and Inclusion

conducted by OJK revealed that the Sharia financial literacy index in Indonesia reached only 39.11%, while the Sharia financial inclusion index was even lower at 12.88% (SNLIK OJK, 2023). These figures indicate a significant knowledge gap among the population regarding fundamental Islamic finance principles, including the mechanisms and benefits of Sharia-compliant insurance products. Many Indonesians remain unaware of the key distinctions between conventional and Sharia insurance, and some still view insurance as being incompatible with Islamic teachings.

In this context, education on Sharia insurance emerges as a critical and urgent component in the development of the Islamic finance ecosystem. Adequate literacy regarding the concept of *takaful* not only enhances public trust in Sharia-compliant financial products but also promotes financial inclusion and risk protection, aligning with Islamic values. Research by (Pradini & Faozan, 2023). Highlights that integrated and systematic Islamic financial education can significantly enhance youth understanding of Islamic financial products, including insurance, thereby opening up broader avenues for future participation. Furthermore, (Hidayanto et al., 2024) Emphasize that while the asset growth of Sharia insurance remains stable, the number of participants has not followed suit, primarily due to a lack of awareness and understanding.

Beyond its function as a financial protection tool, Sharia insurance holds strategic potential in supporting social and economic resilience. With its foundation in *ta'awun* (cooperation) and *tabarru'* (voluntary contribution), *takaful* represents a risk-sharing instrument that aligns with Islamic values of justice, ethics, and solidarity. (Parmujianto, 2021). Therefore, strengthening Sharia insurance education contributes not only to the technical advancement of the Islamic finance industry but also to the broader objective of inclusive and sustainable economic development. It is thus imperative for all stakeholders, including the government, financial institutions, educational institutions, and religious leaders, to play an active role in enhancing public awareness of Sharia insurance in order to accelerate the transformation of Indonesia's Sharia economic landscape(Syamsuri et al., 2024).

1.2 Problem Statement

Based on the background above, this study is guided by the following research questions:

1. What is the current state of literacy and inclusion in Sharia insurance among the Indonesian population?
2. What are the main challenges in improving Sharia insurance literacy and inclusion in Indonesia?

3. How can education in Sharia insurance contribute to the growth of the Sharia economy in Indonesia?

1.3 Research Objectives

This study aims to:

1. Analyze the current levels of literacy and inclusion in Sharia insurance in Indonesia.
2. Identify the challenges and barriers in promoting Sharia insurance awareness and participation.
3. Examine the strategic role of Sharia insurance education in accelerating the growth of the Islamic economic system in Indonesia.

1.4 Significance of the Study

- **Academic Contribution:** This research offers a scholarly perspective on the intersection of Islamic finance education and economic inclusion, particularly within the underexplored domain of Sharia-compliant insurance.
- **Policy Relevance:** The findings offer policymakers, educational institutions, and financial authorities practical insights for designing effective educational frameworks that enhance Sharia-compliant insurance literacy.
- **Social Impact:** By increasing awareness and understanding of Sharia-compliant insurance, this study supports efforts to enhance the financial well-being of Muslim communities in line with Islamic values.

1.5 Literature Review

Recent studies offer valuable insights into the role of financial literacy in promoting the adoption of Islamic financial products. (Pradini & Faozan, 2023) Examined the opportunities and challenges for enhancing Islamic financial literacy in Indonesia, particularly among younger generations. Sanurdi et al. (2024) conducted an empirical assessment of Sharia insurance performance, concluding that despite positive asset growth, market penetration remains marginal due to a limited understanding of the product among the public. (Alhammadi, 2023). Established a causal link between financial inclusion through takaful and national economic growth, highlighting its value in sustainability. Mukti (2024) identified a research gap in studies explicitly focusing on Islamic financial behavior, particularly regarding insurance, through a bibliometric analysis. These studies underline the

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pressing need for educational interventions to bridge the gap between Islamic financial theory and public practice.

1.6 Research Methodology

This research adopts a qualitative, descriptive-analytical approach. Data will be collected through an extensive literature review involving peer-reviewed academic journals, reports from the Financial Services Authority (OJK), and publications from international Islamic finance institutions. The data will be analyzed thematically to identify trends, challenges, and best practices in Sharia insurance education, as well as its impact on economic inclusion and development.(Sunarya & Rusydiana, 2022); (Taherdoost, 2022).

Chapter II. Literature Review

2.1 Concept of Sharia Insurance (Takaful)

Sharia insurance, also known as *takaful*, is an Islamic alternative to conventional insurance, based on the principles of cooperation (*ta'awun*) and shared responsibility (*tabarru'*). Unlike conventional insurance, which operates on a profit-making model involving risk transfer, Shariah insurance emphasizes risk sharing and ethical investment by Islamic law (*Shariah*). Participants contribute to a common fund to help one another in the event of loss or damage. The operator, a *takaful* company, *manages this fund under a wakalah (agency) or mudharabah (profit-sharing) contract and is compensated through a fee or a share of investment returns.* (Dusuki & Abdullah, 2021).

The core principles distinguishing *takaful* from conventional insurance are the prohibition of *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling), which are considered unethical in Islam. (Ali, 2024). Instead, *takaful* seeks to promote justice, transparency, and social solidarity. These ethical foundations make Sharia insurance not only a financial tool but also a socio-religious instrument that supports the broader Islamic economic system. (Widyanata et al., 2024);(Rifas et al., 2023); (Sula, 2020); (Wulandari & Jati, 2023).

2.2 Financial Literacy and Islamic Financial Behavior

Financial literacy refers to the knowledge, skills, and attitudes that enable individuals to make informed and effective decisions regarding the use and management of financial resources. (Rafidah et al., 2022);(Pradini & Faozan, 2023);(Lusardi & Mitchell, 2020);(Qothrunnada & Fadhilah, 2023);(Mahdzan et al., 2024). In the context of Islamic finance, financial literacy encompasses understanding the religious principles that underpin financial transactions, such as the prohibition

on interest, the importance of halal income, and the ethical nature of financial contracts (Mukti, 2024). Islamic financial literacy is thus a multidimensional construct involving both cognitive and normative elements.

Studies have shown a strong correlation between financial literacy and financial inclusion, particularly in emerging economies. Individuals with higher levels of financial literacy are more likely to use financial services, including savings, credit, and insurance (Lusardi & Mitchell, 2020). In the context of Sharia finance, a lack of literacy contributes to distrust, misconceptions, and low uptake of Sharia-compliant financial products (Pradini & Faozan, 2023). Therefore, promoting Islamic financial literacy is essential for enhancing consumer confidence and fostering broader engagement with the Islamic economic system.

2.3 Insurance Inclusion and Economic Growth

Insurance inclusion refers to the availability, accessibility, and usage of insurance services by various segments of the population, particularly underserved groups. It is a key component of broader financial inclusion, associated with improved economic resilience, reduced vulnerability to financial shocks, and enhanced household welfare (World Bank, 2021). Insurance allows individuals to manage risk, smooth consumption, and recover from adverse events, thereby contributing to macroeconomic stability.

In the context of Islamic economics, insurance inclusion through *takaful* is viewed as both a financial and moral obligation. Sharia insurance helps protect assets, facilitate entrepreneurship, and reduce reliance on government welfare systems. Research by Alhammadi (2023) confirms that increasing *takaful* penetration in Indonesia positively correlates with improved financial inclusion and economic development. However, significant barriers remain, including limited awareness, product complexity, and lack of tailored education programs, especially in rural and underserved communities.

2.4 The Role of Education in Promoting Sharia Insurance

Education serves as a foundational pillar in enhancing awareness, correcting misconceptions, and encouraging behavioral change regarding financial decision-making. In the case of Sharia insurance, education is not merely informative but transformative; it bridges the knowledge gap between Islamic financial theory and everyday financial practice. (Sanurdi et al., 2024). Emphasize that structured educational programs, integrated into formal curricula, religious institutions, and

community-based learning models, can substantially improve understanding and acceptance of Sharia insurance.

Moreover, digital technology has expanded the avenues for Islamic financial education, providing scalable and interactive platforms for enhancing literacy. Mobile apps, gamified learning tools, and online courses can effectively disseminate information about *takaful* and its benefits to younger and tech-savvy audiences (Hosen & Setiawan, 2022). Education also helps foster trust in Islamic financial institutions, which is essential for participation in *takaful*, especially in a society where misconceptions about Islamic finance persist.

2.5 Theoretical Perspectives Supporting the Study

This research draws upon several theoretical frameworks:

- Diffusion of Innovation Theory (Rogers, 2003) This theory explains how new ideas, such as Sharia insurance, spread through a population. Education plays a key role in accelerating the diffusion of Sharia-compliant financial products by influencing awareness, interest, and adoption behavior.
- Theory of Planned Behavior (Ha & Perks, 2005) This theory suggests that attitudes, subjective norms, and perceived behavioral control shape behavioral intentions. Enhancing Sharia insurance literacy can positively influence these factors and increase the likelihood of individuals adopting *takaful* products.
- Financial Capability Framework (Al Farooque, 2021): This model integrates financial knowledge, attitudes, and behaviors to assess individuals' ability to manage their finances. In the context of Islamic finance, this includes religiously motivated behaviors such as avoiding interest-based transactions and seeking Sharia-compliant alternatives.

2.6. Previous Research

The following table presents 10 previous studies relevant to the topic of Sharia Insurance Education in Promoting the Growth of the Islamic Economy in Indonesia. The table includes information on the author(s), year, research title, main focus, and key findings of each study.

Table 2.1 Summary of 10 Relevant Previous Studies

N o.	Author(s) & Year	Title of Study	Main Focus	Key Findings
1	Gunawan et al. (2023)	<i>Beyond Uncertainty: Exploring Demographic Drivers of Sharia Insurance Adoption in Indonesia</i>	Demographic factors in Sharia insurance adoption	Age, education, and religiosity significantly influence the decision to adopt Sharia insurance.
2	Sahidin et al. (2024)	<i>Enhancing Public Knowledge of Sharia Insurance Products Through Effective Management Strategies</i>	Public awareness strategies	Effective management and outreach can improve public understanding and trust in Sharia insurance.
3	Qothrunnada et al. (2023)	<i>Risk Analysis and Sustainability of Sharia Insurance in Facing Financial Literacy Challenges in Indonesia</i>	Sharia insurance sustainability	Poor financial literacy is a significant barrier to the sustainability and scalability of Sharia insurance.
4	Sunendar & Aditya (2024)	<i>Digital Sharia Insurance Innovation: A Case Study of Kitabisa Platform</i>	Digital innovation in takaful	Digital platforms enhance access and inclusion, particularly for younger generations.
5	Rais & Pratama (2024)	<i>Regulating Sharia Financial Transactions: The Role of the Indonesian Ulema Council (MUI)</i>	Sharia regulation and authority	MUI fatwas significantly influence consumer behavior and the regulatory legitimacy of Islamic finance.
6	Huda et al. (2023)	<i>The Influence of Islamic Financial Literacy on the Intention to Use Islamic Insurance</i>	Financial literacy and behavioral intention	Higher Islamic financial literacy increases the likelihood of using takaful products.
7	Nurdin & Rahmawati	<i>Effectiveness of Sharia Insurance Education</i>	Islamic finance education in	University-level programs improve conceptual

N o.	Author(s) & Year	Title of Study	Main Focus	Key Findings
	(2024)	<i>Programs in Indonesian Universities</i>	higher learning institutions	understanding but lack a practical application focus.
8	Rusydiana et al. (2022)	<i>Measuring the Efficiency of Islamic Insurance in Indonesia: DEA Approach</i>	Efficiency of Islamic insurance providers	There are operational inefficiencies and opportunities for improvement in outreach and service quality.
9	Anugrah et al. (2024)	<i>Mapping Trends and Innovations in the Takaful Industry</i>	Trends and innovation in Islamic insurance	Product diversification and digital transformation are key trends for growth.
10	Pradini & Faozan (2023)	<i>Opportunities and Challenges in Improving Islamic Financial Literacy in Indonesia</i>	Islamic financial literacy landscape	Young demographics present an opportunity, but curriculum and outreach remain insufficient.

2.7. Novelty of the Research

The present study offers a novel, conceptual, and policy-oriented approach by emphasizing the strategic role of Sharia insurance education as a central lever for enhancing financial literacy and inclusion, thereby supporting the broader development of Indonesia's Islamic economic ecosystem. Unlike previous studies that have focused predominantly on the performance, consumer perception, or regulatory environment of Sharia insurance, this research integrates education as an essential variable. It examines its direct impact on public participation and economic resilience.

Key Differences from Previous Research

Most existing literature on Sharia insurance falls into three main categories:

1. Operational and performance analysis. For instance, Rusydiana et al. (2022) employed a Data Envelopment Analysis approach to assess the efficiency of Sharia insurance firms, with a focus on productivity and institutional effectiveness.
2. Consumer behavior and perception, as explored by Gunawan et al. (2023) and Abdullah & Ashraf (2023), examined demographic and perceptual factors that influence the public

adoption of *takaful*; however, these studies did not directly link this behavior to educational exposure or interventions.

3. Policy and regulatory frameworks. As noted by Rais and Pratama (2024), studies have examined the impact of fatwas and Sharia regulations; however, these analyses often overlook the role of education in translating religious law into a practical, consumer-oriented understanding.

In contrast, this study bridges the gap between financial behavior and educational policy by proposing a multi-tiered educational framework (formal, informal, and digital) that can be integrated into national literacy programs. It offers a socio-economic analysis, connecting the improvement of Sharia insurance literacy with long-term goals of inclusive and ethical economic growth, as aligned with Maqasid al-Shariah and the SDGs.

Comparison with Relevant Studies

Study	Focus	Gap Addressed in Current Research
Gunawan et al. (2023)	Demographic factors in <i>takaful</i> adoption	Lacked emphasis on education as an intervention
Sahidin et al. (2024)	Management strategies to increase public knowledge	Did not explore educational curricula or policy integration
Widyanata (2024)	Takaful's contribution to SDGs	No analysis of how education enables this contribution
Huda et al. (2023)	Impact of Islamic financial literacy on intention to use <i>takaful</i>	Did not specify literacy components or implementation models
Nurdin & Rahmawati (2024)	Effectiveness of university-level Sharia insurance programs	Focused only on tertiary education, this study proposes a national-scale strategy

Thus, this study is the first to propose an integrated educational roadmap for Sharia insurance literacy that spans multiple delivery channels, including:

- Curriculum development at secondary and higher education levels,
- Mosque-based and pesantren-based community education,
- Digitally delivered modules for broader and scalable access.

Suggestions for Future Research

This study opens several opportunities for further investigation, particularly in the form of empirical and experimental research, including:

1. Impact Evaluation Studies: Quantitative assessment of the effect of specific Sharia insurance education programs (e.g., school-based modules or mosque-based outreach) on consumer participation rates.
2. Behavioral Economics of Sharia Insurance: Understanding psychological and cultural biases that influence the acceptance of *takaful*, especially in populations with low literacy.
3. Digital Financial Literacy and Islamic Insurance: Evaluating the Effectiveness of Mobile Applications, Gamification, and Social Media Campaigns in Increasing Takaful Literacy Among Millennials and Gen Z.
4. Comparative Studies Across Muslim Countries: Benchmarking Indonesia's literacy and inclusion progress against that of other Islamic economies, such as Malaysia or Saudi Arabia, to identify best practices.
5. Curriculum Development Research: Designing and piloting Islamic finance literacy modules that can be adopted at the national education level, including measurement of learning outcomes.

Chapter III. Research Methodology

3.1 Research Design

This study employs a qualitative descriptive research design to investigate the urgency and strategic importance of Sharia insurance education in promoting the development of the Islamic economy in Indonesia. A qualitative approach is suitable for uncovering in-depth insights into the perceptions, challenges, and contextual factors influencing Islamic financial literacy and insurance

inclusion. The descriptive nature of the study enables a comprehensive analysis of current trends, policies, and educational practices related to Sharia-compliant insurance. Given the exploratory and conceptual nature of the topic, this study does not rely on primary data collection through surveys or interviews. Instead, it employs a document-based analysis of secondary data sources, including scholarly articles, institutional reports, regulatory publications, and statistical data relevant to Islamic finance, Sharia-compliant insurance, and financial education.

3.2 Sources of Data

The study draws from a wide array of secondary data, which includes:

- Academic Journals and Conference Proceedings: Peer-reviewed articles published between 2020 and 2024, covering topics on Islamic finance, *takaful*, financial literacy, and insurance inclusion, from databases such as Scopus, Google Scholar, and ResearchGate.
- Government and Institutional Reports: Publications from Otoritas Jasa Keuangan (OJK), Bank Indonesia, Badan Pusat Statistik (BPS), and the Ministry of Religious Affairs, particularly those related to national surveys, financial inclusion reports, and Sharia economic outlooks.
- International Organizations: Documents and data from the World Bank, OECD, Islamic Development Bank (IsDB), and International Financial Services Board (IFSB), offering global benchmarks and insights into Islamic financial education.
- Regulatory Frameworks and Guidelines: Laws, fatwas, and guidelines issued by Indonesia's Sharia Supervisory Board (Dewan Syariah Nasional–Majelis Ulama Indonesia) and other financial authorities related to *takaful* and Sharia-compliant finance.

3.3 Data Collection Techniques

The primary method of data collection in this study is literature review and document analysis. This involves:

1. Identification of relevant publications through keyword-based searches (e.g., "Sharia insurance," "Islamic financial literacy," "takaful education," "insurance inclusion Indonesia").
2. Selection of peer-reviewed articles and credible reports that meet the inclusion criteria (published between 2020 and 2024, with relevance to the Indonesian context or broader Islamic finance topics).

3. Classification of information based on thematic areas, including education models, regulatory frameworks, public perception, and economic outcomes related to Sharia insurance.
4. Analyze and synthesize findings to interpret results, compare perspectives, and identify patterns and research gaps in the literature.

3.4 Data Analysis Technique

This study employs thematic analysis as its primary data analysis technique. Thematic analysis involves identifying, analyzing, and reporting patterns, or themes, within qualitative data. Braun and Clarke's (2006) six-step framework is applied:

1. Familiarization with the data through repeated reading of literature and reports.
2. Generating initial codes by highlighting key concepts, trends, and relationships relevant to Sharia insurance and education.
3. Searching for themes such as "barriers to literacy," "the role of digital education," and "the impact of policy on inclusion."
4. Reviewing themes to ensure internal consistency and external relevance.
5. Defining and naming themes that form the analytical basis of the study.
6. Producing the report with a focus on how these themes answer the research questions.

This method enables a nuanced interpretation of diverse data sources and facilitates the conceptual development of policy recommendations for enhancing Sharia insurance education in Indonesia.

3.5 Validity and Reliability

Although qualitative research does not rely on statistical validity, this study enhances its credibility through the use of triangulation, which involves cross-checking data from various sources, including academic, governmental, and institutional sources. The inclusion of multiple data types ensures that findings are reliable and reflective of the broader national context.

Furthermore, transparency in methodology and systematic literature review procedures strengthens the trustworthiness of the analysis. All sources are appropriately cited and evaluated for relevance and authority.

3.6 Limitations of the Study

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This study has several limitations:

- It does not involve primary data collection such as interviews or surveys, which may limit insights into real-time public perception and behavioral patterns.
- The focus is predominantly on the Indonesian context; hence, generalizability to other Islamic countries may be limited.
- Rapid developments in digital financial education may outpace the scope of the study, necessitating continuous updates to remain current.

Despite these limitations, the study offers a valuable theoretical and policy-oriented contribution by synthesizing current knowledge and identifying gaps in the field of Sharia insurance education.

Chapter IV. Research Findings and Discussion

4.1. Overview

This chapter presents the findings derived from the analysis of existing literature, reports, and data concerning Sharia insurance education and its role in enhancing the Islamic economy in Indonesia. The discussion is structured around key themes identified during the research, focusing on the current state of Sharia insurance, challenges in financial literacy, the impact of educational initiatives, and the broader implications for economic growth.

4.2 Current State of Sharia Insurance in Indonesia

Sharia insurance, known as *takaful*, has become an integral component of Indonesia's financial landscape, reflecting the populace's desire for financial products aligned with Islamic principles. In 2022, Indonesia hosted 151 insurance companies, including entities offering Sharia-compliant products. Despite this, the market share of Sharia insurance remains modest. According to the Indonesian Sharia Insurance Association (AASI), as of April 2023, the total assets of Indonesia's Sharia insurance industry had reached IDR 45.72 trillion, representing a slight 0.40% growth compared to the previous year. However, Sharia insurance premiums accounted for only 4.76% of the market share by the end of 2022, significantly trailing behind conventional insurance at 50.32% and social insurance at 45%. This underrepresentation highlights the need for targeted interventions to bolster the Sharia insurance sector.

4.3 Challenges in Financial Literacy and Public Awareness

A critical barrier to the growth of Sharia insurance in Indonesia is the limited public understanding

and awareness of its principles and benefits. Despite the country's substantial Muslim population, misconceptions and a lack of knowledge about Sharia-compliant financial products persist. Factors contributing to this scenario include inadequate dissemination of information, the complexity of Sharia insurance products, and a general lack of financial literacy programs tailored to Islamic finance. These challenges underscore the necessity for comprehensive educational initiatives to enhance public comprehension and acceptance of Sharia insurance.

4.4 Impact of Educational Initiatives on Sharia Insurance Uptake

Educational programs play a pivotal role in increasing awareness and understanding of Sharia insurance. Studies have shown that targeted financial literacy initiatives can significantly influence individuals' decisions to engage with Sharia-compliant financial products. For instance, research indicates that an increase in religious education is correlated with greater awareness of Sharia principles, thereby making Sharia-compliant life insurance a more attractive option for individuals seeking financial protection that aligns with their faith. This finding suggests that integrating Sharia finance education into broader financial literacy programs can effectively promote the adoption of Sharia insurance.

4.5 Role of Sharia Insurance in Economic Growth and Sustainability

Sharia insurance supports economic expansion by offering long-term risk management solutions grounded on the precepts of Islamic law. In addition to providing individuals with financial safety, takaful's intrinsic collaboration and shared responsibility foster societal cohesion and moral financial behavior. The growth and viability of Sharia insurance support the broader objectives of the Islamic economic system by offering an alternative approach to risk management. Thus, increasing public awareness and involvement in Sharia insurance may benefit Indonesia's overall sustainability and economic resilience.

4.6 Discussion

The findings highlight a clear link between financial literacy, particularly in the context of Sharia principles, and the adoption of Sharia insurance products. The current low penetration of Sharia insurance in Indonesia can be attributed to a combination of limited public awareness, misconceptions about Sharia-compliant products, and the absence of targeted educational programs. Addressing these issues requires a multifaceted approach:

1. Integration of Sharia Finance Education: Incorporating Sharia finance concepts into the national education curriculum can lay a foundational understanding from an early age.
2. Community-Based Outreach Programs: Utilizing religious institutions and community centers to disseminate information about Sharia insurance can effectively reach a broader audience.
3. Collaboration with Financial Institutions: Partnering with banks and insurance companies to offer workshops and seminars can provide practical insights and build trust in Sharia-compliant products.
4. Leveraging Digital Platforms: Developing online courses, webinars, and informational content can cater to the tech-savvy population and facilitate wider dissemination of knowledge.

Indonesia can promote greater financial inclusion and aid in the expansion of the Islamic economy by putting these tactics into practice and improving public awareness and acceptance of Sharia insurance. This chapter has looked at the state of Sharia insurance in Indonesia right now, noted issues with public awareness and financial literacy, and explored how educational programs affect the uptake of financial products that adhere to Sharia. According to the findings, education plays a crucial role in promoting Sharia-compliant insurance. Focused efforts may boost participation and eventually help achieve the larger goals of sustainability and economic growth within the framework of Islamic finance.

Chapter V. Conclusion, Implications, and Recommendations

5.1 Conclusion

This study has examined the critical role of Sharia insurance education in advancing the Islamic economic system in Indonesia, mainly through the lenses of financial literacy and insurance inclusion. Despite Indonesia's position as the largest Muslim-majority country in the world, the Sharia insurance sector (*takaful*) remains underdeveloped, with a market penetration rate significantly lower than its conventional counterpart. A lack of public understanding, misinformation, and limited access to structured educational initiatives on Sharia-compliant financial products largely contribute to this gap. The literature reviewed in this study consistently highlights that low financial literacy, particularly in the context of Islamic finance, directly impedes consumer engagement and trust in Sharia-compliant insurance products. It has been demonstrated

that educational interventions, when designed effectively, can significantly enhance consumer knowledge, awareness, and participation in *takaful*. This not only helps individuals and families achieve better financial protection aligned with Islamic principles but also strengthens the ethical and inclusive foundations of the national economy. Furthermore, Sharia insurance has the potential to contribute to sustainable economic growth by providing risk protection and promoting ethical economic behavior, which is crucial for achieving long-term development objectives. The findings of this study confirm that Sharia insurance education should be positioned as a strategic driver, rather than just a complementary component, in the advancement of Indonesia's Sharia economy. In summary, the need for a national framework for Sharia insurance education is evident. This framework should be inclusive, multidimensional, and designed to reach diverse demographic segments across Indonesia, encompassing students, professionals, and communities in both rural and urban areas.

5.2 Recommendations

Based on the findings and discussions, the following recommendations are proposed to policymakers, educational institutions, and industry stakeholders:

1. Integration of Sharia Insurance into National Financial Literacy Programs

The government, through the Financial Services Authority (OJK) and the Ministry of Education and Culture, should embed Sharia insurance education into national financial literacy strategies. Curriculum development should include Islamic financial concepts, with a focus on *takaful*, introduced from secondary school level through to higher education.

2. Community-Based and Religious Institution Engagement

Leverage the role of mosques, Islamic boarding schools (*pesantren*), and religious leaders to disseminate knowledge on Sharia insurance. Community-based learning has proven to be highly effective in increasing Islamic financial literacy among rural populations and informal sectors.

3. Public-Private Partnership for Educational Campaigns

Sharia insurance providers and Islamic financial institutions should collaborate with government and non-governmental organizations to develop public awareness campaigns. These campaigns should utilize mass media, social media, and interactive technologies to engage the broader

population, particularly millennials and Gen Z.

4. Digital Financial Education Platforms

In an increasingly digital society, mobile apps, e-learning modules, and gamified platforms can be powerful tools for educating users about Sharia-compliant insurance. The development of mobile-friendly, localized, and culturally relevant content can ensure broader accessibility and engagement.

5. Training for Educators and Industry Professionals

Efforts should be made to certify and train educators, financial advisors, and insurance agents on Sharia insurance principles. This will ensure consistency and credibility in the dissemination of information, and help build trust among potential users.

6. Policy and Regulatory Support

Regulators must ensure that policies support innovation and accessibility in the Sharia insurance sector. Incentives could be provided for institutions that invest in financial education, while guidelines should be developed to standardize educational content related to Islamic finance.

5.3 Suggestions for Future Research

While this study provides a conceptual foundation for understanding the importance of Sharia insurance education, future research could enrich this field in several ways:

- **Empirical Studies:** Surveys and case studies measuring the actual impact of specific educational programs on Sharia insurance uptake.
- **Comparative Analysis:** A cross-country examination of how Sharia insurance education is implemented in other Muslim-majority countries, such as Malaysia and the United Arab Emirates (UAE).
- **Behavioral Insights:** Research on psychological and cultural factors that influence consumer attitudes and behaviors toward Sharia-compliant insurance.
- **Technological Integration:** Studies on the effectiveness of digital financial education tools and mobile apps in improving Islamic financial literacy.

The pursuit of a strong, ethical, and inclusive Islamic economy in Indonesia cannot be separated from the need for robust financial education, particularly in areas such as Sharia-compliant insurance. By aligning religious values with practical financial tools, education can empower

individuals and communities to make informed decisions, reduce vulnerability, and contribute to a more just and resilient economic system.

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Pedagogical Transformation of Takaful Education through Teacher Development Initiatives

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Abstract

This study critically investigates the pedagogical and professional competence of Islamic Economics teachers in delivering takaful (Islamic insurance) education at Islamic schools in Indonesia. In the context of a growing Islamic financial industry, integrating takaful literacy into educational curricula is imperative to prepare students with relevant knowledge and ethical values aligned with Sharia principles. Despite this urgency, empirical observations suggest that teachers' competence remains inadequate, particularly in terms of content mastery and the application of innovative instructional strategies. Utilizing a qualitative-descriptive research design, this study employed a case study approach involving in-depth interviews, classroom observations, and document analysis at selected Islamic schools in Lampung Province. The findings reveal several key challenges, including limited access to professional development, inadequate clinical supervision, underutilization of digital technologies, and insufficient support for the curriculum. Nonetheless, factors such as high intrinsic motivation among teachers and increasing student interest in Islamic finance offer promising opportunities for pedagogical advancement. This study proposes an integrative strategy to enhance teacher competence, comprising continuous professional training, expert-led clinical supervision, collaborative teacher learning communities, and the systematic integration of digital learning tools. The proposed model is expected to improve the effectiveness of takaful education, thereby strengthening students' Islamic financial literacy and contributing to the development of human capital in the Sharia economic sector.

Keywords: Teacher Competency, Islamic Economics Education, Islamic Insurance (Takaful), Teaching Strategy, Islamic School.

JEL Codes: I21, I28, G22, Z12, A29

I. Introduction

The development of Islamic Economics as a distinct academic and practical discipline has gained considerable momentum in recent years, driven by the increasing demand for ethical financial systems

that align with Islamic jurisprudence. Among the critical instruments within Islamic financial infrastructure is *takaful*, or Islamic insurance, which serves as a risk-sharing mechanism rooted in the principles of cooperation (*ta'awun*) and voluntary contribution (*tabarru'*) (Alhammadi, 2023). As part of financial inclusion strategies in Muslim-majority countries, *takaful* has been identified not only as an economic product but also as an educational imperative that must be integrated into the curricula of Islamic educational institutions (Arifin et al., 2024). This is especially true in Indonesia, where the national strategy for Sharia economy development calls for the reinforcement of Islamic financial literacy starting from the school level (SNLIK OJK, 2023). Despite policy efforts, the integration of Islamic finance, particularly *takaful*, into secondary education remains suboptimal due to various pedagogical and structural constraints. Previous research highlights that one of the primary obstacles lies in the insufficient competence of teachers in understanding, contextualizing, and delivering *takaful* materials effectively (Fitriyani & Permata, 2023). Teachers are expected to not only comprehend the legal and operational aspects of Islamic insurance but also to convey these principles using innovative and student-centered learning approaches. However, most teachers continue to rely on conventional lecture-based models, which are less effective in fostering critical thinking and applied knowledge in students (Muzakki & Fatimah, 2021). In this context, the role of teacher competence, both pedagogical and professional, becomes central to the success of Islamic Economics Education. Pedagogical competence refers to a teacher's ability to design effective instruction, facilitate meaningful classroom interactions, and assess student learning in a manner that supports student learning. Professional competence, on the other hand, entails in-depth subject-matter knowledge, particularly of Sharia-compliant financial instruments such as *wakalah*, *mudharabah*, and *tabarru'*-based contracts (Mulyana et al., 2023). Without adequate training, supervision, and access to updated instructional resources, teachers struggle to translate complex economic concepts into classroom practice effectively. As such, enhancing teacher competence is not merely a matter of instructional quality, but a strategic intervention to build the foundation of future Islamic economic practitioners. Given the multifaceted nature of these challenges, this study aims to offer a comprehensive examination of the current competence levels of Islamic Economics teachers in teaching *takaful* and to propose strategic solutions grounded in empirical evidence. In doing so, the research contributes to the scholarly discourse on Islamic financial education while addressing a practical gap in teacher professional development. This aligns with broader educational goals outlined in national Islamic education frameworks and international initiatives that advocate for financial inclusion and literacy in Muslim communities (Arifin et al., 2024; Alhammadi, 2023).

1.1 Research Background

Islamic Economics Education plays a strategic role in preparing a younger generation that excels not only

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academically but also possesses a deep understanding of Islamic economic principles. One vital aspect of Islamic Economics Education is Islamic insurance or *takaful*, which holds significant potential to support the growth of the sharia-based economy. In recent years, Indonesia's Islamic insurance industry has experienced notable growth, as evidenced by the increasing number of sharia insurance companies and the growing value of their assets (SNLIK OJK, 2023). However, this rapid development has not been matched by the availability of competent human resources, particularly among Islamic School graduates who are potential future practitioners of Islamic economics. Amid globalization and economic digitalization, the teaching of Islamic insurance at the Islamic School level requires serious attention, especially regarding the competence of teachers delivering the material. As key agents of change in the educational sector, teachers are expected to possess competencies that include a profound understanding of the subject matter, the ability to apply innovative teaching methods, and adaptability to technological advancements. Unfortunately, previous studies have shown that many Islamic Economics teachers at Islamic schools still lack adequate pedagogical and professional competence in teaching *takaful*, resulting in suboptimal learning outcomes (Burhanudin et al., 2018). Improving the competence of Islamic Economics teachers in teaching Islamic insurance is an urgent necessity, not only to enhance the quality of education but also to promote Islamic financial literacy among students. This situation calls for a clear and implementable strategy to help teachers strengthen both their pedagogical skills and professional expertise. With the right approach, teachers are expected to create a dynamic and innovative learning atmosphere that meets students' needs in facing contemporary economic challenges. Given this urgency, the present study aims to identify the current competence level of Islamic Economics teachers in teaching *takaful* in Islamic schools, as well as to formulate effective strategies to enhance that competence. This research is essential for contributing meaningfully to the improvement of Islamic Economics education quality and strengthening students' understanding of Islamic insurance as an integral component of the Islamic economic system.

1.2 Research Questions

Based on the background presented above, the research questions of this study are as follows:

What is the current state of competence among Islamic Economics teachers in teaching *takaful* material at Islamic Schools?

What are the inhibiting and supporting factors that affect teacher competence in teaching Islamic insurance at Islamic School?

What are the effective strategies to improve the competence of Islamic Economics teachers in teaching *takaful* at Islamic Schools?

1.3 Research Objectives

This study specifically aims to identify the condition of teacher competence in Islamic Economics Education when teaching takaful at Islamic Schools, as well as to formulate effective strategies to improve such competence. This research is important in contributing to the improvement of Islamic Economics education quality and strengthening students' foundational understanding of Islamic insurance as an integral part of Islamic economics.

Specific Objectives:

To describe the actual condition of Islamic economics teachers' competence in teaching takaful at Islamic Schools.

To identify factors that hinder and support teacher competence in teaching Islamic insurance.

To formulate concrete strategies that can be applied to improve teacher competence more effectively in teaching takaful.

1.4 Significance of the Study

The results of this study are expected to provide both theoretical and practical benefits:

Theoretical Benefits:

This study is expected to enrich the scholarly literature in the field of Islamic Economics education, particularly concerning strategies for enhancing teacher competence in teaching Islamic insurance. The findings can serve as a reference for further research in the field.

Practical Benefits:

For the Islamic School, the research can serve as a reference for formulating teacher training or professional development programs. For teachers, the results can serve as a guideline to enhance their teaching abilities, especially in the area of Islamic insurance, making learning more effective and engaging.

Chapter II. Literature Review

2.1 Teacher Competency in Islamic Economics Education

Teachers play a critical role in the success of the educational process. Teacher competence refers to a set of knowledge, skills, attitudes, and values that educators must possess to carry out their professional duties effectively and efficiently (Mulyana et al., 2023). In the context of Islamic Economics Education, teacher competence encompasses pedagogical, professional, social, and personal aspects, all of which are grounded in Islamic values. (Faikhathul Munawaroh & Achmad Hidayatullah, 2024). Pedagogical

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competence refers to the teacher's ability to manage the learning process effectively, including planning, implementation, evaluation, and curriculum development. In the teaching of Islamic economics, particularly takaful, this competence is demonstrated through the ability to design innovative learning strategies and utilize relevant instructional media. (Mustofa et al., 2025). Professional competence encompasses mastery of teaching materials, including foundational concepts, Sharia principles, types of contracts (akad), and key differences between Islamic and conventional insurance. (Mubyarto et al., 2024). Social competence encompasses the ability to establish effective interpersonal relationships with students, fellow teachers, and the broader school community. This allows teachers to foster effective communication and improve classroom interaction. (Bayumi et al., 2024). Lastly, personal competence refers to the teacher's attitudes and behavior that reflect noble character (akhlaq), following Islamic principles, which is crucial in religious-based education settings. (Hartono, 2023).

2.2 Takaful Material in Islamic Economics Education

Takaful, or Islamic insurance, is one of the instruments in Islamic economics that applies the principles of ta'awun (mutual help) and tabarru' (voluntary contribution), aiming to provide mutual protection among participants against various risks. (Alhammadi, 2023). According to the Financial Services Authority Regulation (POJK) No. 69/POJK.05/2016, the fundamental concepts of takaful include a transparent contract (akad), the management of tabarru' funds by Islamic law, and the absence of gharar (uncertainty), maysir (gambling), and riba (usury). (Baroroh, 2021) The implementation of takaful learning within Islamic Economics Education at Islamic School aims to foster students' Islamic financial literacy from an early stage. However, previous research shows that many teachers struggle to present the material clearly and engagingly. (Rifas et al., 2023). The main contributing factor is the teachers' lack of competence in comprehending and explaining the core concepts, contracts, and operational aspects of takaful.

2.3 Strategies for Enhancing Teacher Competence

Strategies for enhancing teacher competence can be implemented through various approaches, including continuous professional development, clinical supervision, mentoring, teacher collaboration, and the effective use of digital technologies. (Chaula, 2023). Research by Saputra and Azizah (2022) indicates that intensive training has a significant impact on teachers' understanding of Islamic economics content. Clinical supervision, a systematic mentoring process led by experts, is widely used to improve teachers' classroom performance. (Wardhani et al., 2021). Mentoring and the formation of teacher learning communities have also proven effective in improving teacher competence through the sharing of ideas and best practices (Mulyana et al., 2023). Moreover, integrating digital technology in the teaching of takaful is a crucial strategy to help teachers deliver material in a more appealing, relevant, and contextual

way for today's digital-native students (Arifin et al., 2024).

2.4 Relevant Previous Studies

Table 2.1 summarizes various relevant studies conducted between 2020 and 2024 concerning teacher competence in Islamic Economics Education, particularly in teaching Islamic insurance.

Table 2.1. Previous studies on Islamic Education & Teaching Islamic Insurance (2020-2024)

No.	Researchers	Research Title	Findings
1	Nurhayati & Ramadhan (2020)	Analysis of Teacher Competence in Islamic Economics Teaching at Islamic School	Low competence due to lack of training and adequate supervision.
2	Muzakki & Fatimah (2021)	Impact of Teacher Competence on Students' Islamic Financial Literacy	A significant correlation exists between teacher competence and financial literacy.
3	Hasanah & Hidayati (2021)	Islamic Financial Literacy Education through Takaful Learning	Teachers require intensive training to enhance their competence in takaful literacy.
4	Maulana & Zakaria (2022)	Use of Digital Technology in Teaching Takaful	Digital technology increases student engagement in learning.
5	Fitriyani & Permata (2023)	Challenges in Implementing Takaful Curriculum at Islamic School	Teachers struggle to explain basic concepts like tabarru' and wakalah.
6	Fauzi & Arifin (2023)	Takaful Education Implementation from a Competence	Teacher competence is influenced by internal (motivation) and external

		Perspective	(school support, training) factors.

Source: Google Scholar.

2.5 Novelty

While previous studies have examined teacher competence in Islamic Economics Education (e.g., Nurhayati & Ramadhan, 2020; Muzakki & Fatimah, 2021), most have focused narrowly on either professional development or its correlation with student literacy outcomes. Hasanah & Hidayati (2021) emphasized the need for intensive training but did not propose a structured, integrative model. Maulana & Zakaria (2022) explored digital tools in isolation, without linking them to broader pedagogical strategies or institutional challenges. Similarly, Fitriyani & Permata (2023) highlighted conceptual difficulties in teaching *takaful* but did not advance a systemic solution for teacher capacity-building. In contrast, this study offers a comprehensive and integrative strategy model that consolidates four key components: (1) continuous professional training, (2) expert-led clinical supervision, (3) teacher learning communities, and (4) digital pedagogy into a cohesive framework specifically tailored to the teaching of *takaful*. Furthermore, unlike earlier works, this research incorporates a critical policy analysis of the national curriculum and proposes actionable recommendations for interregional scaling and curriculum reform. Grounded in empirical data from Indonesian Islamic schools, the study bridges the gap between theory, practice, and policy in a manner that previous research has not addressed holistically. This positions the study as a significant advancement in both the scholarly literature and practical discourse on Islamic financial education.

Chapter III. Research Methodology

3.1 Type and Approach of Research

This study adopts a qualitative research design with a descriptive approach. Descriptive qualitative research is selected as it aims to explore phenomena naturally and thoroughly, describing the actual conditions of the research subjects holistically and comprehensively. (Bogdan Taylor J Steven, 2015); (Sunarya & Rusydiana, 2022). This approach is highly relevant for educational research, particularly those examining teacher competence and instructional quality development strategies that involve subjective and social aspects. (Sugiyono, 2017). A descriptive qualitative approach enables researchers to gather in-depth data on the competence of Islamic Economics teachers in teaching *takaful*, and to explore various influencing factors in detail. It also allows the formulation of contextual strategies based on empirical data obtained directly from the field. (Efendi et al., 2022).

3.2 Research Location and Time

The research was conducted at several Islamic School institutions in Lampung Province that offer Islamic Economics subjects, specifically those that include takaful in their curriculum. These institutions were chosen for their relevance and representativeness in showcasing the actual conditions of teacher competence and necessary improvement strategies.

The research was conducted over three months, from January to March 2024, allowing sufficient time for intensive data collection and credible triangulation (Sugiyono, 2023).

3.3 Research Subjects

Research subjects are individuals directly involved or focused on by the researcher during data collection to address the research problems. Subject selection was purposive, based on their relevance to the research objectives. In this context, the subjects include:

Islamic Economics teachers at selected Islamic schools, to assess their competence and teaching strategies for takaful.

Islamic School principals, provide information on institutional policies and teacher development programs.

Islamic economics experts can offer ideal perspectives on content delivery and the required teacher competencies.

3.4 Data Collection Techniques

Data collection techniques refer to the systematic methods researchers use (Sofwatillah, 2024) To gather empirical information from research subjects, thereby answering the questions that have been formulated. In qualitative research, the main techniques include in-depth interviews, direct classroom observation, and document analysis. Techniques of data collection used in this paper:

In-depth Interviews: Semi-structured interviews were conducted with teachers, principals, and takaful experts to gain deep insights into teacher competence, applied strategies, and encountered challenges.

Classroom Observation: Researchers observed classroom sessions where teachers delivered takaful lessons, aiming to record actual teaching methods, teacher-student interaction, and use of instructional media.

Documentation Study: The study examined curricula, syllabi, lesson plans, teaching modules, and

evaluation reports to enrich and validate the data from interviews and observations.

3.5 Data Analysis Techniques

The data were analyzed using Miles and Huberman model (2020), which consists of three main stages:

Data Reduction: Filtering and organizing interview, observation, and documentation data into key themes: teacher competence, supporting and inhibiting factors, and improvement strategies.

Data Display: Presenting the reduced data in a structured narrative form, supported by tables or matrices to facilitate interpretation and drawing.

Conclusion Drawing and Verification: Drawing initial conclusions and verifying them through data triangulation from multiple sources and techniques to ensure validity.

3.6 Data Validity Testing

To ensure data validity, the researcher employed source and method triangulation by comparing results from interviews, classroom observations, and documentation. Additionally, member checks were conducted, where findings were confirmed with informants to ensure accurate interpretation of actual field conditions (Creswell & Poth, 2022).

Chapter IV. Research Findings and Discussion

4.1 Overview of Teacher Competence in Teaching Takaful at Islamic School

Based on in-depth interviews, classroom observations, and analysis of teaching documents, it was found that the overall competence of Islamic Economics teachers in delivering takaful material at Islamic School remains at a low to moderate level. This finding aligns with prior studies, which indicate that teachers still face various challenges in understanding and implementing core takaful concepts comprehensively (Fitriyani & Permata, 2023; Fauzi & Arifin, 2023). Pedagogically, teachers predominantly employ lecture-based methods, with limited use of discussion or case-based learning. Consequently, the classroom environment lacks interactivity, reducing student engagement. Professionally, most teachers reported difficulties in explaining key takaful contracts such as *tabarru'*, *wakalah*, and the underlying sharia principles of risk management (Hasanah & Hidayati, 2021). Observations revealed that many students struggled to grasp the material due to the teacher's limited mastery of the subject. On the social and personal dimensions, teachers generally demonstrated positive attitudes, maintained good interpersonal relationships with students, and exhibited Islamic moral character. However, these strengths alone were insufficient to improve learning quality without more substantial pedagogical and professional competence (Nurhayati & Ramadhan, 2020; Saputra & Azizah,

2022).

4.2 Inhibiting and Supporting Factors of Teacher Competence in Teaching Takaful

Field data identified several key inhibiting and supporting factors in improving teacher competence:

4.2.1 Inhibiting Factors:

Low participation in professional training related to Islamic insurance. Minimal systematic supervision from school administrators. Limited use of digital technology in the classroom. These findings are consistent with those of Fauzi & Arifin (2023) and Nurhayati & Ramadhan (2020), who also found that the lack of intensive training and adequate supervision significantly hinders teacher competence.

Supporting Quantitative Data Findings. While the study primarily adopts a qualitative approach, several descriptive quantitative data points obtained during fieldwork provide additional insight into the current state of teacher competence in takaful instruction. Based on interviews and document analysis from participating Islamic schools, only 24% of the teachers reported having attended any form of professional training related explicitly to takaful or Islamic insurance. Moreover, 67% of observed teachers continued to rely predominantly on traditional lecture-based methods, with minimal incorporation of interactive or student-centered learning techniques. This instructional pattern corresponds with students' limited engagement during takaful lessons, as further supported by classroom observation records. In terms of pedagogical innovation, only 19% of teachers demonstrated the active use of digital tools, such as learning videos, online quizzes, or Islamic finance simulation apps, in delivering takaful content. These figures reveal a substantial gap between current teaching practices and the expectations of modern Islamic Economics education, particularly in light of the growing digital orientation of students. Such numerical indicators substantiate the qualitative findings and highlight the urgent need for targeted interventions in training, technological integration, and pedagogical reform within Islamic financial education.

4.2.2 Supporting Factors:

High intrinsic motivation among teachers to improve their skills.

Moral support from school administrators is limited.

Growing student awareness of the importance of Islamic financial literacy. These are supported by Muzakki & Fatimah (2021), who noted that internal motivation and student interest in takaful serve as strong foundations for enhancing instructional quality.

4.3 Effective Strategies for Improving Teacher Competence in Islamic Economics Education

The findings and document analysis revealed several effective strategies to improve the competence of

Islamic Economics teachers in teaching takaful:

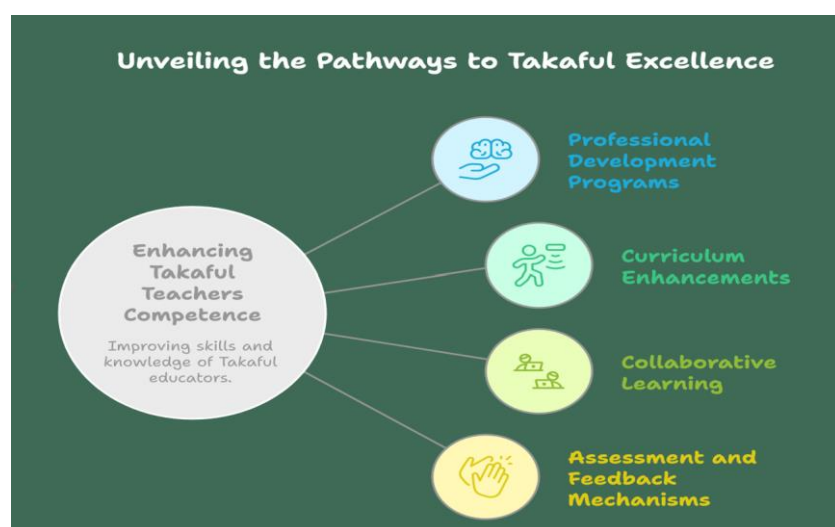
Continuous Professional Training: Intensive and ongoing training focused on strengthening teachers' understanding of core and operational aspects of Islamic insurance. Studies by Hasanah and Hidayati (2021) and Fitriyani and Permata (2023) confirm that structured training has a significant impact on enhancing professional competence.

Clinical Supervision by Islamic Economics Experts: Regular expert-led supervision sessions help teachers enhance their instructional practices and deepen their content mastery. This aligns with Nurhayati & Ramadhan (2020), who emphasized the impact of targeted feedback.

Teacher Learning Communities: Establishing peer collaboration platforms where teachers can share experiences, best practices, and discuss emerging issues related to takaful education. Supported by Munawaroh & Hidayatullah (2021), these communities help build pedagogical and professional competencies.

Integration of Digital Technologies: The use of interactive digital media to make takaful learning more engaging and relevant for students, as demonstrated by Maulana and Zakaria (2022).

The proposed model comprises four interconnected strategies designed to enhance teacher competence. The visual representation below illustrates how these elements interact in an integrative framework.



4.4 Policy Analysis of the National Curriculum

Despite the growing urgency to enhance Islamic financial literacy through formal education, current national curriculum policies in Indonesia exhibit significant limitations in integrating takaful-specific content. While Islamic Economics is included in the curriculum framework of Madrasahs and Islamic

Schools, its scope often remains generic. It does not provide detailed instructional guidance on core Islamic financial instruments, such as *takaful*. The absence of micro-curricular modules or standardized content related to *takaful* contracts such as *tabarru'*, *wakalah*, and *mudharabah* poses a challenge for teachers, particularly those with limited professional training in Islamic finance. Moreover, the Ministry of Religious Affairs and other educational authorities have yet to establish clear pedagogical standards or assessment criteria tailored explicitly to *takaful* instruction. This gap is further exacerbated by the lack of alignment between school-based curriculum design and regulatory frameworks issued by institutions such as the Financial Services Authority (OJK) or the National Sharia Council (DSN-MUI). As a result, teachers often rely on fragmented materials or informal sources, leading to inconsistencies in instructional quality and student comprehension.

4.4 General Discussion and Research Implications

The improvement of teacher competence in teaching Islamic insurance at the Islamic School is a multidimensional process that requires integrated and comprehensive strategies. This study reveals that partial or isolated approaches are insufficient unless accompanied by a systematic combination of professional training, clinical supervision, learning communities, and digital integration. The findings suggest that policymakers for Islamic schools and education must support the implementation of these strategies in a sustainable and structured manner to cultivate competent teachers and enhance graduate readiness in Islamic economics literacy.

4.5 Comparative Analysis of Previous Studies

This study aligns with and expands upon previous findings. Nurhayati & Ramadhan (2020) found that teachers had limited understanding of Islamic economics due to a lack of training and supervision, resulting in monotonous instruction. Muzakki & Fatimah (2021) demonstrated a strong correlation between teacher competence and students' Islamic financial literacy. Hasanah & Hidayati (2021) emphasized the importance of continuous professional training in *takaful* literacy. Maulana & Zakaria (2022) noted that integrating digital technology in *takaful* instruction enhanced student interest and learning outcomes. Fitriyani & Permata (2023) revealed that many teachers struggled with the curriculum due to inadequate understanding of core *takaful* principles. Fauzi & Arifin (2023) highlighted the influence of both internal (motivation) and external (support and training) factors on teacher competence. Unlike prior studies, this research introduces an integrative strategy model that combines all key dimensions of training, supervision, peer collaboration, and digitalization into a comprehensive framework.

4.6 Implementation Challenges

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Potential challenges to implementing the proposed strategies include budget constraints, limited technological infrastructure, and resistance to change among teachers or institutions. To overcome these, schools should form strategic partnerships with universities, Islamic insurance companies, or donors to support professional development initiatives.

4.7 Preliminary Recommendations for Follow-Up

Islamic School institutions should urgently develop systematic professional development programs for Islamic Economics teachers. Strategic partnerships with training providers should support these programs and include regular clinical supervision by experts in Islamic economics. Teachers are encouraged to proactively participate in training and join teacher learning communities to foster innovation and adaptability in instructional practices. These initiatives are expected to enhance teacher competence and ultimately boost the financial literacy of Islamic School graduates.

4.8 Analysis of Implementation Risks

While the proposed integrative strategy offers a comprehensive and promising approach to enhancing teacher competence in takaful education, its practical implementation in diverse school contexts presents challenges. Field observations and stakeholder interviews reveal several potential barriers that may hinder the adoption and sustainability of the recommended strategies. These include limited funding at institutional levels, inadequate technological infrastructure, and cultural resistance among senior teachers who are accustomed to conventional teaching methods. Additionally, the absence of institutionalized partnerships with Islamic financial institutions and training providers may further complicate the delivery of expert-led clinical supervision and ongoing professional training. To address these issues proactively, schools, policymakers, and supporting institutions must develop and implement strategic mitigation plans. These include leveraging corporate social responsibility (CSR) programs from Islamic insurance companies, building cross-sectoral partnerships, and conducting phased implementation models that gradually introduce digital pedagogy and collaborative learning structures. The table below summarizes key implementation risks, their potential impact, and proposed mitigation strategies:

Table 4.2 Risk Matrix for Implementing the Integrative Strategy

Risk Category	Potential Impact	Recommended Strategy	Mitigation

Risk Category	Potential Impact	Recommended Mitigation Strategy
Limited Budget Allocation	Hinders regular training, supervision, and technology acquisition	Partner with Islamic insurance institutions (CSR), apply for grants
Technological Constraints	Limit digital pedagogy implementation in under-resourced schools	Use low-bandwidth tools, mobile-based learning, and offline LMS
Teacher Resistance to Change	Delays adoption of new pedagogy and collaborative methods	Provide mentoring, pilot programs, and peer-led success stories
Lack of Expert Availability	Inhibits quality clinical supervision and content mastery improvement	Develop online expert networks and integrate asynchronous supervision
Administrative Inertia	Slows policy adjustments at the school leadership level	Offer principal training, align school KPIs with teacher development

Chapter V. Conclusion, Implications, and Recommendations

5.1 Conclusion

This study concludes the following:

The competence of Islamic Economics teachers in teaching takaful at the Islamic School remains suboptimal, particularly in terms of pedagogical and professional aspects. This supports earlier findings by Fitriyani & Permata (2023) and Fauzi & Arifin (2023).

Key inhibiting factors include lack of professional training, limited clinical supervision, insufficient digital infrastructure, and resistance to instructional change. Supporting factors include teachers' intrinsic motivation, moral support from institutions, and student interest in Islamic financial literacy.

The study formulates an integrated strategy to improve teacher competence through: (a) continuous professional training, (b) clinical supervision, (c) teacher learning communities, and (d) digital technology integration. This integrative approach offers a novel contribution to Islamic Economics education.

5.2 Research Implications

Theoretical Implications: This research enriches the body of knowledge in Islamic Economics education, particularly in terms of teacher competence and takaful literacy strategies. Practical Implications: Provides guidance for Islamic schools, teachers, and policymakers in designing effective teacher development programs and instructional strategies for Islamic insurance education.

5.3 Practical Recommendations

For Islamic School Principals: Develop and implement structured, continuous professional training programs. Collaborate with universities or training institutions for regular expert-led supervision. Invest in interactive digital learning infrastructure.

For the Ministry of Religious Affairs and Policymakers: Formulate targeted policies and allocate sufficient budgets for teacher competence development in Islamic Economics Education.

For Teachers: Actively participate in professional development and teacher communities. Embrace innovation and digital tools to enhance instructional quality and effectiveness.

5.4 Implementation Barriers and Strategic Solutions

Challenges such as limited funding, insufficient infrastructure, and resistance to change can hinder implementation. To address these issues, Islamic schools should seek partnerships with universities, Islamic insurance companies, or donor organizations to secure both financial and technical support for teacher development initiatives.

5.5 Suggestions for Future Research

Conduct classroom action research or experimental studies to assess the effectiveness of the proposed strategies.

Expand research scope to a national scale for broader generalizability.

Investigate the role of digital technology in improving teacher competence and student interest in takaful learning.

5.6 Recommendation for National Expansion and Interregional Collaboration

Given that the scope of this study is geographically limited to selected Islamic schools in Lampung

Province, the generalizability of the findings to the broader national context remains constrained. While the insights gained are valuable for regional-level policy and practice, addressing the issue of teacher competence in takaful education at a national scale requires further research and collaboration. It is therefore recommended that future initiatives pursue interprovincial collaboration, involving regions such as West Java, Aceh, and West Sumatra, where Islamic education systems are both diverse and well-developed. These provinces present varying institutional capacities and curricular implementations, offering fertile ground for knowledge exchange and shared development of teacher training frameworks. Moreover, conducting a comparative quantitative study across multiple regions would allow for the identification of disparities in teacher competence, pedagogical methods, and resource availability. Such a study would be instrumental in mapping systemic gaps and designing targeted interventions tailored to specific regional needs. The comparative approach would also help validate the integrative strategy proposed in this study, by testing its applicability in varied educational and cultural contexts across Indonesia. Ultimately, scaling the research beyond Lampung is essential to foster a more equitable and standardized development of takaful education nationwide.

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The Influence Of Investment, Inflation, And Exports On Foreign Exchange Reserves In Asian Countries In 2018-2022 In The Perspective Of Islamic Economics

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Abstract

Foreign exchange reserves are a means of payment in international trade in the form of foreign exchange managed by the central bank. Foreign exchange reserves in several developing countries in the Asian region have increased every year but investment, inflation, and exports have fluctuated, so it is necessary to conduct more in-depth research on the effect of investment, inflation, and exports on foreign exchange reserves in four developing countries in Asia. This study aims to determine how investment, inflation and exports simultaneously and partially affect the foreign exchange reserves of Asian countries. The research method used is quantitative panel data analysis with area sampling technique (*Cluster Sampling*). The results of this study indicate that the investment variable has a positive and significant effect, the inflation variable has a negative and significant effect, and the export variable has a positive and significant effect on foreign exchange reserves. Investment, inflation, and exports simultaneously affect foreign exchange reserves with a probability of 0.00051. In Islam, maintaining the stability of foreign exchange reserves needs to be considered because *Tasarruf allmam "ala Ra "iyyah Manutun bi al-Mashlahah* (every government action related to the people is always related to their benefit).

Keywords: Investment, inflation, foreign exchange reserves, and exports

INTRODUCTION

Every country in the world must carry out economic development, especially developing countries that develop all aspects including the economy, infrastructure and others. The goal is to accelerate economic growth so that people's welfare increases.⁷¹ In this economic development, foreign exchange reserves can be an important indicator that shows the strength and weakness of a country's economic foundation in international trade. Therefore, the growth of each country's foreign exchange reserves must

⁷¹ Satria Yuda Anggriawan, Aris Soelistyo, and Dwi Susilowati, "Pengaruh Upah Minimum Dan Disitribusi Pendapatan Terhadap Jumlah Penduduk Miskin Jawa Timur," *Jurnal Ekonomi Pembangunan* 14, no. 2 (2016): 218, <https://doi.org/10.22219/jep.v14i2.3893>.

be managed properly so that they are always in a stable state.⁷²

According to the *International Monetary Fund*, a country can be considered safe if it has foreign currency reserves to meet its import needs for at least three months. The more foreign exchange reserves a country has, the better the resources to support development so that economic growth can be accelerated.⁷³

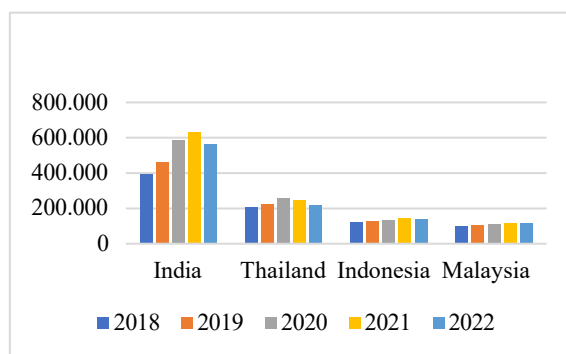
One of the factors that affect foreign exchange reserves is investment or capital investment, which aims as government revenue and balance of payments in such a way that the balance of payments *surplus* and *surplus* increase foreign exchange reserves.⁷⁴

In addition to investment, inflation can also affect foreign exchange reserves, which can have a positive and negative impact depending on the size of the inflation. The government continues to increase exports and reduce imports to ensure that the country has sufficient foreign exchange reserves, because foreign exchange reserves play a significant role in every country.⁷⁵

The phenomenon of the development of foreign exchange reserves of 4 developing countries in 2018-2022 is presented in the following figure:

Figure 1.1

Data on Foreign Exchange Reserves of 4 Developing Countries in the Asian Region (India, Thailand, Indonesia, Malaysia) 2018-2022 (Billion USD)



Data source: *International Monetary Fund* (IMF) Processed 2024

The figure shows the development of foreign exchange reserves in 2018-2022 in four developing countries, namely India, Thailand, Indonesia and Malaysia. India experienced a significant increase and a

⁷² Indah Anugraini, "Penerapan Asas-Asas Hukum Ekonomi Syariah Dalam Perjanjian Kredit Baku Pembiayaan UMKM Pada Dinas Koperasi Dan UKM Kota Palembang" 6 (2020): 19–55

⁷³ Nurhasanah Nurhasanah, "Pengaruh Keterampilan Kerja Dan Fasilitas Terhadap Produktivitas Kerja Persatuan Nelayan Kampung Bugis Kota Tanjungpinang," *Bahtera Inovasi* 2, no. 2 (2019): 83–93, <https://doi.org/10.31629/bi.v2i2.1622>.

⁷⁴ Dewi Maharani, "Analisis Pengaruh Investasi Dan Tenaga Kerja Terhadap Produk Domestik Regional Bruto (PDRB) Di Sumatera Utara," *Intiqad: Jurnal Agama Dan Pendidikan Islam* 8, no. 2 (2016): 32–46, <https://doi.org/10.30596/intiqad.v8i2.725>.

⁷⁵ Soeharjoto, "Financial Capability and Performance of the Province of Kalimantan," *Akuntabel* 15, no. 2 (2018): 131–38.

fairly high increase in 2018-2021 but experienced a decline in 2022. Thailand experienced a significant increase in 2018-2020 and experienced a significant decline in the last two years, namely 2021 and 2022. Indonesia experienced a significant but not large enough increase in 2018-2021 and experienced a decline in 2022. Likewise, Malaysia also experienced a significant increase but not a large enough increase in 2018-2021 and decreased in 2022.

In the direction of accelerating economic growth in trade or exports, Islam prohibits its people from cheating or eating property that is not their right as mentioned in the Qur'an Surah Al-Baqarah Verse 275.

الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ ذَلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلُ
الرِّبَا وَأَحَلَّ اللَّهُ الْبَيْعَ وَحَرَّمَ الرِّبَا فَمَنْ جَاءَهُ مَوْعِظَةٌ مِنْ رَبِّهِ فَانْتَهَى فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ وَمَنْ عَادَ
قَوْلَ لَيْكَ أَصْحَابُ النَّارِ هُمْ فِيهَا خَالِدُونَ ٢٧٥

Meaning: "Those who eat usury cannot stand up except as one who is possessed by a demon through madness stands up. That is because they say that buying and selling is the same as usury. But Allah has justified buying and selling and forbidden usury. Whoever receives a warning from his Lord and stops, then what he had earned is his, and his affair is for Allah. And whoever repeats it, then they are the inhabitants of Hell; they will abide therein." (Al- Baqarah: 275).

Based on the above verse, it can be understood that people who consume usury, namely those who make transactions by taking or receiving excess over the capital of people, even though Allah has legalized buying and selling and forbidden usury. The substance of the two is different, because buying and selling benefits both parties (buyers and sellers), while usury is very detrimental to one party.⁷⁶

According to research by Gusti Ngurah Sukma Apriadi and Nyoman Djinar Setiawina in 2021, it was found that simultaneously, the export and inflation variables had a significant partial effect on foreign exchange reserves. The export variable partially has a positive and insignificant effect on foreign exchange reserves before and after the establishment of ACFTA in ASEAN-5 for the 2005-2019 period. The inflation variable partially has a significant negative effect on foreign exchange reserves before and after the establishment of ACFTA in ASEAN-5 for the 2005-2019 period.

According to Laeli Lafi Khusnatun's research in 2021 found that based on the results of the *Error Correction Model* (ECM) analysis previously described, the relationship between export variables and foreign exchange reserves in the short and long term perspectives is negative and insignificant in 2016-

⁷⁶ Muhammad Hasdin Has, "Riba Dalam Perspektif Al-Quran," *Li Falah Jurnal Studi Ekonomi Dan Bisnis Islam* 1, no. 2 (2016): 32.

2020. In a short-term perspective, the inflation variable has a positive but insignificant relationship to foreign exchange reserves in 2016-2020, while in a long-term perspective it has a significant positive relationship.

Based on secondary data that has been obtained from the *International Monetary Fund* (IMF) from 2018 to 2022 and several previous studies, there is a gap between the theory and the situation in the field. Where reserves in several developing countries in Asia have increased every year, but this increase is not always followed by a decrease in the inflation rate. Even so, exports have *fluctuated* and investment has *fluctuated* and when exports increase foreign exchange reserves have not necessarily increased. There needs to be more in-depth research on the effect of investment, inflation and exports on foreign exchange reserves in four developing Asian countries.

And it can be concluded based on previous studies that there have been many studies on foreign exchange reserves that predominantly use macroeconomic variables of exports, and inflation and use a quantitative approach to panel data regression analysis. However, no one has united these variables and added investment variables in the same study and in the country or object under study, besides that no one has examined in the *perspective of* Islamic economics.

RESEARCH METHODS

The type of research used in this study is quantitative research, the quantitative research paradigm emphasizes testing theories through measuring research variables with numbers and analyzing data with statistical procedures.⁷⁷

The population in this study is 35 developing countries in Asia, namely Afghanistan, Bangladesh, Bhutan, China, Philippines, India, Indonesia, Iran, Iraq, Cambodia, Kazakhstan, Kyrgyzstan, Kiribati, Laos, Lebanon, Maldives, Malaysia, Micronesia, Mongolia, Myanmar, Nepal, Oman, Pakistan, Papua New Guinea, Sri Lanka, Syria, Tajikistan, Thailand, Timor Leste, Turkmenistan, Uzbekistan, Vietnam, Yemen, and Jordan.

The samples in this study are 4 developing countries in Asia, namely India, Thailand, Indonesia and Malaysia, because these countries are developing countries, have almost the same economic level, and have foreign exchange reserves of more than 100,000 billion USD.

The sampling technique used in this study used area sampling technique (*Cluster Sampling*).⁷⁸ The

⁷⁷ Nurlina T Muhyiddin, M Irfan Tarmizi, and Anna Yullianita, *Metodologi Penelitian Ekonomi & Sosial Teori, Konsep, Dan Rencana Proposal* (Palembang, 2017). Hal 26

⁷⁸ Nur Fadilah Amin, Sabaruddin Garancang, and Kamaluddin Abunawas, "Populasi Dalam Penelitian Merupakan Suatu Hal Yang Sangat Penting, Karena Ia Merupakan Sumber Informasi.," *Jurnal Pilar* 14, no. 1 (2023): 15–31.

data analysis method is a scientific method to obtain information for specific purposes and uses.⁷⁹ This study uses a panel data analysis method using the *Eviews* Version 10 data analysis program.

In general, the panel data regression model is as follows:⁸⁰

$$Y_{it} = \alpha_i + \beta x_{it} + \mu_{it}, i = 1, \dots, N \text{ dan } t = 1, \dots, T \dots \dots \dots (1)$$

Description:

Y_{it} : response variable at the i-th observation unit and t-th time.

α_i : intercept

x_{it} : predictor variable at observation unit i-th and time t-th

β : slope coefficient

μ_{it} : error or error component at the i-th observation unit and t-th time.

Based on the results of panel data regression or the *Hausman* test and *Chow* test which shows that H_0 is rejected and H_1 is accepted, which means that the *Fixed Effect* model is recommended. But for more significant results in this study, the panel data regression method used is the *Random Effect Model*.

Analyzing data means that we carry out actions/treatments on the data to produce certain objectives, either in the form of a description of the data or in the form of conclusions about the conditions or events where the data is taken.⁸¹ In quantitative research, *descriptive statistical* analysis is highly recommended to be used as a first step before conducting other analysis on the data. This analysis was conducted on a research sample of 4 developing Asian countries during the period 2018 to 2022. In this analysis using the dependent variable, namely: Foreign exchange reserves (CDV) and independent variables, namely: Investment (INV), Inflation (INF) and Exports (EKS).

LITERATURE REVIEW

In this study researchers used the *Grand Theory*, namely the theory of *Mercantilism* which argues that the only way for a country to become rich and strong is to export as much as possible and import as little as possible. The subsequent export surplus would be stored in a stream of precious metals and silver. As a result, the more precious metals and silver a country has, the richer and stronger it is.⁸² Therefore, the

⁷⁹ Nurdewi Nurdewi, "Implementasi Personal Branding Smart Asn Perwujudan Bangsa Melayani Di Provinsi Maluku Utara," *SENTRI: Jurnal Riset Ilmiah* 1, no. 2 (2022): 297–303, <https://doi.org/10.55681/sentri.v1i2.235>.

⁸⁰ Gujarati et al., *Dasar-dasar Ekonometrika Buku 2* (Jakarta: Salemba Empat, 2013).

⁸¹ Lilih Deva Martias, "Statistika Deskriptif Sebagai Kumpulan Informasi," *Fihris: Jurnal Ilmu Perpustakaan Dan Informasi* 16, no. 1 (2021): 40, <https://doi.org/10.14421/fhrs.2021.161.40-59>.

⁸² Hania Puspitaning Tyas, "Analisis Ekspor Indonesia Tahun 1990-2019," *Transekonomika: Akuntansi, Bisnis Dan Keuangan* 2, The 13th InTraders International Conference on Social Sciences and Education Proceeding Book
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government should encourage and inspire people to export and limit spending patterns, in this case limiting imports, especially luxury goods.⁸³ The relationship between the theory used and the variables in this study is that this study states that the government must emphasize exports as much as possible so that a country becomes rich and strong to increase economic growth or the country's own foreign exchange reserves.

Foreign exchange reserves are a means of payment in international trade in the form of foreign exchange managed by the central bank in the country that can be used to maintain monetary stability, national savings, and debt payments.⁸⁴ Foreign exchange is also defined as an asset owned by central banks and monetary authorities, foreign exchange reserves are used for the needs and interests of the State in maintaining the stability of the balance of payments.⁸⁵

Investment is spending to buy capital goods and production equipment with the aim of replacing and especially adding to capital goods in the economy that will be used to produce goods and services in the future.⁸⁶ The theory of *mercantilism* also states that the prosperity of a country is determined by the amount of investment or assets it has and the size of its foreign trade. The relationship between investment and foreign exchange reserves is where the effect of investment as income and expenditure of the State and the balance of payments, when investment as a State income will increase the balance of payments so that a surplus and a surplus situation in the balance of payments increases the amount of foreign exchange reserves.

Inflation is a general and persistent rise in the prices of goods. An increase of one or two goods alone cannot be called inflation unless the increase is widespread or results in price increases in other goods.⁸⁷ And the relationship between inflation and foreign exchange reserves is that inflation is one of the factors that affect the level of foreign exchange reserves of a country. That is, if inflation in a country is high, the prices of goods and services in the country will be high.

International trade or import and export occurs when trade takes place outside the territory of a country. Exports are the total amount of goods or services sold by a country to another country.⁸⁸ The relationship between exports and foreign exchange reserves is that the State will definitely get some

no. 2 (2022): 37–52, <https://doi.org/10.55047/transekonomika.v2i2.114>.

⁸³ Kristianti Putri et al., “Analisis Efek Globalisasi Terhadap Perdagangan Internasional Negara Indonesia,” *Jurnal Kendali Akuntansi* 1, no. 3 (2023): 15–28, <https://doi.org/10.59581/jka-widyakarya.v1i3.508>.

⁸⁴ Laeli Lafi Khusnatun and Dinar Melani Hutajulu, “Analisis Faktor-Faktor Yang Mempengaruhi Cadangan Devisa Indonesia,” *Ekono Insentif* 15, no. 2 (2021): 79–92, <https://doi.org/10.36787/jei.v15i2.583>.

⁸⁵ Agung Feryanto, *Mengenal Ekspor dan Impor*, (Klaten: Cempaka Putih, 2018), h. 32

⁸⁶ Dewi Maharani, “Analisis Pengaruh Investasi Dan Tenaga Kerja Terhadap Produk Domestik Regional Bruto (PDRB) Di Sumatera Utara,” *Intiqad: Jurnal Agama Dan Pendidikan Islam* 8, no. 2 (2016): 32–46, <https://doi.org/10.30596/intiqad.v8i2.725>.

⁸⁷ Ratna Christianingrum and Riza Aditya Syafri, “Faktor-Faktor Yang Memengaruhi Inflasi Inti Di Indonesia,” *Jurnal Budget : Isu Dan Masalah Keuangan Negara* 4, no. 2 (2019): 18–39, <https://doi.org/10.22212/jbudget.v4i2.26>.

⁸⁸ Jurnal Ilmiah and Ekonomi Pembangunan, “Ekspor, Investasi, Nilai Tukar Rupiah, ECM Determination Exports Indonesia In 1990-2021” 1, no. 2 (2022).

money in the form of foreign exchange through export activities.

RESULTS AND DISCUSSION

The results of descriptive statistical analysis in this study are presented in the following table:

Table 1.1

Descriptive Statistics Results

Variables	<i>Mean</i>	<i>Median</i>	<i>Max</i>	<i>Min</i>	<i>Std. Deviation</i>
CDV	249,3358	175,273	633,614	100,654	177,5015
INV	22,58205	17,7655	64,072	3,16	17,83430
INF	2,344	2,755	6,7	-8,5	3,326825
EKS	42,386	37,99	76,95	17,33	23,07560
Observation	20	20	20	20	20

Data source: Eviews 10 output, processed in 2024

Based on table 4.1, it can be explained as follows:

Foreign exchange reserves variable (Y) mean variable on foreign exchange reserves in four developing Asian countries with a value of 249.3358. The maximum variable on foreign exchange reserves of four developing Asian countries with a value of 633.614, namely in India in 2021. The minimum variable on foreign exchange reserves of four developing Asian countries with a value of 100.654 contained in Malaysia in 2022 with a standard deviation of 177.5015.

Investment variable (X1) mean variable in foreign exchange reserves in four developing Asian countries with a value of 22.58205. The maximum variable on foreign exchange reserves of four developing Asian countries with a value of 64,072 is found in India in 2020. The minimum variable on foreign exchange reserves of four developing Asian countries with a value of 3.16 is found in Malaysia in 2022 with a standard deviation of 17.83430.

Inflation variable (X2) mean variable on foreign exchange reserves in four developing Asian countries with a value of 2.344. The maximum variable on foreign exchange reserves of four developing Asian countries with a value of 6.7 which is found in India in 2020. The minimum variable on foreign exchange reserves of four developing Asian countries with a value of -8.5, which is found in Thailand in

2020 with a standard deviation of 3.326825.

The export variable (X3) mean variable in foreign exchange reserves in four developing Asian countries with a value of 42.386. The maximum variable on foreign exchange reserves of four developing Asian countries with a value of 76.95 is found in Malaysia in 2020. The minimum variable in the foreign exchange reserves of four developing Asian countries with a value of 17.33 is found in the Indonesian State in 2020 with a standard deviation of 23.07560.

After testing the data using a significance level of 5% from the t test, the research results show that partially the investment variable has a positive effect on foreign exchange reserves, the inflation variable has a negative effect on foreign exchange reserves, the export variable has a positive effect on foreign exchange reserves. The results of the f test state that the *Prob F-Statistic* value is 0.000051 (<0.05), which means that simultaneously the investment, inflation, and export variables have a significant effect on foreign exchange reserves in four developing Asian countries in 2018-2022.

The result of the coefficient of determination test in this study is 0.745, indicating that the model is able to explain the relationship between investment, inflation, and exports by 74% while the remaining 26% is explained by other variables that are not included in the model.

1. The Effect of Investment on Foreign Exchange Reserves in Four Asian Developing Countries

Investment is spending to buy capital goods and production equipment with the aim of replacing and especially adding to capital goods in the economy that will be used to produce goods and services in the future.⁸⁹ The results of research that has been conducted related to the effect of investment on foreign exchange reserves in four Asian Developing Countries are as follows:

Table 1.2

Random Effect Model Investment Test Results

Variables	Coefficient	t-statistic	Prob.
INV	11,52332	9,617151	0.0000

Data source: Eviews 10 output, processed in 2024

In the table above, the coefficient value is 1.152332 with a Prob value. 0.00000 (<0.05) which states that the investment variable has a positive and significant effect on foreign exchange reserves of four developing countries in the Asian region. The results of this study are not in accordance with previous research, namely Sutarjo's research in 2021 with the title "*The Effect of Export Import*,

⁸⁹ Maharani, "Analisis Pengaruh Investasi Dan Tenaga Kerja Terhadap Produk Domestik Regional Bruto (PDRB) Di Sumatera Utara."

Inflation, Interest Rates, and Exchange Rates against Indonesia's Economic Growth" where the results of the study "investment partially has no significant and positive effect on foreign exchange reserves, therefore this study states that increasing investment causes more investors from abroad to enter the country and the opening of industry is increasing so that it will expand employment opportunities."

But this research is in accordance with the hypothesis or theory of previous research which is the basis for research, namely research by Fajar Ahsan Dwinoviyanto, Tri Oldy Rotinsulu, Steeva Y.L Tumangkeng in 2023 with the title "analysis of the effect of exports, exchange rates, investment and foreign debt in the economic sector on foreign exchange reserves in Indonesia in the period 2016: q1 -2022: q4", where the results of the study "the effect of investment is positive and significant both in the short and long terms. The effect of foreign debt in the economic sector is positive and significant both in the short and long term".

This is also in line with the theory of *Mercantilism* which states that the prosperity of a country is determined by the amount of investment or assets it has and the size of its foreign trade, which in this case is foreign exchange reserves or economic growth if it increases it will have an impact on the prosperity of a country and in increasing foreign exchange reserves itself is determined by the amount of investment or investment in a country. So this theory states that if investment increases it will have a significant effect on a country's foreign exchange reserves and in other words investment will be in line with foreign exchange reserves because if investment increases then foreign exchange reserves will also increase.

2. The Effect of Inflation on Foreign Exchange Reserves in Four Asian Developing Countries

Inflation is a general and persistent rise in the prices of goods.⁹⁰ The increase of one or two goods alone cannot be called inflation unless the increase is widespread or causes price increases in other goods.⁹¹ The results of research that has been conducted related to the effect of Investment on foreign exchange reserves in four developing Asian countries are as follows:

Table 1.3
Random Effect Model Inflation Test Results

Variables	Coefficient	t-statistic	Prob.

⁹⁰ Erika Feronika Br Simanungkalit, "Pengaruh Inflasi Terhadap Pertumbuhan Ekonomi Di Indonesia," *Journal of Management : Small and Medium Enterprises (SMEs)* 13, no. 3 (2020): 327–40, <https://doi.org/10.35508/jom.v13i3.3311>.

⁹¹ Christianingrum and Syafri, "Faktor-Faktor Yang Memengaruhi Inflasi Inti Di Indonesia."

INF	-1,249192	-2,573365	0,0204

Data source: Eviews 10 output, processed in 2024

In the table above the coefficient value is -1.249192 with a Prob value. 0.0204 (<0.05) which states that the inflation variable has a negative and significant effect on foreign exchange reserves of four developing Asian countries. The results of this study are not in accordance with previous research, namely Laeli Lafi Khusnatun's research in 2021 with the title; "analysis of factors affecting Indonesia's foreign exchange reserves" where the results of his research state that "in a short-term perspective, the inflation variable has a positive but insignificant relationship to foreign exchange reserves in 2016-2020, while in a long-term perspective it has a significant positive relationship".

But the results of this study are in accordance with the hypothesis or theory of previous research which is the basis for research, namely the research of Gusti Ngurah Sukma Apriadi, Nyoman Djinar Setiawina in 2021 with the title "the effect of exports, imports, inflation, and ACFTA policies on ASEAN 5 foreign exchange reserves for the 2005-2019 period", where the research results "the inflation variable (x3) partially has a significant negative effect on foreign exchange reserves before and after the establishment of ACFTA in ASEAN-5 for the 2005-2019 period (Y)".

This is also in line with the theory of *mercantilism* which states that the prosperity of a country is determined by the amount of investment or assets it has and the size of its foreign trade, namely inflation is one of the factors that affect the level of foreign exchange reserves of a country. In other words, if inflation in a country is high, the price of goods and services in the country will be high and this will affect the foreign exchange reserves and prosperity of a country.

3. The Effect of Exports on Foreign Exchange Reserves in Four Asian Developing Countries

International trade occurs when trade takes place outside the territory of a country. International trade can involve both export and import operations.⁹² Exports are the total amount of goods or services sold by a country to another country.⁹³ The results of research that has been conducted related to the effect of investment on foreign exchange reserves in four developing Asian countries are as follows:

Table 1.4
Random Effect Model Export Test Results

Variables	Coefficient	t-statistic	Prob.

⁹² Puji Wahyu, Ekspor Dan Impor, (Semarang: Mutiara Aksara, 2019), H. 50

⁹³ Ilmiah and Pembangunan, "Ekspor, Investasi, Nilai Tukar Rupiah, ECM Determination Exports Indonesia In 1990-2021."

EKS	1,854379	2.441768	0,0266

Data source: Eviews 10 output, processed in 2024

In the table above the coefficient value is 1.85437 with a Prob value. 0.0266 (<0.05) which states that the export variable has a positive and significant effect on the foreign exchange reserves of four Asian Developing Countries. The results of this study are not in accordance with previous research, namely research by Laeli Lafi Khusnatun in 2021 with the title "analysis of factors affecting Indonesia's foreign exchange reserves" where the research results. "The relationship between export variables and foreign exchange reserves in the short and long term perspective is negative and insignificant in 2016-2020".

But this research is in accordance with the hypothesis or theory of previous research which is the basis for research, namely research by Wardani Umi Maesyaroh, Eranus Yoga Kundhan in 2024 with the title "analysis of factors affecting foreign exchange reserves", where the results of the study. "export and foreign debt variables have a positive and significant effect on foreign exchange reserves."

This is also in line with the theory of *mercantilism* which states that if every country wants to develop, it must trade with other countries. As a result, the source of State wealth can be obtained from foreign trade surpluses in the form of gold or silver. With contact with other countries, there will also be time policies that encourage export activities and also limit imports so that international trade runs healthy.

4. Investment (INV), Inflation (INF), and Exports (EKS) Together on Foreign Exchange Reserves in Four Asian Developing Countries

Based on the *Eviews* output results shown in table 4.3, the probability value (prob) of table 4.3 is 0.0000 which is smaller than the significance level of 0.05, so H_0 is rejected. This indicates that investment, inflation and exports together (simultaneously) have a significant effect on foreign exchange reserves. This is in line with the research of Gusti Ngurah Sukma Apriadi, Nyoman Djinar Setiawina in 2021 which states that "simultaneously, the variables of exports, imports, inflation, have a significant partial effect on foreign exchange reserves".

In classical Islamic economic thought Abu Yusuf said in his book *Al-Kharaj* discussed a lot of public economics, especially about the role of the State in economic development. In government, Abu Yusuf compiled a very popular fiqh rule, namely *Tasarruf allmam "ala Ra "iyyah Manutun bi al-Mashlahah* (every government action related to the people is always related to their benefit). He

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emphasized the importance of trustworthiness in managing the State, state money does not belong to the caliph, but is a mandate from Allah and his people that must be guarded responsibly.⁹⁴

In the direction of accelerating economic growth in increasing foreign exchange reserves, Islam prohibits its people from cheating or eating property that is not their right as mentioned in the Qur'an Surah Al-Baqarah Verse 275.

الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ ذَلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلُ
الرِّبَا وَحَلَّلَ اللَّهُ الْبَيْعَ وَحَرَّمَ الرِّبَا فَمَنْ جَاءَهُ مَوْعِظَةٌ مِنْ رَبِّهِ فَانْتَهَى فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ وَمَنْ عَادَ
فَأُولَئِكَ أَصْحَابُ النَّارِ هُمْ فِيهَا خَالِدُونَ ٢٧٥

Meaning: "Those who eat usury cannot stand up except as one who is possessed by a demon through madness stands up. That is because they say that buying and selling is the same as usury. Yet, Allah has justified buying and selling and forbidden usury. Whoever receives a warning from his Lord and ceases, then what he had earned is his, and his affair is for Allah. And whoever repeats it, then they are the inhabitants of Hell; they will abide therein." (Al-Baqarah: 275).

Based on the verse above, it can be understood that people who consume usury, namely those who make transactions by taking or receiving excess over the capital of people, even though Allah has legalized buying and selling and forbidden usury. The substance of the two is different, because buying and selling benefits both parties (buyers and sellers), while usury is very detrimental to one party.⁹⁵

CONCLUSIONS

This study aims to see the effect of investment, inflation and exports on foreign exchange reserves in four developing Asian countries for the period 2018-2022. From the analysis of multiple regression panel data with the help of the *Eviews 10* statistical data processing application, the research results can be concluded:

1. Investment variable (INV) has a positive and significant effect. This means that every increase in the amount of investment, foreign exchange reserves in four developing Asian countries will increase.
2. Inflation variable (INF) has a negative and significant effect. This means that every increase in the

⁹⁴ Juliansyah, Hijri, Putri Moulida dan Apridar. (2020). Analisis Faktor-Faktor Yang Mempengaruhi Cadangan devisa Indonesia. Lhokseumawe: Universitas Malikussaleh.

⁹⁵ Muhammad Hasdin Has, "Riba Dalam Perspektif Al-Quran," *Li Falah Jurnal Studi Ekonomi Dan Bisnis Islam* 1, no. 2 (2016): 32.

amount of inflation, foreign exchange reserves in four developing Asian countries will decrease.

3. The export variable (EKS) has a positive and significant effect, meaning that any increase in the amount of exports will increase foreign exchange reserves in four developing Asian countries.
4. Investment, inflation, and export variables together (simultaneously) have a significant influence on foreign exchange reserves in four developing Asian countries. Therefore *Tasarruf allmam "ala Ra "iyyah Manutun bi al-Mashlahah* (every government action related to the people is always related to their benefit).

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New Ways of Working: Transformations Driven by Digitalization

Aslinur Mert⁹⁶

Abstract

The present paper investigates the integration of technological innovations into organizational processes, with a specific focus on the lived experiences of both individuals and institutions. It further explores the implications of evolving work models in the contemporary employment landscape. Remote work enables employees to execute their professional responsibilities without physical presence in the workplace, primarily through digital communication and collaboration platforms. Flexible arrangements, in turn, grant greater autonomy over work schedules and locations, offering a personalized structure. Hybrid work merges remote and on-site practices, while the gig economy allows for income generation through freelance or contract-based engagements. Based on secondary data, this inquiry highlights the dual nature of digital transformation. On one hand, it introduces clear advantages—such as geographic flexibility, increased autonomy, and responsiveness to individual preferences. On the other, it presents notable psychosocial challenges. Blurred work-life boundaries, constant digital connectivity, and heightened accessibility can exacerbate stress, burnout, and social isolation. Moreover, weakened team dynamics, communication inefficiencies, and reduced interpersonal interaction may adversely affect employee satisfaction and organizational commitment. At the institutional level, challenges include coordination difficulties, exclusion from decision-making, and disruptions in leadership mechanisms. Nevertheless, interventions like digital upskilling, social engagement programs, and psychosocial support structures may ease the transition. Consequently, the formulation of effective strategies and supportive workplace policies is essential to protect employee well-being and sustain organizational productivity in the face of ongoing digital transformation.

Keywords: Digitalization, Work Life, Flexible Work Models, Individual and Organizational Dimensions

JEL Codes: J22, J24, J81, M54, O33

Introduction

In contemporary society, we are witnessing a process of digital transformation that reshapes not only technology but also the fundamental dynamics of working life. This transformation became particularly

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visible during the COVID-19 pandemic, which dramatically influenced everyday work practices across various sectors. According to Castells (2010), this shift—driven by advancements in information and communication technologies—has ushered in a new era wherein social structures are increasingly organized through network-based forms. As with many other spheres of life, this profound change has led to significant structural transformations within the world of work.

The COVID-19 pandemic in 2020 notably accelerated the integration of digital technologies into work environments, giving rise to remote work, flexible employment arrangements, hybrid models, and gig-based work conducted via digital platforms (Eurofound, 2020). These emerging forms of employment provide workers with greater flexibility regarding time and space, while simultaneously triggering fundamental changes in leadership, communication, and performance management within organizations (World Economic Forum [WEF], 2020).

As the traditional office-centric and time-based work models are gradually replaced by output-oriented systems requiring digital competencies, employee experiences are being redefined. Concepts such as work-life balance, sense of belonging, and psychological well-being are now examined within a new context. Although these new work arrangements offer benefits such as increased flexibility and productivity, the literature also highlights several associated risks. These include the pressure to remain constantly connected, social isolation, burnout, income insecurity, and the erosion of organizational commitment (WHO & ILO, 2022).

Furthermore, the *Future of Jobs Report* by the World Economic Forum (2025) predicts that approximately 44% of the skills required for current job roles will undergo transformation within the next five years. This underscores the growing importance of not only technical abilities but also cognitive, social, and emotional competencies in the evolving workforce (WEF, 2025). Collectively, these developments necessitate a systematic examination of the multifaceted impacts of digitalization on workforce dynamics, work practices, and organizational structures.

1. Conceptual Framework

1.1. Digitalization and Paradigm Shifts in Working Life

Digitalization represents a structural transformation process shaped by the integration of information and communication technologies into production, service, and management processes. This process not only involves the use of technical tools but also profoundly influences social relations, economic structures, and labor dynamics (Brynjolfsson & McAfee, 2014). While digitalization offers numerous positive

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outcomes —such as increased productivity, temporal and spatial flexibility, and cost advantages —it also introduces new challenges, including the digital divide, skills inequality, and job insecurity (OECD, 2021).

1.2. Remote Work

Remote work is defined as a mode of employment in which employees perform their tasks outside the physical workplace, typically from home, using digital technologies. First introduced in the 1970s under the term *telecommuting*, this model gained popularity as advancements in communication infrastructure demonstrated that knowledge workers could remain productive independent of location (Nilles, 1975). Initially aimed at reducing transportation costs, remote work has since evolved into a component of broader structural transformations.

The COVID-19 pandemic thrust remote work into the spotlight, making it both a necessary and increasingly permanent option across many sectors. Beyond the pandemic, megatrends such as globalization, digitalization, and increasing flexibility continue to support the growth of this model. In today's business landscape, remote work tools extend far beyond email and video conferencing. Digital collaboration platforms such as Slack, Microsoft Teams, Zoom, and Trello enable teams to coordinate projects asynchronously across different time zones.

In Turkey, the legal framework for remote work is outlined in Article 14 of the Turkish Labor Law No. 4857. Additionally, the “Remote Work Regulation,” published on March 10, 2021, sets guidelines regarding employer responsibilities, data security, and occupational health and safety. However, in practice, the enforcement of these rights and obligations remains inconsistent, with limited oversight, and employees frequently face ambiguities regarding workload boundaries (Ministry of Labor and Social Security, 2022).

The literature highlights both the benefits and limitations of remote work. According to Allen, Golden, and Shockley (2015), spatial flexibility can enhance employee satisfaction, but must be balanced against risks such as social isolation, diminished sense of belonging, and burnout. Gajendran and Harrison (2007) found that remote workers often experience weakened organizational ties and reduced promotion opportunities over time. Furthermore, the pervasive culture of constant availability increases employees' mental and emotional burden, contributing to phenomena such as digital burnout.

From an organizational perspective, remote work fosters significant shifts in management practices. New trust-based, outcome-oriented approaches to performance management are emerging, replacing traditional

supervision and control mechanisms. In this context, the concept of digital leadership is gaining prominence: managers must now serve not merely as supervisors, but as facilitators who foster communication, cohesion, and motivation within dispersed teams (Stoica & Rugiubei, 2025). Ultimately, remote work is not a temporary solution but reflects a profound paradigm shift in the world of work. Successful adaptation requires not only technological investments, but also comprehensive transformations at managerial, psychological, and legal levels. The success of this transformation depends on the development of human-centered organizational policies that go beyond mere productivity.

1.3. Flexible Work

Flexible work encompasses employment arrangements that allow for greater autonomy over where, when, and how work is performed. Remote work is one such form, enabling employees to operate outside the physical office using digital technologies. Initially conceptualized in the 1970s as *telecommuting* (Nilles, 1975), the model has evolved from a cost-saving strategy to a permanent feature of modern corporate structures.

The global COVID-19 pandemic significantly accelerated this transition, prompting many industries to adopt flexible work arrangements. However, this shift reflects not only a temporary pandemic-driven measure, but also a broader alignment with macro trends such as digitalization, flexibility, and spatial independence. Cloud-based software, video conferencing platforms (e.g., Zoom, Google Meet), task management tools (e.g., Trello, Asana), and instant messaging applications (e.g., Slack, Microsoft Teams) now enable seamless coordination across distributed teams.

In Turkey, the legal framework for remote work is defined under Article 14 of the Labor Law No. 4857, and further detailed in the 2021 *Remote Work Regulation*. While these regulations outline the rights and responsibilities of employers and employees, practical implementation often faces uncertainties and gaps in enforcement (Ministry of Labor and Social Security, 2022).

Academic research suggests that flexible work can boost productivity and offer employees greater autonomy (Choudhury et al., 2021). However, it also presents challenges, including social isolation, weakened organizational commitment, and subjectivity in performance evaluations (Gajendran & Harrison, 2007). Blurred work-life boundaries and the expectation of constant availability further contribute to digital burnout (Eurofound, 2021).

Organizational impacts are equally profound. Traditional supervisory models are being replaced with trust-based and outcome-driven performance management systems, while leadership styles increasingly emphasize digital coordination and emotional support (Stoica & Rugiubei, 2025). Thus, flexible work is

no longer a temporary crisis management strategy, but a permanent dimension of contemporary working life. Its effective implementation depends not only on the availability of technological tools, but also on fostering employee well-being, organizational commitment, and adaptive managerial practices.

1.4. Hybrid Work

The hybrid work model has emerged as a key feature of organizational restructuring in the digital age, blending traditional office-based work with remote work in varying proportions. This flexible model allows employees to work on-site on certain days while operating remotely on others (Gartner, 2022). In the post-pandemic era, many organizations are now adopting hybrid work as a permanent strategy (Eurofound, 2021).

Hybrid work aims to balance individual flexibility and organizational productivity. Kane et al. (2021) note that hybrid systems foster creativity and team collaboration, particularly in knowledge-intensive sectors, while Felstead and Reuschke (2020) emphasize that spatial diversity can enhance employee engagement. However, the sustainable implementation of hybrid models requires more than just technological infrastructure; it also demands appropriate leadership styles, communication strategies, and cultural alignment (Bailey & Kurland, 2021).

One challenge associated with hybrid work is the visibility bias, whereby employees who spend more time in the office are perceived as more engaged or productive, potentially resulting in inequities in promotions and career advancement (Choudhury, 2021). Golden (2006) highlights that maintaining a strong sense of organizational belonging among remote workers depends heavily on managerial communication practices. Consequently, managers must adopt outcome-based performance metrics that go beyond physical visibility.

Communication and interaction also need to be reimagined in hybrid settings. Fragmented team structures spanning physical and digital spaces can lead to delays in information sharing, miscommunication, and emotional disconnection (Waizenegger et al., 2020). Structuring meetings and decision-making processes to be inclusive of both remote and on-site employees is essential to fostering a sense of belonging. According to Microsoft's *Hybrid Work Trends Report* (2021), 42% of hybrid employees report feeling disconnected from their teams.

Leadership is a crucial determinant of success in hybrid work environments. Empathetic, outcome-oriented leaders with strong digital literacy are better equipped to understand diverse employee needs and foster alignment across hybrid teams (Stoica & Rugiubei, 2025). Organizations should therefore provide systematic training in digital leadership and manage cultural transformation at the strategic level.

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From a psychosocial perspective, hybrid work can contribute to loneliness, burnout, and identity fragmentation for some employees (Sütçü & Budak, 2022). For those working primarily from home, blurred boundaries, extended work hours, and lack of social support may negatively impact mental well-being (Eurofound, 2021; WHO & ILO, 2022). Thus, employers must complement technological support with comprehensive psychosocial resources.

The success of hybrid work also depends on fostering organizational justice and participatory cultures. Siemens (2020), for example, implemented *team agreements* that empower teams to collaboratively define their own work arrangements, thereby enhancing participation and shared responsibility. Such practices represent an important evolution of hybrid work into not only a spatial but also a managerial flexibility model.

Ultimately, hybrid work has become a structural business model that is transforming organizational culture, leadership approaches, and employee expectations. Its effective implementation hinges on transparent communication, outcome-based management, psychosocial support systems, and participatory organizational policies. The success of the hybrid model depends less on where employees work, and more on how they are supported and evaluated.

1.5. Gig Economy and Digital Platforms

The gig economy is a labor market characterized by short-term, project-based, and independent work arrangements, often facilitated through digital platforms. In this model, individuals earn income through flexible and temporary engagements rather than traditional long-term employment contracts. Platforms such as Uber, Airbnb, Upwork, and Fiverr have played a significant role in popularizing the gig economy (De Stefano, 2016).

In Turkey, platforms such as BiTaksi, Getir, Armut, and Bionluk represent local adaptations of the gig model. While the gig economy offers advantages such as flexibility, entrepreneurial opportunities, and low barriers to entry, it also poses critical challenges regarding social security, stable income, and job security (Aloisi, 2019).

Gig workers often lack access to the social protection mechanisms available in traditional employment models, raising questions about the sustainability of this form of work. Income volatility, inconsistent project availability, and algorithmic management contribute to uncertainty and stress among gig workers. As the digital platform economy evolves, there is an urgent need for updated social policy frameworks to address these emerging challenges.

Methodology

This study aims to examine the new employment models emerging from digitalization in the world of work through a multidimensional perspective. A qualitative research approach was adopted, with descriptive analysis serving as the primary methodological framework. The research focuses on work arrangements that have become increasingly prevalent with digital transformation—namely remote work, flexible work, hybrid work, and gig economy-based models—and analyzes their effects on individual experiences and organizational structures.

Throughout the study, recent theoretical and empirical contributions from the literature were critically reviewed. The selected work models were analyzed in terms of their historical backgrounds, areas of application, and the outcomes they produce in practice. The research was designed from an interdisciplinary perspective, incorporating sociological, psychological, and managerial dimensions.

Particular emphasis was placed on exploring how digitalization is reshaping work practices and how this transformation is reflected in employee well-being and organizational culture. These impacts were thematically categorized to provide a systematic understanding of the phenomenon.

2. Aim

The primary aim of this study is to comprehensively evaluate the impact of emerging work models—such as remote, flexible, hybrid, and gig-based employment—on both employees and organizations in the context of digitalization. The research highlights not only the advantages of these models, including increased flexibility and productivity, but also potential drawbacks such as job insecurity, psychosocial risks, and challenges related to organizational commitment.

In addition, the study seeks to examine how leadership approaches, organizational culture, and human resource policies are being reshaped by digital transformation. In line with this aim, the research also aspires to develop policy recommendations for the implementation of sustainable digital work models.

3. Method

In this study, a qualitative research method was employed to analyze the multilayered nature of the transformation driven by digitalization in the world of work. A descriptive analysis approach was adopted to better understand the impacts of digital work models on individuals and organizations. The methodological choices were guided by the need to address the dynamic nature of the subject through an interdisciplinary perspective.

The research specifically examined four primary work models: remote work, flexible employment, hybrid models, and the gig economy. Each model was analyzed in relation to its structural and psychosocial impacts on the workforce. Furthermore, these models were contextualized and examined in relation to organizational processes, leadership approaches, and employee experiences.

Given the study's emphasis on sociocultural transformations rather than technical infrastructure, primary data collection methods such as direct observation or interviews were not utilized. Instead, content analysis was conducted on existing literature and institutional documents to identify thematic patterns relevant to the topic. Through this approach, the study aims to emphasize that digitalization is not merely a technological innovation, but a paradigm shift that is redefining organizational culture.

Data Collection Instrument

This study was based on secondary data sources, and a literature review methodology was employed accordingly. A systematic examination was conducted of academic articles, public policy documents, professional reports, and legislative regulations published at both national and international levels. In particular, recent data from organizations such as the OECD, Eurofound, and the World Economic Forum (WEF) were integrated into the study.

During the data analysis process, content analysis was used as the primary method. The collected data were categorized thematically and analyzed within a conceptual framework. This approach enabled the examination of the impact of digitalization on emerging work models, supported by both theoretical insights and practical examples.

Findings and Discussion

Core Dynamics of Digitalization

Digitalization has not only transformed production technologies but has also exerted profound impacts on labor markets, organizational structures, and leadership paradigms. According to OECD (2021), digital transformation extends beyond technical infrastructure investments and necessitates the redesign of

organizational culture, competency management, and work processes. Tools such as artificial intelligence, cloud computing, big data, and automation accelerate decision-making processes but also introduce risks for employees, including digital exclusion and skill erosion (Brynjolfsson & McAfee, 2014).

Remote Work: Opportunities and Limitations

The remote work model, which rapidly expanded during the COVID-19 pandemic, has become a permanent practice for many organizations. According to KPMG (2023), approximately 48% of companies in Turkey continue to implement remote or hybrid work arrangements. Choudhury, Foroughi, and Larson (2021) emphasize that remote work enhances productivity and employee satisfaction, whereas Gajendran and Harrison (2007) caution that long-term remote work may weaken organizational commitment. Studies by Eurofound (2020) and Özdemir & Gökmen (2021) highlight challenges related to time management, digital fatigue, and social isolation.

The Rise of the Hybrid Model

The hybrid work model refers to a flexible structure that combines remote and in-person work. According to Gartner (2022), 70% of employees prefer hybrid work. This model offers a balanced structure in terms of both focus and social interaction (Kane et al., 2021). However, disparities may arise between employees working on-site and those working remotely, potentially undermining perceptions of fairness within organizations. This necessitates the redesign of leadership styles, communication strategies, and meeting dynamics (Allen, Golden, & Shockley, 2015).

The Gig Economy: Freedom or Insecurity?

The gig economy is a model in which individuals perform independent work via digital platforms. In Turkey, platforms such as Getir, Armut, and BiTaksi illustrate the growing prevalence of this model. While gig work offers flexibility and autonomy, it also lacks essential protections such as social security, stable income, and union rights (Aloisi, 2019). Moreover, algorithmic management and reliance on customer ratings further exacerbate job insecurity for gig workers (De Stefano, 2016).

Psychosocial Implications: Digital Burnout and Isolation

The psychosocial impacts of new work models are particularly pronounced in remote and flexible arrangements, where blurred boundaries between work and personal life can affect employee well-being. The culture of “constant availability” fosters digital burnout. According to Eurofound (2021), approximately 27% of remote workers report feelings of loneliness and weakened social connections. The

study by Sütçü & Budak (2022) found that more than 40% of employees in Turkey experience negative effects from blurred work-life boundaries. These outcomes affect not only individual well-being but also organizational commitment and performance.

Organizational Implications and Digital Leadership

Emerging work models necessitate not only structural but also cultural transformations within organizations. The influence of digitalization has shifted traditional supervisory models toward trust-based, outcome-oriented leadership (Stoica & Rugiubei, 2025). In predominantly remote environments, leaders must cultivate social capital to foster interaction and engagement among employees. Furthermore, the development of training programs on virtual team leadership and digital leadership capabilities is crucial to enhancing managerial capacity in this new era (Allen et al., 2015). These findings underscore that digitalization is not merely a technical transformation but a multi-layered paradigm shift reshaping organizational behavior, leadership styles, and the psychosocial dimensions of work.

Policy Recommendations and Best Practices

To ensure that new work models driven by digital transformation are sustainable, equitable, and productive, structural changes are needed in both legal regulations and organizational policies. These recommendations address not only the technical adaptation of work processes but also the enhancement of employee experience, the redesign of leadership approaches, and the development of health and psychosocial support mechanisms.

First, companies should formalize their remote and hybrid work policies, with clearly defined roles and responsibilities. The “team agreements” model adopted by Siemens Germany enables teams to collaboratively define their own working rules, thereby enhancing both clarity and employee participation (Siemens, 2020).

Second, to support sustainable remote work, organizations should provide technological and ergonomic resources. Companies such as Twitter and Shopify offer financial and technical support to employees for home-based work setups, serving as best practice examples in this area (Shopify, 2021; Twitter, 2020). Additionally, leadership training in digital leadership and virtual team management, along with the implementation of outcome-based performance systems (e.g., OKRs), represent strategic approaches aligned with leadership expectations in the digital era (Doerr, 2018).

Strengthening psychosocial support mechanisms is also critical. In remote-focused organizations like GitLab, regular virtual social activities are conducted as effective measures to combat loneliness and burnout (GitLab, 2021). Finally, legal measures such as France’s “right to disconnect,” which protects employees’ work-life balance by eliminating the obligation to respond to digital communication outside working hours, offer promising examples (OECD, 2021). The wider adoption of such policies can safeguard not only the right to work but also the right to rest in the digital age.

Collectively, these practices demonstrate that the success of new work models depends not solely on technological infrastructure, but also on the reconstruction of organizational culture, leadership approaches, and employee well-being policies.

Legal and Policy Framework

The emergence of new employment models driven by digitalization necessitates not only technical and managerial transformations but also the restructuring of legal frameworks. The widespread adoption of remote, flexible, and gig-based work challenges the boundaries of traditional labor law and raises questions about the adequacy of existing regulations.

In Turkey, the legal framework for remote work was established under Article 14 of the Labor Law No. 4857. Following a 2016 amendment, remote work became legally recognized, provided there is a written agreement between employer and employee. However, in practice, ambiguities remain regarding performance monitoring, data security, and working hours (Turkish Labor Law, 2016).

In the context of the gig economy, legal protections are even more limited. Gig workers are typically classified as independent contractors and therefore lack access to essential rights such as job security, severance pay, paid leave, and social security. This situation renders gig workers’ contributions as a form of “invisible labor” and increases the risk of social exclusion (Aloisi, 2019).

At the international level, some countries are taking steps to address these legal gaps. France’s 2017 implementation of the “right to disconnect” eliminates employees’ obligation to respond to employers’ digital communications outside of working hours, thereby protecting work-life balance and mental health (OECD, 2021). Similarly, in 2021, the European Commission introduced a draft directive aimed at strengthening the rights of platform workers. The directive seeks to increase transparency in algorithmic management, clarify employer-employee relationships, and expand access to social protections.

In the Turkish context, safeguarding employee rights in the digital era requires an integrated policy approach that goes beyond the Labor Law. Complementary frameworks should include the Personal Data Protection Law (KVKK), regulations from the Vocational Qualifications Authority, and digital inspection

guidelines from the Ministry of Labor. Moreover, it is essential to introduce specific occupational health and safety regulations that address psychosocial risks associated with remote and hybrid work.

In conclusion, the new work models emerging from digitalization call for a comprehensive and contemporary policy approach that transcends traditional labor law. Developing a balanced legal framework that protects employee rights while enabling flexibility is critical to ensuring the sustainability of the digital workforce.

4. Conclusion and Evaluation

This study was conducted to analyze the impacts of the transformation in work models brought about by digitalization at both individual and organizational levels. The evaluation, framed around remote, flexible, hybrid, and gig-based work models, revealed that digitalization is reshaping the world of work not only technologically but also socially, culturally, and managerially. The findings indicate that, alongside benefits such as flexibility and geographical independence, new challenges have emerged in areas such as work-life balance, psychosocial well-being, and organizational commitment.

These results suggest that the transformation of work driven by digitalization must be approached from a more holistic perspective—beyond short-term gains in productivity—considering long-term organizational sustainability and employee satisfaction. Accordingly, the strategic practices recommended throughout this study center on the development of employee-centered policies, the promotion of digital leadership, and the strengthening of ergonomic and technical infrastructures. Furthermore, as these new work models become permanent, greater attention must be given to issues such as job security, equal access, and digital literacy.

The successful implementation of these digitally driven work models depends not solely on technological adaptation but also on organizational flexibility, employee-centered management, and the preservation of social cohesion. It is therefore imperative that policymakers and businesses share responsibility in shaping the digital transformation process to be more equitable, inclusive, and sustainable.

This study aims to contribute to the literature on evolving work models in the digital era and to provide guidance for practitioners. Future research should incorporate more detailed sectoral comparisons and quantitative data analyses to foster a deeper understanding of this dynamic field.

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Skill Need In The Pishmaniye Industry: Determining The Skill Needs Of Workers Working In The Pishmaniye Factory

Mustafa SAHİN⁹⁷

Abstract

This study examines the historical development and production processes of the local dessert of Kocaeli, Pişmaniye. Sectoral development and especially the need for labor skills have been analyzed. The effect of the transition of Pişmaniye from traditional production methods to industrial production on the quality of the labor force in the sector and the labor skill gap have been revealed. The supply of qualified labor force and the skill gap in the labor market are gaining importance as increasing problems in the Pişmaniye sector as in different sectors. The research was conducted in the “Buşah Pişmaniye” enterprise operating in İzmit. The research model was created as an exploratory one. Qualitative research methods were used in the research and a semi-structured interview form was used as the data collection tool. The research was conducted on 38 employees in the enterprise. Face-to-face interviews lasting 30 minutes were conducted with each employee. The following findings were obtained in the research; Pişmaniye production is a traditional craft that requires manual labor and mastery. The education and skill level of the labor force is low. There is a lack of qualified labor force and insufficient skills in the sector. There are relatively low wages and difficult working conditions. The perception of profession and professionalization of employees is low. The results of the study offer the following suggestions for the sustainability and competitiveness of the phyllo pastry sector: Integrating developing technology into the production process along with traditional production methods. Investing in R&D activities to develop new products that meet consumer demands. Consumer preferences are diversifying from traditional phyllo pastry varieties to gluten-free and differently flavored products. In this context, research on consumer preferences is needed. Strengthening the promotion of the sector and increasing export potential. For the development of the sector, vocational training programs need to be published, R&D investments need to be increased and promotional activities need to be strengthened. Developing innovative methods in vocational training, implementing the learning outcomes approach and quality assurance. Implementing new working models for changing technology and working conditions.

Keywords: Cotton Candy, Production, Handicraft, Hand Skills, Technology

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INTRODUCTION

This study investigates the skills that human resources in the Turkish delight sector should possess and the importance of these skills. This study, conducted with the aim of determining the skill requirements of human resources in the Turkish delight sector, is also important in terms of measuring the skill requirements of human resources in companies operating in the sector. Additionally, the study aims to develop policies that will contribute to the career development of those working in the pişmaniye sector.

The pişmaniye confectionery sector is one in which there are deficiencies in the coordination between labor and mechanization. The production process requires special attention and sensitivity. Compared to other sweets, it is a more exotic sweet, so it has not been produced on a large scale and has been produced mainly in local regions and transported to places where it is in demand. This situation has made the sector self-sufficient due to the lack of incentives from machine manufacturers and the state.

This research was conducted on employees working at the İzmit BUŞAH pişmaniye factory.

Problems in the Sector: In the pişmaniye sector, the lack of qualified human resources, inadequate training programs, and wages are prominent issues. The fact that the production process is based on manual skills limits production capacity.

Education and Labor Force: The education of the labor force in pişmaniye production is provided through various methods such as vocational high schools, vocational colleges, and short courses. It is emphasized that education programs should include both theoretical lessons and practical applications.

Required Skills: Workers in pişmaniye production must possess various skills, including kitchen skills, hygiene and safety knowledge, teamwork, problem-solving ability, material knowledge, and machine operation.

CHARACTERISTICS OF THE PİŞMANİYE SECTOR

Pişmaniye is a sweet made by mixing oil, flour, and sugar, kneading it with strong arms, and then adding the master's knowledge and skill to give it a delicate flavor. While it can be found in almost every region of Anatolia, the version made in Kocaeli province has gained popularity. Since it is produced and sold in large quantities in Kocaeli, it is considered a specialty of the İzmit district. In 2010, it received a “Geographical Indication Certificate” as “İZMİT PİŞMANİYESİ.”

It has become particularly popular in Kocaeli/İzmit and received a Geographical Indication Certificate in 2010 as “İzmit Pişmaniyesi.”

In Eskişehir, it is known as “tel tel,” and in Kastamonu, it is known as ‘çekme’ or “çekme helvası.”

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“Peşmek,” “tel helva,” “keten helva,” and “çekme helva” are different forms of pişmaniye (pişmaniye, 2024).

Since pişmaniye, which originated in Iran, was called “peşmek,” it eventually came to be called “pişmaniye” in Turkish. It is said to come from the Ottoman Turkish word peşmin, which means wool.

Pişmaniye production is a traditional sweet that relies on manual labor and human power. Pişmaniye is a delicate product, and all stages from production to marketing are described. The characteristics of the sector are as follows:

1. Traditional production: Since pişmaniye is a traditional sweet, the sector emphasizes traditional production methods and recipes. Special recipes passed down from generation to generation are applied. This is why businesses in the market value their deep-rooted history and craftsmanship.
2. Handmade production: Since pişmaniye production mostly involves a handmade production process, businesses in the market mostly require skilled and experienced craftsmen. This highlights the importance of labor quality and skill levels in the market.
3. Seasonal demand: Since pişmaniye is a type of sweet typically consumed during holidays and special occasions, there may be seasonal fluctuations in the market. This underscores the importance of production planning and inventory management in the sector.
4. Local production and marketing: Since pişmaniye is a sweet that is generally produced and consumed in specific regions, local production and marketing strategies are important in the market. Local supply chains and customer relationships should be prioritized.
5. Quality and hygiene standards: As with all food production, hygiene standards and quality should be prioritized in pişmaniye production (specifics of the pişmaniye sector, no date).

Stages of Pişmaniye Production

Pişmaniye production consists of three stages: dough baking, sugar boiling, and pulling. In the first stage, the dough mixture consists of 76% flour, 23% vegetable solid fat, and 0.7-1% tahini. The oil is melted and gradually added to the flour and tahini mixture. This mixture is cooked for approximately 6-7 hours until it becomes homogeneous. The prepared dough is left to rest for one day before use.

In the second stage, 86% powdered sugar and 14% glucose syrup are added, along with a small amount (5 grams for a 75 kg mixture) of lemon salt. The mixing process is completed when the sugar dissolves, and the temperature is allowed to reach 165-175°C. The boiling sugar is poured onto a pre-greased cooling tray, allowed to cool, and given a consistency similar to molasses. The sugar, which has cooled to

approximately 55-70°C, is then placed in a bleaching machine to be whitened. The bleaching machine mixes the sugar to increase its contact with air.

In the final stage, the sugar and dough are combined in a ratio of 60% to 40% on pulling tables. These tables must be heated from below and have a surface temperature of approximately 50-60°C. For the pulling process, the sugar is shaped into a circle and the dough is placed on top. The sugar-dough mixture, extended toward the outer edge of the table, is folded into an “8” shape and joined in the middle, then pulled back toward the outer edges to achieve the characteristic thread-like form of pişmaniye. This process continues for approximately half an hour.

The finished pişmaniye is packaged in boxes in small shapes or as a whole, in a puffed form. It is packaged in appropriate packaging, stored under appropriate storage conditions, and offered to the market. The combination of the concepts of work and strength should be understood as a skilled, experienced, knowledgeable, and masterful accumulation of knowledge that has been refined and molded over the years.

HUMAN RESOURCES IN THE PİŞMANIYE SECTOR AND THEIR CHARACTERISTICS

Human resources consist of employees who are hired for a job in exchange for a salary or income. Human resource management is one of the most important aspects of ensuring that the human resources management process runs smoothly. For this reason, human resources specialists focus on workforce management and diversity. Although there is a belief that automation will reduce the need for skilled workers, research shows that even in the production of simple “pişmaniye,” the work cannot be done entirely by machines. If there is no expertise in a job, it would be pointless to talk about its automation. On the contrary, the monitoring and quality control of these machines, especially in subjective matters such as people's preferences, tastes, and palates, will undoubtedly require the final touch and input of skilled and qualified craftsmen.

Skill Requirements for Human Resources in the Pişmaniye Sector

The skill requirements for human resources may vary depending on the stages of the production process and technological requirements. Workers in the pişmaniye sector must possess the following skills:

- **Kitchen skills:** The ability to use the machines and equipment used in pişmaniye production, mix ingredients in the correct proportions, and perform cooking processes.
- **Hygiene and safety knowledge:** It is important for workers in the food production sector to work in accordance with hygiene rules and ensure that products are produced safely.

- **Teamwork:** Pişmaniye production is mostly carried out as a team, so cooperation and communication skills are important.
- **Problem-solving skills:** The ability to quickly solve problems encountered during the production process is important.
- **Recognition and use of raw materials:** It is necessary to know the properties of the materials used in pişmaniye production, be able to select the right materials, and have knowledge about the proper storage and use of materials.
- **Use of machinery and equipment:** The ability to use the special machinery and equipment used in pişmaniye production and the skill to maintain them are required.
- **Monitoring and control of the production process:** It is important to be able to monitor every stage of the pişmaniye production process, control product quality, and make necessary corrections.
- **Quality control and safety standards:** It is important to be able to work in accordance with quality control and safety standards in the food production sector, to ensure that products are produced under hygienic conditions, and to work in accordance with occupational health and safety rules.
- **Creativity and innovation:** With the increase in competition in the pişmaniye sector, it is important to be creative and innovative in order to develop new products, renew existing products, and produce products that meet customer demands.
- **Communication and customer relations:** Those working in the pişmaniye sector must be able to communicate effectively with customers, consider customer demands, and have the authority to ensure customer satisfaction.

These skills and competencies enable those working in the pişmaniye sector to be successful and competitive in the sector (skill requirements in the pişmaniye sector, 2023).

Skill Acquisition Process and Training of Human Resources in the Pişmaniye Sector

The training of the workforce in the pişmaniye sector is a stage aimed at teaching the technical skills and knowledge required for pişmaniye production. This training covers topics such as the history of pişmaniye, traditional production methods, modern production techniques, hygiene rules, and food safety.

Human resources training is provided in various ways. These include:

- **Vocational Training:** vocational high schools and vocational colleges provide vocational training related to pişmaniye production. These programs include both theoretical courses and practical

applications.

- **Master-Apprentice Relationships:** traditionally, pişmaniye production has been taught through master-apprentice relationships. In this method, a master pişmaniye maker shows and teaches the apprentice all stages of pişmaniye production.
- **Short Courses:** Short courses related to pişmaniye production are also available. These courses are aimed at teaching the basics of pişmaniye production (master certification, 2024).

Some important points to consider in the training of the workforce in the pişmaniye sector are as follows:

- Training programs should be tailored to the needs of the sector.
- Training programs should include practical applications as well as theoretical lessons.
- Trainers should be experienced and knowledgeable in pişmaniye production.
- Training programs should emphasize hygiene rules and food safety.

As with everything else, training has many benefits for the pişmaniye sector. The most important of these are as follows:

- It improves the quality of pişmaniye production.
- It ensures that pişmaniye production is carried out in a hygienic and reliable manner.
- It addresses the shortage of qualified/skilled labor in the sector.
- It reduces unemployment.

The education of the workforce in the pişmaniye sector is crucial for the sector's development and sustainability. Therefore, all stakeholders in the sector must provide the necessary support in this regard.

Problems Encountered in the Process of Finding Human Resources in the Pişmaniye Sector

Some of the significant problems encountered in finding workers in the pişmaniye sector are as follows:

Lack of Qualified Workers: Pişmaniye production is a craft that involves different stages such as pulling, cutting, and packaging. Each stage requires special skills and knowledge. Acquiring these skills requires education and experience.

Currently, there are not enough educational programs related to pişmaniye production. The existing programs do not fully meet the needs of the sector. This situation exacerbates the shortage of skilled labor. The shortage of skilled labor limits production capacity and negatively affects product quality. Since the pişmaniye production process is labor-intensive, it prevents production quantities from reaching

the desired level.

Insufficient Education: There are many reasons for the lack of adequate training programs related to pişmaniye production. The most important of these reasons are as follows:

- The sector has a fragmented and scattered structure rather than a unified one.
- Insufficient investment in education and research within the sector.
- Pişmaniye production is seen as a traditional craft and this craft does not have a theoretical structure.
- Vocational high schools do not include pişmaniye production in their curricula, even within the borders of Kocaeli. This solution will eliminate the problem of not teaching the job to new employees, as masters fear that their jobs will be taken away from them and do not want someone else to take their place.

Working Conditions: Pişmaniye production is difficult and exhausting. Long working hours and challenging working environments are reducing demand for the sector. The reasons for the difficult working conditions are as follows:

- Production is largely done by hand,
- Businesses do not invest enough in modern production technologies.

Insufficient Promotion of the Sector: The pişmaniye sector is not sufficiently promoted to new generations. As a result, it is difficult to attract new labor to the sector. The reasons for the lack of promotion are as follows:

- The sector does not allocate sufficient resources to marketing and promotion activities,
- Pişmaniye is perceived as a traditional product and is not marketed as a modern product.

To address the shortage of skilled labor, develop and expand vocational training programs related to pişmaniye production. Investment in education and research is necessary in the sector, but this solution is overlooked because investments in education are considered unnecessary by businesses. Changing the perception that pişmaniye production is a traditional craft and establishing a theoretical framework for this craft (Turkish Vocational Education Institution). Including pişmaniye production in vocational high schools offers a solution to the problem of experienced personnel who are knowledgeable about the production stages.

Modern technologies should be used in production. Investments should be made in worker health and safety. Resources should be allocated to marketing and promotional activities. Pişmaniye should be marketed as a modern product. Promotional activities should be carried out targeting younger generations.

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Resolving these issues is of great importance for the development and sustainability of the pişmaniye sector.

Due to its limited nature, the sector is not attractive to large machinery manufacturers. The sector primarily serves a regional and narrow market rather than the national or global level, making it unattractive and unprofitable for large machinery and automation companies. In the machines produced, except for those designed for standard processes such as dough mixing, they are generally tailored to the needs of the manufacturer, with many components remaining entirely within the scope of “custom work.” Machine manufacturers cannot utilize the knowledge and components developed here in other sectors. Manufacturers have attempted to reduce initial machine costs and subsequent maintenance expenses by partially modifying machinery and equipment from similar industries to suit their own needs.

The government does not provide R&D support for the sector. However, if R&D support were provided, there would be no reason for consumers not to be introduced to different flavors and forms of pişmaniye. Due to its delicate nature and short shelf life, R&D costs are expensive and have little return on investment, making them a significant burden for producers to bear without support. Even with comprehensive R&D subsidies for flour, sugar, and oil products used in the production recipe, this would only be partially feasible.

The government's support for production and exports is very limited. There are no subsidies or similar support related to sugar in the production sector. This directly affects prices, as it is a sweet that uses a large amount of sugar as raw material. Similarly, there are no incentives or support in the pişmaniye sector, or they are very limited and specific, as is the case with other companies producing for export. However, if the government were to provide incentives and support for exports, there would be no reason for the demand for pişmaniye, a unique and distinctive Turkish sweet, not to increase. Promotions conducted by the Ministry of Tourism could also enhance the appeal of Turkish tourism and satisfy these producers.

RESEARCH

Purpose of the Research

The purpose of the research is to determine the skill requirements of human resources in the pişmaniye sector and to identify the factors that influence these requirements. The study aims to identify the expectations and career plans of those working in the sector. Due to the nature of the product, which is based on manual skills, the production process was initially dominated by a master-apprentice approach. However, with the introduction of technology and mechanization into the sector over time, the need for

manual skills in the production process has been greatly reduced, if not completely eliminated. Most of the work is now done by machines, and the human factor has been reduced to the level of observer-supervisor. It is noted that the master-apprentice relationship, which is necessary for human resource skills in the sector, has disappeared. The reasons for this and its consequences have been investigated.

Research Method and Data Collection Tools

The research was conducted at the Buşah facility in İzmit. The research model was designed to be exploratory in nature. Qualitative research methods were utilized, and a semi-structured interview form was used as the data collection tool.

We asked various questions to determine how many times the employees had changed jobs before this one, in which sectors they had previously worked, what professional certificates they possessed, whether they had any certificates required to work in the pişmaniye industry, whether they had received any continuing education or certificates during the work process, how long it took them to acquire the knowledge and skills required for their current job, and which stages they found most challenging at this stage. Additionally, we conducted interviews to understand their satisfaction, awareness, and mastery of their work, and we also asked questions related to their general issues and expectations in their professional lives.

Research Methodology

The research was conducted with employees at the Buşah pişmaniye factory. Interviews were planned with all employees at the factory. The research was conducted with employees who were present at the factory and agreed to participate in the research. One-hour interviews were conducted with participating employees in their work environments.

Research Findings and Analysis

The findings obtained as a result of the research are as follows:

90.9% of the participants in the research are women. The majority of employees in the sector and in the company covered by the research are women.

In addition, due to a characteristic of the sector, it has been determined that almost every age group works or can work in this sector.

The marital, family, and educational statuses of the employees vary.

When examining employees' professional knowledge, years of experience in the sector, and job changes,

it is observed that employee turnover is high.

Participants gave a wide variety of answers to the question of which sectors they had worked in previously. Very few of them continued in the baklava sector after changing companies, but it was found that most of them had come from sectors other than their current one. When asked about the documents they possess, it was observed that, apart from the mandatory hygiene and occupational health certificates, very few participants had any sector-specific craftsmanship or apprenticeship certificates. When asked about the steps they

When examining how long it takes to acquire the current job and manual skills in this sector, a period of 2 months to 2 years stands out. The table below shows the distribution of time spent on skill development.

CONCLUSION

In this study, which aims to determine the skill requirements of human resources in the baklava sector, it is noteworthy that both employers and employees have demands regarding skill requirements. The study shows that human resources require mastery and advanced skills. The relatively young age of employees is noted to result in impatience, lack of motivation, and deficiencies in acquiring skills due to insufficient investment and planning. The high number of female employees is particularly notable because the production of pişmaniye requires a delicate and sensitive skill due to the product's extreme fragility and tendency to deform quickly. While production stages requiring strength and skill are generally automated, the final touches cannot be replicated by machines, highlighting the importance of women's skill and dexterity. The high number of female employees also serves as evidence of this. When examining the professional backgrounds of the employees, it is evident that most of them acquired their knowledge and skills through on-the-job training, partly through the master-apprentice method, rather than through academic education. When asked what they do to improve their knowledge and skills, it was found that, apart from obtaining the legally required documents, they do not have any direct physical actions related to the sector, but in our interview questions, it was determined that they have enthusiasm and intentions in this direction. It is recommended that these intentions and enthusiasm be evaluated and processed in line with the common interests and objectives of the sector and employers, and that these intentions be directed in a way that provides motivation. The most challenging aspect for employees was the temperature response during the production phase. However, this temperature is an unavoidable reality. Due to the physical strength required, the challenging conditions of the environment (heat), and the need for continuous coordinated and fast work in packaging processes that involve teamwork, coordination, and fast-paced movements, difficulties, sensitivities, and complaints have been observed.

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Since pişmaniye is a heavy and labor-intensive sweet, receiving such responses was an expected outcome. When asked, “Have you received any training or support to develop your skills and abilities? If not, what kind of training would you like to receive?” the majority of responses indicated that, not only in the pişmaniye sector but also in other skill-intensive jobs, training is primarily provided through on-the-job training, such as apprenticeship programs and learning by doing, rather than through academic institutions (vocational schools and courses).

It is well-known that the production process of pişmaniye involves highly sensitive, fast, and uninterrupted stages. For this reason, meticulousness, monitoring, and quality control are required at every stage of production. The only way to prevent errors is through strict monitoring and coordination at every stage.

As with many products in our country, if it were not for exports, the pişmaniye sector would probably have already reached its final days. In order to ensure the continuity of skilled personnel and master-apprentice training, as well as the survival of existing ones, the state must also provide support to the sector in some way, in addition to capital owners. Supporting this historical and unique sweet, at least in the Kocaeli region, through vocational training institutions, planning, and implementing education programs will support the sector and its continuity. In addition, regional state support is also necessary. Providing tax incentives, subsidies for raw material purchases, and other forms of support to such businesses, with the intention of at least placing them under historical protection, would be beneficial for the sustainability of producers. Thanks to the financial support provided by the state, employers may be able to create their own educational resources and open micro-training courses to train their own masters. If these measures are not taken, the pişmaniye sector may begin to disappear in the near future. Although both consumers and producers may regret this, it is hoped that pişmaniye will continue to be associated with our city of Kocaeli/İzmit.

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State Aid Recovery and M&A Risk: Navigating Successor Liability in Light of ECJ Case C- 588/23

Marta Vejseli⁹⁸

Abstract

The judgment of the European Court of Justice in Case C-588/23, delivered on 16 January 2025, represents a notable development in the jurisprudence surrounding the recovery of unlawful State aid. Central to the court's reasoning is the reaffirmation of the principle that repayment obligations may, under certain conditions, extend beyond the original beneficiary to a successor undertaking. This is particularly relevant where core elements of the business—such as assets, workforce, and operational continuity—have been transferred in substance, even if not in form.

This paper situates the ruling within the broader legal framework of economic continuity, examining how the court has built on prior case law, including *Germany v. Commission* (C-277/00), *Groupe Lactalis v. Commission* (T-121/15), and *Ryanair v. Commission* (T-123/09), to clarify the circumstances under which successors may be held liable. By analyzing the factual and legal tests applied—such as the preservation of economic activity, overlap in ownership or control, and transactional context—the study highlights the implications of the judgment for merger structuring, insolvency procedures, and public enforcement of competition rules.

The findings underscore the strategic importance of assessing legacy State aid exposure in the context of corporate acquisitions and reorganizations, particularly where distressed assets or privatizations are involved. This paper aims to contribute to a more practical understanding of successor liability and its impact on transactional risk within the internal market.

Keywords: State Aid; M&A; Restructuring; Economic Continuity, EU Competition Law

JEL Codes: K21, L40, F36.

I. Introduction: State Aid Recovery and Corporate Transactions

Since the beginning of the COVID-19 pandemic, granting of State aid by the governments has increased significantly compared to the pre-pandemic period. This development has led to an increased statistics of

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unlawful granting of public financial support, situations where the beneficiary undertaking or its assets were subsequently transferred to another company or where simply the companies even after receiving the State aid went bankrupt and assets were transferred to another company. The COVID-19 crisis further complicated this legal landscape through the proliferation of aid under the Temporary Framework adopted by the European Commission (Bungenberg, Griebel, & Herrmann, 2020). In these contexts, arises the legal question: who bears the responsibility for reimbursing the unlawfully obtained advantage—the acquirer, the seller, or both in case of the sale of business tool? Particularly in M&A transactions involving share deals or asset deals, clarity must be sought as to whether, and under what conditions, repayment obligations may arise where (historical) granting of governmental support was involved. While the compatibility of aid measures traditionally dominates State aid control, the procedural enforcement of recovery decisions has taken on growing relevance in the context of corporate transactions, particularly mergers and acquisitions (König, 2023).

It is often unclear whether certain economic advantages obtained by the target entity qualify as unlawful State aid subject to repayment. Consequently, potential acquirers must assess the risk of inheriting State aid liabilities on behalf of the doctrine of “*economic continuity*”. In practice, determining the recoverable amount of such unlawful aid, including interest, poses significant challenges for public authorities (Schwarze, 2019).

State aid rules, as stipulated in Articles 107 and 108 TFEU, regulate governmental measures that may distort competition within the internal market (Streinz, 2018). These principles also apply in the Republic of North Macedonia under the Law on Control of State Aid (Zakon za kontrola na drzavna pomos), and their direct applicability in North Macedonia is derived from Article 69 of the Stabilization and Association Agreement (Article 69 of the Stabilization and Association Agreement between the European Communities and their Member States, of the one part, and the Republic of North Macedonia, of the other part, OJ L 84, 20.03.2004, p. 13–113).

II. Legal Foundations of State Aid Recovery

II.1 Treaty Framework and Recovery Mechanism

Article 107(1) TFEU prohibits State aid unless it is justified by derogations, such as those provided by the General Block Exemption Regulation or when the aid is pre-notified and approved by the Commission. Aid that fails to meet these criteria is deemed unlawful, and recovery serves to restore the pre-aid competitive balance (Case C-37/91 Commission v France, 1993; Heidenhain, 2021).

II.2 Procedural Rules on Recovery

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Regulation (EU) 2015/1589 governs procedural aspects of State aid control. Article 16 obliges Member States to recover incompatible aid without delay. This obligation also derives from Article 108(3) TFEU, which empowers the Commission to restore competition through recovery. The limitation period for the recovery of unlawful State aid under EU law starts to run from the day on which the unlawful aid is granted to the beneficiary—and for aid paid in instalments, the limitation period starts running from the date of payment of the *last* instalment (CJEU (2008). *Chronopost SA and La Poste v Commission*, Joined Cases C-341/06 P & C-342/06 P, ECLI:EU:C:2008:375. CJEU (2013). *Deutsche Lufthansa AG v Flughafen Frankfurt-Hahn GmbH*, Case C-284/12, ECLI:EU:C:2013:755).

Article 17 of the Council Regulation (EU) 2015/1589 imposes a ten-year limitation period on recovery, which may be interrupted by action from the Commission or the Member State (Streinz, 2018). Once interrupted, the limitation period restarts again. Accordingly, the recovery risk ceases to exist only after ten uninterrupted years.

II.3 Identifying the Recovery Debtor

The initial beneficiary is the primary recovery debtor. However, under certain circumstances, successor entities may also be held liable. The Commission Notice on recovery (2019/C 247/01) provides that unlawful aid must be recovered from the undertaking which actually benefited from it. Where the recipient is not named in the recovery decision, the Member State must identify the appropriate debtor based on the actual economic situation (Case C-303/88 *Italy v Commission*, 1991; Case C-350/93 *Commission v Italy*, 1995). Liability may be extended to third parties where economic continuity is established between the original beneficiary and the successor (Bungenberg, Griebel, & Herrmann, 2020).

III. The Evolution of the Economic Continuity Doctrine

a) Definition of Economic Continuity under ECJ Case Law

Economic continuity occurs where the essential economic substance of a business persists despite formal legal changes. The ECJ has clarified that aid must be recovered from the undertaking that carries on the economic activity of the original beneficiary and thus retains the competitive advantage (CJEU, 2025, para. 40). The court emphasized that ignoring economic continuity would undermine the effectiveness (*effet utile*) of Article 108 TFEU.

In *Germany v Commission* (Case C-277/00), the court held that successor liability may arise where core business activities continue. Key indicators include: asset transfer, retention of management, workforce or customer base, similarity in business model, purchase price below market value, and insolvency context (CJEU, 2004, para. 80).

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Only one criterion needs be fulfilled to establish economic continuity. This principle was reaffirmed in C-588/23, where **despite** the asset purchase being at market value, the existence of economic continuity was confirmed.

III.2 The established EU case - law

In *Germany v Commission*, the ECJ confirmed that successor liability is applicable where assets and economic functions are transferred (Case C-277/00, 2004). In *Groupe Lactalis* (Case T-121/15), the General Court provided additional clarity on this doctrine.

III.3 The Nürburgring Case

In *NeXovation v Commission* (Case T-353/15) and *Ja zum Nürburgring* (Case T-373/15), the General Court held that where assets are sold transparently at market value without personal or organizational continuity, economic continuity may be excluded. However, the recent case C-588/23 seems to depart from this reasoning, confirming that even transactions executed at market value do not necessarily preclude successor liability if other indicators of continuity exist.

V. Procedural Novelty: Articles 41 and 47 CFR

SCAI argued that its rights under Articles 41 (good administration) and 47 (fair trial) of the Charter were infringed because it was not named in the 2015 Commission decision.

In State aid proceedings, the formal addressee of the Commission's decision is exclusively the Member State concerned, not the aid beneficiary. In many instances, the beneficiary is not even explicitly identified in the operative part of the decision. This procedural configuration reflects the legal architecture of Article 108(2) TFEU and Articles 6 and 16 of Council Regulation (EU) 2015/1589, pursuant to which the obligation to recover unlawful aid lies with the Member State. The EU Courts have consistently confirmed this principle, noting that “only the Member State is the recipient of the Commission decision ordering recovery” (see *Case C-276/03 P, Scott SA v Commission*, ECLI:EU:C:2005:590, para. 32). Furthermore, the Court has underlined that beneficiaries have no autonomous procedural standing in the Commission's administrative phase (see *Case T-227/01, Territorio Histórico de Álava and Others v Commission*, ECLI:EU:T:2009:315, para. 268).

The proceedings before the Court concerning the alleged infringement of Articles 41 and 47 of the Charter of Fundamental Rights unfolded as follows:

1. Dual phases (C-588/23, para. 49): The CJEU distinguished between the Commission procedure and the national enforcement procedure. Only Member States have procedural standing during the Commission phase since they are the only addressees of the Commission's decision.
2. Limited standing of the beneficiary (C-588/23, para. 50): Private undertakings such as SCAI cannot engage in adversarial proceedings before the Commission since they are not addressees of the Commission's decision.
3. National judicial protection (C-588/23, paras. 51–53): Recovery decisions can be challenged at national level. National courts may request a preliminary ruling under Article 267 TFEU, since they cannot decide on the (un)lawfulness, i.e. incompatibility of the State aid. The court held in this regard: “... *although the Commission decision may not have been addressed to the new entity, the national authorities remain responsible for ensuring that recovery is carried out effectively from the real beneficiary of the aid.*” (C-588/23, para. 52).
4. As regards to economic continuity the court clarified: “... *it is for the national authorities and courts to determine, on the basis of national procedural law and factual continuity, whether the undertaking to which recovery is addressed is indeed the economic successor of the original aid recipient.*”
5. Rights of defense (C-588/23, paras. 55–56): Recovery actions against unnamed entities must respect fundamental rights and procedural fairness. The court emphasized: “... *when a national authority decides to enforce a recovery order against a party not explicitly identified in the Commission's decision, that party must be afforded a genuine opportunity to present its case, in accordance with the principles of good administration and the right to a fair trial.*” (C-588/23, para. 55)
6. Lastly, the court concluded in its judgement that national authorities may extend recovery to successors where economic continuity exists, provided procedural rights are respected (Articles 41 and 47 CFR). The court stressed: “... *the binding force of a Commission decision does not preclude national authorities from examining whether another undertaking, not named in that decision, is de facto the true beneficiary of the incompatible aid.*” (C-588/23, para. 43)

In the light of foregoing arguments, the court held that national authorities may require recovery from successors where economic continuity exists, provided procedural rights are respected (Articles 41 and 47 CFR).

VI. Strategic Implications for M&A Practice

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VI.1 Due Diligence

In light of recent jurisprudential developments in the field of State aid law, conventional due diligence in M&A transactions must now be broadened to encompass an examination of past aid measures, the existence of any ongoing investigations by the Commission or national authorities, and a forward-looking assessment of potential recovery risks.

VI.2 Transaction Structuring

In order to mitigate the legal and financial risks associated with the possible recovery of unlawful State aid, particularly in transactions involving undertakings in financial distress, there are series of contractual instruments. These include for instance indemnity clauses, which serve to allocate potential liability between the contracting parties, as well as conditional closing provisions, whereby the completion of the transaction is deferred until any uncertainties—such as pending proceedings before the European Commission—have been resolved. Moreover, parties increasingly resort to so-called *Salvatorische Beihilfeklauseln*, which aim to exclude or clearly define liability if the acquired undertaking is ultimately found to have received unlawful State aid (Frenz, 2020). These mechanisms have become standard in transactional practice and reflect an increased awareness of the complex implications of the principle of economic continuity under EU State aid law.

VI.3 Regulatory and Insurance Instruments

Proactive engagement with the European Commission or national authorities may serve to clarify the scope and allocation of potential liability. However, insurance instruments tailored to State aid risks remain in their infancy and are, to date, insufficiently developed to offer comprehensive coverage.

VIII. Conclusion

The C-588/23 judgment strengthens enforcement but introduces transactional uncertainty. However, C-588/23 signals a jurisprudential shift: substance prevails over form. M&A strategies must now embed State aid compliance, combining regulatory foresight with contractual safeguards and enhanced due diligence.

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The impact of test anxiety on university students' performance: A case study at the University of Prishtina, English Department

Krenare Hoti⁹⁹

Abstract

Testing has been recognized as a vital and enormously effective instrument to decide on students' performance at all levels of education, particularly at the university level, to evaluate their knowledge, accomplishments, and skills. Nonetheless, this evaluation method has proved to consist of various disadvantages and one of the main important ones to be considered is anxiety. Therefore, this study aims is to investigate the main causes of test anxiety, the relationship between test anxiety and students' performance as well as to provide some strategies on how to deal with and prevent test anxiety. The participants of this study are students of the English Department, University Of 'Hasan Prishtina'. This study implements a mixed methods approach consisting of qualitative and quantitative data. The results of the present study are relevant to all the students who tend to suffer from various forms and symptoms of test anxiety by showing the relationship between test anxiety and academic performance, as well as providing some ways that help to lower this negative impact.

Keywords: evaluation, test anxiety, university students, students' performance

Introduction

The concept of evaluation has been mentioned since earlier periods of time in order to motivate learners to develop critical thinking. This concept has been particularly mentioned around the V century BC. Traditionally, the evaluation of the students was conducted by oral questioning that was noticed to have begun at the University of Bologna. In addition to the oral evaluation, Cambridge University in England introduced written exams in 1792. Since then, test evaluation of the students, by using various methods and instruments, is considered one of the main important aspects of teaching. Recently, testing plays a crucial role in education as well as in other aspects of our everyday life (Trifoni & Shahini, 2011). Furthermore, testing has been recognized as a vital and strongly effective instrument to decide on students' performance at all levels of education, particularly, at the university level, in order to evaluate their knowledge, accomplishments, and skills. However, this evaluation method has proved to consist of various disadvantages and one of the main important ones to be considered is anxiety and stress. Due to

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this, students may not perform at their academic potential and capacity. Moreover, they routinely regard exams as a cause of increased worry and a circumstance filled with confusion or injustice in allowing them to show their actual accomplishments, according to research (Rana & Mahmood, 2010). Test anxiety among university students has long been a source of discussion. Due to a variety of factors, university students often suffer significant levels of stress, and when stress is experienced, it causes anxiety prior to and during tests which eventually has an impact on students' academic performance (Kumari & Jain, 2014). Therefore, this study seeks to investigate the impact of test anxiety on students' performance at the University of Prishtina, Faculty of Philology. This study will be relevant to all the students who tend to suffer from various forms and symptoms of test anxiety by showing the relationship between test anxiety and academic performance, as well as providing some ways that help to lower this negative impact by having the Faculty of Philology as a case study.

Research questions

In order to achieve this study's objective, three research questions are raised:

1. What causes test anxiety?
2. Is there a relationship between test anxiety and the overall students' academic performance?
3. What are some strategies that can help students when dealing with test anxiety?

Literature review

The main objective of this literature review is to define what anxiety is, what are some types and symptoms of anxiety, the relationship between anxiety and academic performance, as well as to provide some strategies on how to reduce it.

Understanding anxiety

Anxiety is nearly ubiquitous in recent times by affecting practically every part of our everyday activities. Generally, almost all people tend to feel anxious regarding various situations they might find themselves in, however, this phenomenon remains undefined and unrecognized by most of them. Anxiety corresponds to a variety of emotional and physical events, such as an individual's mental state of anxiety about an upcoming unwelcome occurrence or fear of a current circumstance. The feelings of anxiety, fear, or worry are inextricably linked. Anxiety is a distinctly human feeling, while fear is often unjustified or overwhelming in response to an existing or forthcoming potential danger (Evans et al, 2005). Moreover, anxiety has been also described as a future-oriented psychological emotion related to preparing for probable approaching unpleasant occurrences whereas fear is an alarm reaction to current or immediate threats (Craske et al, 2011). Anxiety can be noted at different people, especially to students since they are

likely to feel anxious from the beginning of the semester until the finals. It has been shown that the majority of students may lack the desire and willingness to prepare for classes and exams if they are not anxious. Hence, a relatively small amount of anxiety is necessary to encourage them to study and may influence them to attain higher levels of success. Nevertheless, a high degree of anxiety might impair the focus and impact students' memory. Due to this issue, students' anxiety should be appropriately handled and assisted (Mattoo, & Nabi, 2012).

Regarding the symptoms, learners who tend to experience anxiety have a variety of cognitive, physical, and emotional symptoms that influence their brains and bodies. As far as the cognitive aspect is concerned, the memory of learners may be negatively and painfully affected by events like sleeplessness or other sleep problems. Furthermore, they could lose the ability to reason clearly and make judgments, a problem that also makes it impossible for them to engage in the learning process and express their thoughts and ideas to their peers and teachers during classes. As an outcome, many of them will experience grief, anxiety, and fear which then negatively impacts students' overall academic performance. Regarding physical symptoms, students who are anxious may have severe discomfort along with symptoms including exhaustion, difficulty breathing, stomach pains, headache as well as muscular pain (AlKandari, 2020). Students' well-being is negatively impacted by this educational anxiety, however, they must learn to manage it in order to achieve academic success. Lastly, learners who struggle with anxiety go through severe emotional symptoms including isolation, depression, stress, and anxiousness. They may become unsatisfied with attending a class, or on the other hand, experience extreme anxiety while being among others, including their peers or professors. Therefore, they tend to be exhausted from learning and the demanding coursework and consider dropping out of the university (AlKandari, 2020).

The relationship between test anxiety and students' performance

When attending a university, students are expected to endure intellectual, social, and mental difficulties. These difficulties can make students feel depressed, anxious, or stressed regarding their courses, assignments, tasks, and exams. Therefore, it can be said that there is a significant relationship between anxiety and students' overall academic performance (Ketata et al, 2021). Being concerned regarding the results of a matter does not imply having an anxiety condition or disorder. Nevertheless, professional assistance may be required if these concerns persist for a long period of time and interfere with normal functioning. Academic pressures, living far away from home, unfamiliar social circumstances, and economic concerns can all combine to form the ideal mix for anxiety to emerge throughout the studies. Anxiety among university students involves much more than feeling worried or anxious. The signs that might appear during this period are sometimes severe, and if not treated properly, they can have a long-

term influence on the individual (Friedman, 2021). Likewise, Shakir (2014) has shown a negative correlation between anxiety and achievement. Due to the anxiety that students feel regarding the examination, their performance can be impeded in various situations. Psychological and cognitive aspects are influenced by anxiety which results in a disruption in the overall learning experience. Therefore, the performance and results will be affected, and this should never be neglected since it may lead to substantial and long-term harmful outcomes.

Furthermore, while the psychological state is critical to our health, it is frequently disregarded by learners and academic staff at the same time. It has been shown that anxiety and stress that is felt by a considerable number of students will also negatively influence their educational outcomes as well as their lives and careers in the future (Jamil et al, 2022). It has been found that anxiety, represented as psychological issues and imbalances, is a widespread issue encountered by students during examinations and has a detrimental impact on students' achievements and results. The importance of students maintaining an ideal condition of body and mind throughout examinations was underlined since this is critical for improved academic performance (Afolayan et al, 2013). Moreover, it has been shown that there is a substantial unfavorable link between students' exam and their performance scores. The findings revealed that feeling worried about the test contributes more to anxiety rather than emotional aspects. As a result, it has been claimed that feeling anxious when having a test leads to academic failure and poor academic achievements. Nonetheless, this can be addressed by effective preparation in coping with the test anxiety-causing circumstances (Rana & Mahmood, 2010).

The impact of test anxiety on students' academic performance

It is generally known that when people are exposed to stressful situations, they experience worry and self-doubt about their capacity to complete tasks and perform well. A particular example would be Spanish-speaking learners who by prioritizing educational achievement, they suffer from anxiety which appears to have a detrimental influence on their capacity to perform successfully. As a result, learners who deal with anxiety problems tend to have a less successful performance than students who are less stressed or anxious. Furthermore, anxious and stressed learners seem to be more diverted when it comes to various homework or assignments, which leads them to more chances of errors (Parra et al, 2014). Test anxiety is a significant component of the evaluation. It can vary from minor worries to anxiety problems that affect students' cognitive performance. While a number of students feel encouraged to explore and practice for their exams, a high level of test anxiety affects their physical and psychological processes. Additionally, test anxiety may lead to persistent pressure that has a variety of negative implications on students' well-being such as poor academic achievement, frustration, depression, etc. (Wadi et al, 2022).

Test anxiety has also shown to have a crucial impact on students' performance since the higher the anxiety, the lower the overall academic performance (Safeer & Shah, 2019). Test anxiety significantly impacts students' capacity to function and perform effectively by also having a detrimental influence on their social, mental, and cognitive growth and attitudes. There is a link between test anxiety and test achievement that can cause students to get lower grades as well as develop health issues (Hanfesa et al, 2020). In addition, other major reasons for feeling anxious when having an upcoming test are poor self-esteem, apprehension about failing, not preparing for the test, and poor assessment. It is determined that test anxiety affects students' academic results, however, when considering the anxiety between male and female learners individually, it can be noticed that this anxiety has a greater impact on female students than male ones on contrary to the previous study (Legesse, 2014).

Strategies on how to overcome test anxiety

As previously mentioned, test anxiety is a serious issue that university students tend to experience which is usually a reason for their low academic achievement as well as other psychological concerns. Some research data shows that at a young age, university students must be provided with some techniques in order to deal with the requirements and structure of their courses and avoid the issue of test anxiety and its associated symptoms (Neuderth et al, 2009). A cognitive-behavioral therapy that included relaxing techniques, mental imagery, self-instructional mentoring, and various educational skills decreased test anxiety in students who attend high school and university. Moreover, their academic confidence in learning improved as well (Wachelka & Katz, 1999). Another research has shown some other ways that can help students with their academic anxiety. The first one refers to the good relationships between the professors and their students since the interaction between them is crucial in lowering learners' anxiety. The professors should pay attention to the students whether they need assistance in order to understand the material, complete the tasks, or write the assignments. To ensure that learners grasp the subject, professors might construct curriculum-related classroom activities and projects. For instance, when students learn a new language, professors can stimulate cooperative work in order to encourage them to participate in a conversation and enhance their speaking skills so they can reduce their anxiety. Similarly, other researchers supported this evidence by suggesting that since the education experience is frequently described as challenging, the professors can help students to cope with the difficult and challenging situations they might face when studying, especially during exam periods (Trigueros et al, 2020).

In order for teachers to provide students with comfortable and productive learning environments, they should consider the aspects of behavior and cognition, in particular, when dealing with test anxiety. Nonetheless, the lecturers should provide students with detailed information regarding the classes they are

going to have, and try to detect and assist anxious learners (Safeer & Shah, 2019). Moreover, several universities should equip learners with mental health counselors to assist them in coping with bad emotions during their studies. This will offer learners effective anxiety-reduction practices, especially international students who are not aware of the different cultures and societies where they are studying. Another way of reducing students' anxiety is by providing them with effective services that facilitate their writing process for various courses as well as enhance their vocabulary and grammar (AlKandari, 2020).

Methodology

The main objective of this paper is to show what are the main factors that cause anxiety, what is the relationship between test anxiety and students' performance, as well as how to prevent anxiety before tests, according to university students perspectives and experiences.

Research design

In order to address the main questions of this paper, a combination of two methodologies was employed: quantitative and qualitative. These two methods were applied for data collection and analysis. Merging the quantitative and qualitative methodologies helps getting a deeper comprehension of the many aspects that the paper intends to examine. The qualitative approach is usually used to generalize the findings of the paper, on the other hand, the qualitative approach enables the researchers to get or obtain in-depth and rich data (Brannen, 2005). Additionally, despite the in-depth collected data, these two methodologies contribute to people who are part of various communities by addressing their problems connected with the specific study contexts and provide with findings that can help fill the gaps they need to know more about (Litosseliti et al, 2010). Regarding this paper, the quantitative method included closed-ended questions for which the answers are shown in figures by the number of students choosing the options. On the other hand, the qualitative method included open-ended questions for which the students will be required to provide longer answers based on their experiences and opinions.

Participants

This paper includes 77 students of the English department of the Faculty of Philology, University "Hasan Prishtina", Prishtine. 41.6% (32) of them were 18-21 years old, 36.4% (28) were 22-26 years old, and 22.1% (17) were 27+. Moreover, 49.4% (38) of them were females, 41.6% (32) were males, whereas 9.1% (7) of them preferred not to say their gender. This study included students from all academic years of study. 16.9 (13) of them were in first year, 22.1% (17) were in their second year, 19.5% (19) were in third year, and 41.6 (32) were in the last year of their study.

Instruments

This paper used a questionnaire as an instrument that was formulated in Google form and sent online to students via email in order to collect the data. The questionnaire contained three parts, consisting of closed-ended questions and open-ended questions. Based on their opinions, perspectives, and experiences, students answered the questions related to their anxiety. In the first part, students answered questions regarding the causes of anxiety that they have been experiencing while having a test. The second part of the questionnaire included questions regarding the relationship between test anxiety and the academic performance of the students, followed by the third part of the questionnaire in which students were asked to provide some strategies on how should they react to anxiety, and what are some ways that teacher can use to help them when dealing with anxiety.

Data collection and analysis

This paper used mixed methods in order to analyze the data. The data was collected by using a questionnaire filled out by university students. Quantitative data analyzed students' answers statistically and showed them in figures. This part of the questionnaire consisted of closed-ended questions that were analyzed by taking the number of students who chose a particular option as an answer and presented those answers with percentages. On the other hand, the qualitative data consisted of open-ended questions that were analyzed by reading the answers, identifying the main patterns in each question, and showing them as summaries. In addition, direct answers that accurately represent the opinions and attitudes of the participants were chosen.

Results

The results of this study are divided into three main parts based on students' responses to the topic chosen for research. The first part of the results includes the gathered data regarding the causes of the anxiety of these students, followed by the second part that includes the results regarding the relationship between test anxiety and academic performance, and finally, the last part includes some strategies on how to overcome test anxiety. After the results, this part includes the discussion of the findings.

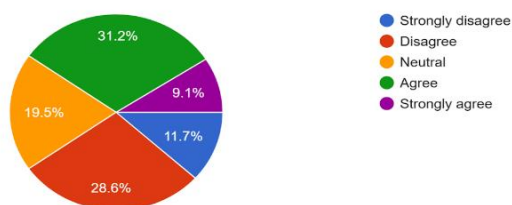
Results regarding the causes of anxiety among university students

The first statement was "When taking a test, I believe I have no control over my performance" for which 9.1% of the students who were part of this research strongly agreed, 31.2% agreed, 19.5% were neutral, 28.6% disagreed, and 11.7% strongly disagreed.

Figure 1. When taking a test, I believe I have no control over my performance.

1. When taking a test, I believe I have no control over my performance.

77 responses

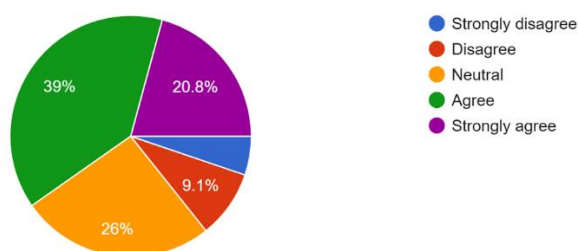


Regarding the second statement, as can be seen, 20.8% chose to strongly agree, 39% chose to agree, 26% were neutral, followed by 9.1% who chose to disagree, and 5.2% chose to strongly disagree.

Figure 2. I feel anxious during tests, thinking I haven't been able to prepare enough or with the right materials.

2. I feel anxious during tests thinking I haven't been able to prepare enough or the right material.

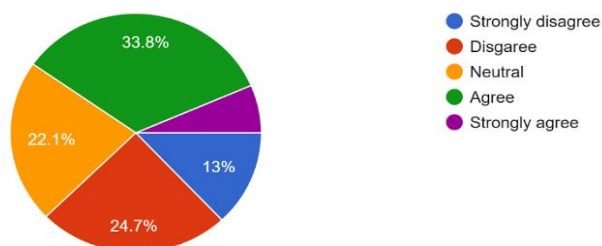
77 responses



Next, students were asked if, when feeling anxious during tests, it makes them think they are not smart. In regards to this, 6.5% chose the option 'strongly agree', 33.8% chose 'agree', 22.1% chose 'neutral', 24.7% chose 'disagree', and lastly, 13% chose 'strongly disagree' meaning that this is not something that the majority of them deal with regularly.

Figure 3. I feel anxious since failing the test means I'm not smart.

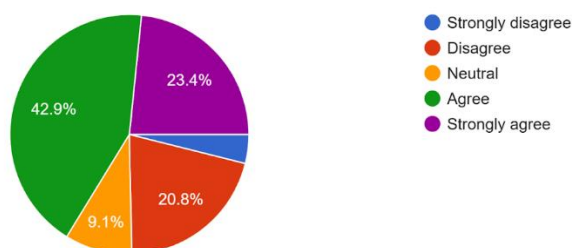
3. I feel anxious since failing the test means I'm not smart.
77 responses



Another cause of anxiety to be considered was fearing that now knowing the questions immediately leads to failing the test. 23.4% chose 'strongly agree', 42.9% chose 'agree', 9.1% chose 'neutral', 20.8% chose 'disagree', and 3.9% chose 'strongly disagree'.

Figure 4. I fear that I will fail the test when reading any question that I don't remember immediately.

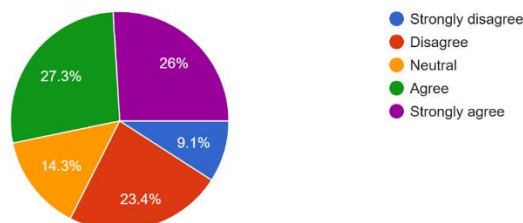
4. I fear that I will fail the test when reading any question that I don't remember immediately.
77 responses



The last one regarding students' causes of anxiety during tests was getting nervous when seeing that their colleagues had finished the test before them. The results of this question show that more than half of them deal with this problem. 26% of the students strongly agreed with this, followed by 27.3% who chose 'agree'. Next, 14.3% chose to be neutral, 23.4% chose to disagree, and finally, 9.1% chose strongly disagree.

Figure 5. I get nervous if I see that others have finished the test before I have.

5. I get nervous if I see that others have finished the test before I have.
77 responses

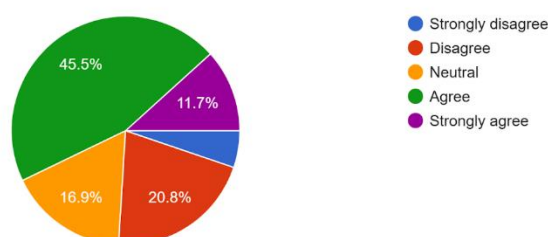


Results regarding the relationship between test anxiety and academic performance

Regarding the first statement of the second part, ‘During tests, the thoughts of doing poorly interfere with my concentration’, the majority of the students chose to agree and strongly agree, indicating a relationship between test anxiety and their overall academic results. 11.7% chose to strongly agree, 45.5% chose to agree, 16.9% were neutral, 20.8% disagreed, and 5.2% chose to strongly disagree.

Figure 6. During tests, the thoughts of doing poorly interfere with my concentration

1. During tests, the thoughts of doing poorly interfere with my concentration.
77 responses

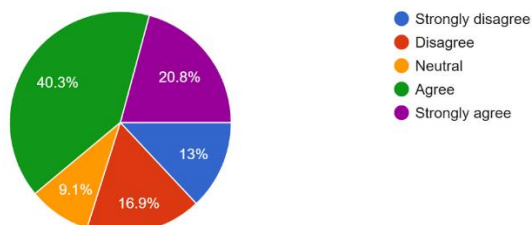


Further, results show that anxiety leads them to more errors and mistakes, according to the following figure. 20.8% of the students strongly agreed to this statement, 40.3% agreed, 9.1% were neutral, 16.9% disagreed, and lastly, 13% strongly disagreed.

Figure 7. Feeling anxious leads me to more chances of committing errors and mistakes

3. Feeling anxious leads me to more chances of committing errors and mistakes.

77 responses

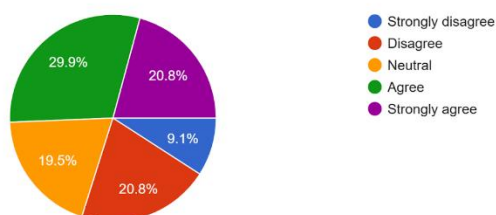


Mixing everything students learned due to anxiety is another problem for students, according to the next findings. 20.8% of students strongly agreed that their brain stops functioning due to test anxiety, followed by 29.9% of others who chose to also agree. 19.5% were neutral, 20.8% disagreed, and 9.1% chose the option ‘strongly disagree’.

Figure 8. Due to test anxiety, my brain stops functioning, and I mix everything I have learned.

4. Due to test anxiety, my brain stops functioning, and I mix everything I have learned.

77 responses

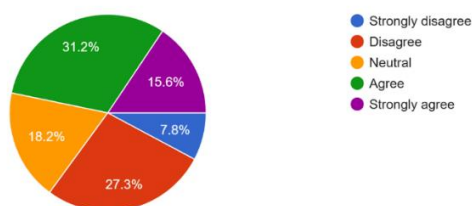


Finally, the last figure shows that test anxiety leads students to forget everything they have learned and practiced for the test. More than half of them chose to agree and strongly agree, showing that this is actually a problem. 18.2% chose to be neutral and not have an opinion regarding this, 27.3% chose to disagree, and only 7.8% chose to strongly disagree.

Figure 9. Test anxiety makes me so nervous that I forget everything I learned.

5. Test anxiety makes me so nervous so I forget everything I learned.

77 responses



Results regarding some strategies on how to overcome test anxiety

Furthermore, the third part of the first questionnaire's results consists of the answers provided by students in the last part of this questionnaire. Considering the fact that the questions were open-ended, the answers will be presented as a summary. The first question was 'Have you ever talked to a teacher, counselor, or peer about your test anxiety, if yes, what was their response?' The most common answers included: "I tried to, but they ignored me", "I have mostly talked with my peers", "To a peer yes, usually they relate, teachers don't usually care about these kind of things", "I have talked to friends only, they usually don't give any useful advice other than telling me they are anxious as well. But knowing that they are going through the same thing gave me some relief", "We talked a lot regarding test anxiety with colleagues. It was a general issue among us, as such, I felt eased knowing that it's not just my problem", and "I have talked to my friends about it and they told me that it's normal, everyone feels a little anxious before a test".

The second question was 'What is the main strategy or technique you used in order to help you deal with test anxiety?' The main answers include "I don't start the test immediately, I just stop for 5-10 min then start", "As an old student, I relied on steady preparation and pacing myself, taking breaks to stay focused and avoid burnout. Experience taught me that consistency is key to managing anxiety", "I used time management and relaxation techniques to help manage test anxiety", "I remind myself that it's okay even if I don't pass the test. Reassurance gives me confidence and it really helps", "I try to focus on managing my mindset: I remind myself that it's okay to make mistakes and that I will do my best", and "The main strategy is preparation and revision as much as possible. Also focusing on the test, blocking out distractions".

Finally, the last question was 'What strategies do you think that professors can use to help students deal with test anxiety?' The main answers include "Professors can offer practice tests, give clear instructions, create a supportive environment, and encourage open discussions about anxiety", "For me it's very important to create a friendly environment rather than an intimidating one, which most professors prefer. I

need to feel like I'm in a safe space when taking the test and I need to feel free to ask for help whenever I might need it", "Can offer flexible exam formats, provide regular feedback, and integrate low-stakes assessments to build confidence", "Fostering a supportive and encouraging atmosphere", "Maybe go to them, give them the test, speak individually, explain the questions a little bit and the students can feel more confident", "Foster open communication to help students cope with test anxiety", and "Professors could create "calm before the storm" sessions, short guided meditation or breathing exercises before exams, transforming the classroom into a peaceful space where students can center themselves before facing the test".

Discussion

This section includes a discussion of the results gathered in this paper. As can be seen above, the findings show multiple emotional and cognitive causes that trigger anxiety when students have a test. More than 60% of the results show that inadequate preparation, fear of immediate failure and social comparisons are among the main causes of test anxiety among students. Similarly, research has shown that lack of preparation and fear of failure is among the main causes of test anxiety since students constantly worry about these two aspects (Alkowatli, et al., 2022). Additionally, social comparison, as the current study has found, is another aspect worth noting which has also been concluded by another research (Jirjees, 2024). This means that the social implications also play a crucial role in these situations. Moreover, it has been shown that lack of control during tests and negative self-perception are among other causes which students deal with. This suggests that test anxiety arises from various reasons such as environmental stressors, besides internal doubt and lack of preparation. These findings align with the research conducted by Gorica et al., (2024) who claim that there are cases when students have a negative self-image which highly impacts their performance of their test evaluation.

Furthermore, the findings reveal that there exists a relationship between test anxiety and university students' academic performance. This study's findings strongly indicate that test anxiety has a negative impact on students' overall performance. These findings lead to the same results as Shaki (2014), who claims that there is a negative correlation between these two particular aspects. The majority of the students, more than 50%, show that test anxiety leads to error frequency, memory loss, cognitive shutdown, and disruption. These results reinforce prior research, such as Ketata et al (2021), who show that there is a significant relationship between these two aspects. Based on the current study, it can be said that test anxiety is one of the reasons why students might underperform, and reinforces the importance of this topic to be taken into account and worked with by students and professors. This is also supported by Jamil et al. (2022), showing that feeling test anxiety strongly affects students' educational success.

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Finally, this study's results show that students usually hesitate to ask a professor or academic staff for help, or even when they do, they do not receive any help from them. Hence, they also provided some strategies or techniques that can help with test anxiety, both individual and institutional. Neuderth et al. (2009), also suggest that students should be equipped with different techniques so they can avoid anxiety and its symptoms. Regarding the personal ones, mental reassurance, positive self-talk, time management, breaks before the exams, consistent preparation, and mindset regulation can help them when dealing with test anxiety, based on their responses. These techniques are believed to help them since students were asked to write them based on their experiences and what was effective for them. On the other hand, the techniques that should be used by professors, based on students' perspectives, include creating a supportive, non-intimidating exam environment, encouraging open discussions about anxiety, and using alternative assessment formats. Accordingly, research has shown that interaction between students and professors is crucial when having students deal with anxiety since professors can have a positive impact in these cases (Trigueros et al., 2020). Moreover, students have shown that offering practice tests and detailed information regarding the course and test also helps them with their overall anxiety, and this is also supported by Safeer & Shah's (2019) research findings. All in all, these particular findings indicate that there should be recognition of the need for mental health awareness, as well as its importance, among students and professors by emphasizing the urgent need for collaboration in order to address this problem among these students.

Conclusion

Test anxiety is a crucial problem among university students during tests or exams. Hence, the main aim of this study was to investigate and research this problem in regards to university students with a particular focus on students from the English department at the University of Prishtina. Results show that test anxiety has a major influence on their overall academic performance. This study's findings show that test anxiety is caused by a combination of emotional and cognitive elements, such as no preparation before the test, a sense of failure, peer pressure, and self-doubt. These causes impair these students' focus while taking a test, as well as increasing the risk of mistakes and memory problems, which lead to lower academic achievement. Further, the data gathered in this research indicates the existence of a correlation between test anxiety and students' performance which is also suggested by existing literature that emphasizes the negative impacts of this aspect on students' results. Students' perspectives demonstrate that worry impairs their capacity to retain knowledge and affects their trust in examinations. This is also followed by a lack of help or support from the academic staff or the institution in general. In addition, this study offers useful techniques that can be used to manage and deal with test anxiety. Some of the

techniques that have been effective for students to practice before or during tests include time management, positive self-talk, continuous preparation, and relaxation techniques. Whereas, regarding the techniques that students believe should be implemented by professors, include a friendly and empathetic environment, clear and constant communication, and practice tests prior to the actual ones, and various evaluation forms. Therefore, it can be said that such techniques highlight the need to raise professors' awareness when it comes to this sensitive topic.

To summarize, test anxiety is a complicated problem faced by students that needs to be handled in the individual as well at institutional level in order for it not to impact students' academic success in general. This research advocates for collaboration among students and professors so that an environment where students feel less anxious and focus more on the tests can be offered, which in turn encourages educational achievement and mental health.

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Smart Contracts and International Private Law: Challenges and Perspectives

Daiana-Elena DOBROIU

Abstract

The rapid evolution of blockchain technology has transformed the way private law relationships are created and executed, with smart contracts emerging as one of its most innovative applications.¹⁰⁰ A smart contract, defined as a self-executing digital agreement coded on a blockchain, raises fundamental legal questions regarding its recognition, enforcement, and validity in cross-border transactions.¹⁰¹

This article examines the interaction between smart contracts and international private law, focusing on challenges related to the determination of applicable law, jurisdiction, and recognition of automated obligations. Methodologically, the research adopts a comparative approach, analyzing European Union regulations¹⁰², the UNIDROIT Principles¹⁰³, and selected national legislative initiatives. The findings reveal a lack of uniformity in the treatment of smart contracts, generating uncertainty in areas such as consumer protection, contractual autonomy, and dispute resolution. At the same time, international legal instruments demonstrate an increasing tendency to accommodate technological innovations by emphasizing functional equivalence between digital and traditional contracts. The study concludes that harmonized legal standards and clearer conflict-of-law rules are essential to foster trust in smart contracts and to ensure legal certainty in global digital markets.

JEL Classification: K12, K33, K41

Keywords: Smart contracts, International private law, Blockchain, Cross-border transactions, Conflict of laws

1. Introduction

The emergence of blockchain technology has introduced a new paradigm in the field of private law, where traditional contractual relationships are increasingly mediated by automated digital tools. Among

¹⁰⁰ Werbach, K., & Cornell, N. (2017). *Contracts Ex Machina*. Duke Law Journal, 67(2), 313–382.

¹⁰¹ Mik, E. (2017). *Smart contracts: Terminology, technical limitations and real world complexity*. Law, Innovation and Technology, 9(2), 269–300.

¹⁰² Directive (EU) 2019/770 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the supply of digital content and digital services.

¹⁰³ UNIDROIT Principles of International Commercial Contracts 2016, International Institute for the Unification of Private Law, Rome.

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these innovations, *smart contracts* have attracted significant scholarly and practical attention due to their potential to redefine the very foundations of contract law.¹⁰⁴ Defined broadly as self-executing agreements embedded in computer code and operating on decentralized blockchain platforms, smart contracts enable parties to perform obligations without continuous human intervention.¹⁰⁵ Their growing use in international commercial transactions raises critical legal questions concerning contract formation, validity, enforcement, and the resolution of disputes across jurisdictions.

From a legal standpoint, smart contracts are both promising and problematic. On the one hand, they can significantly reduce transaction costs, minimize the risk of opportunistic behavior, and enhance efficiency in cross-border trade.¹⁰⁶ On the other hand, their reliance on immutable code and decentralized infrastructure challenges established legal doctrines such as contractual consent, mistake, error, or force majeure. Moreover, the absence of uniform international regulation creates uncertainty regarding the law applicable to such contracts and the competent forum to adjudicate disputes.¹⁰⁷ These issues are particularly sensitive in international private law, where questions of jurisdiction, recognition, and enforcement of obligations are at the heart of cross-border interactions.

The novelty of smart contracts lies not only in their technological dimension but also in their ability to disrupt traditional legal reasoning. Contract law has historically relied on textual interpretation and judicial discretion, whereas smart contracts shift the emphasis to algorithmic precision and predetermined outcomes.¹⁰⁸ This tension between code and law raises the risk of legal fragmentation if states adopt divergent regulatory approaches. For instance, while some jurisdictions (such as the United States and the United Kingdom) have already taken steps to recognize the validity of smart contracts,¹⁰⁹ others remain hesitant, awaiting further international consensus. The European Union has also begun addressing blockchain-based instruments through a functional equivalence approach, which seeks to ensure that electronic agreements are afforded the same recognition as traditional contracts.¹¹⁰

Against this background, the purpose of this article is to explore the interplay between smart contracts and

¹⁰⁴ Werbach, K., & Cornell, N. (2017). *Contracts Ex Machina*. Duke Law Journal, 67(2), 313–382.

¹⁰⁵ Mik, E. (2017). *Smart contracts: Terminology, technical limitations and real world complexity*. *Law, Innovation and Technology*, 9(2), 269–300.

¹⁰⁶ Szabo, N. (1997). *Formalizing and securing relationships on public networks*. *First Monday*, 2(9).

¹⁰⁷ UNIDROIT (2016). *UNIDROIT Principles of International Commercial Contracts*. Rome: International Institute for the Unification of Private Law.

¹⁰⁸ Raskin, M. (2017). *The law and legality of smart contracts*. *Georgetown Law Technology Review*, 1, 305–341.

¹⁰⁹ Law Commission of England and Wales. (2021). *Smart legal contracts: Advice to government*. London: Law Commission.

¹¹⁰ European Parliament (2019). *Resolution on distributed ledger technologies and blockchains: Building trust with disintermediation* (2017/2772(RSP)).

international private law. It aims to identify the key challenges that arise in cross-border contexts-such as determining the applicable law, establishing jurisdiction, and ensuring recognition of digital obligations-while also assessing ongoing efforts at international harmonization. By adopting a comparative perspective that examines European, American, and international frameworks (including the UNIDROIT Principles), the study contributes to the broader debate on how legal systems can adapt to technological disruption without undermining legal certainty. Ultimately, the article argues that effective integration of smart contracts into international private law requires a balance between innovation and regulation, ensuring both flexibility and predictability in the global digital economy.

2. Literature Review

The academic debate on smart contracts has expanded significantly in recent years, reflecting the growing intersection between law and technology. Early contributions focused primarily on the conceptual and technical dimensions of smart contracts. Nick Szabo's seminal article introduced the idea of using computer protocols to formalize and secure contractual relationships, highlighting the potential to reduce transaction costs and enhance trust in decentralized networks.¹¹¹ Subsequent scholarship has refined this understanding by examining the legal implications of self-executing code and its compatibility with established contractual doctrines.

Werbach and Cornell (2017) argued that smart contracts should not be viewed as a replacement for traditional legal contracts but rather as complementary mechanisms that enhance efficiency while still requiring a legal framework for interpretation and enforcement.¹¹² Similarly, Mik (2017) emphasized the need to recognize the limitations of code-based agreements, pointing out that real-world contractual relationships often involve ambiguity, unforeseen circumstances, and elements of trust that cannot be fully captured by deterministic algorithms.¹¹³ These perspectives underline the necessity of situating smart contracts within existing legal frameworks rather than treating them as entirely autonomous instruments.

From a regulatory standpoint, the European Union has adopted a cautious but progressive approach. The principle of functional equivalence, established through directives and regulations on electronic commerce and digital content, aims to ensure that contracts concluded electronically are granted the same

¹¹¹ Szabo, N. (1997). *Formalizing and securing relationships on public networks*. *First Monday*, 2(9).

¹¹² Werbach, K., & Cornell, N. (2017). *Contracts Ex Machina*. *Duke Law Journal*, 67(2), 313–382.

¹¹³ Mik, E. (2017). *Smart contracts: Terminology, technical limitations and real world complexity*. *Law, Innovation and Technology*, 9(2), 269–300.

legal recognition as paper-based agreements.¹¹⁴ However, the absence of specific legislation on blockchain-based smart contracts has left significant interpretative gaps, particularly regarding cross-border enforceability and consumer protection. The European Parliament's 2019 Resolution on distributed ledger technologies reflects growing political awareness but remains largely programmatic rather than binding.¹¹⁵

Internationally, the UNIDROIT Principles of International Commercial Contracts provide a flexible framework for interpreting and enforcing agreements in transnational commerce.¹¹⁶ While not specifically designed for smart contracts, their emphasis on good faith, party autonomy, and functional interpretation offers valuable guidance for adapting traditional contract law to digital instruments. In parallel, the United States has seen significant developments at the state level, with jurisdictions such as Arizona, Tennessee, and Wyoming adopting legislation that explicitly recognizes the enforceability of smart contracts.¹¹⁷ The United Kingdom has also taken an active stance, with the Law Commission concluding in 2021 that smart legal contracts are compatible with the existing common law framework.¹¹⁸

Despite these advances, several gaps persist in the literature. First, there is no consensus on how to address conflict-of-law issues when smart contracts operate across multiple jurisdictions simultaneously. Second, doctrinal debates continue regarding whether the execution of code can fully substitute for legal consent, and how traditional defenses such as mistake or impossibility apply to automated performance. Finally, there is a limited body of comparative research that systematically analyzes how different legal systems integrate smart contracts into the broader field of international private law.

Taken together, these findings suggest that while smart contracts are increasingly recognized as legitimate legal instruments, their integration into international private law remains incomplete and fragmented. This literature review therefore sets the stage for a deeper analysis of the challenges and opportunities posed by smart contracts in cross-border transactions.

3. Methodology

¹¹⁴ Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce.

¹¹⁵ European Parliament (2019). *Resolution on distributed ledger technologies and blockchains: Building trust with disintermediation* (2017/2772(RSP)).

¹¹⁶ UNIDROIT (2016). *UNIDROIT Principles of International Commercial Contracts*. Rome: International Institute for the Unification of Private Law.

¹¹⁷ Arizona Revised Statutes § 44-7061 (2017); Tennessee House Bill 1507 (2018); Wyoming Senate Bill 125 (2019).

¹¹⁸ Law Commission of England and Wales. (2021). *Smart legal contracts: Advice to government*. London: Law Commission.

The present study adopts a **comparative and doctrinal research methodology**, combining analysis of primary legal sources with secondary academic literature. The purpose is not only to outline the current state of regulation but also to identify structural gaps and potential directions for reform in the field of international private law as applied to smart contracts.

First, the research examines **international instruments**, including the UNIDROIT Principles of International Commercial Contracts and the Hague Conference on Private International Law initiatives, in order to evaluate their relevance to digital agreements.¹¹⁹ These frameworks provide general principles that, although not specifically tailored to blockchain-based instruments, are applicable to transnational contractual relationships.

Second, the study analyzes **regional regulations**, with particular emphasis on the European Union. Directives and regulations on electronic commerce, digital services, and consumer protection serve as a reference point for assessing the extent to which existing rules can accommodate smart contracts.¹²⁰ This is supplemented by legislative and policy initiatives in the United Kingdom and the United States, which offer comparative insights into common law approaches.¹²¹

Third, the methodology incorporates a **case-based analysis** of selected national legislations that explicitly recognize smart contracts, such as those enacted in certain U.S. states (Arizona, Tennessee, Wyoming).¹²² This approach allows for a closer examination of how domestic legal systems are adapting to technological disruption, and whether these adaptations can inform international harmonization efforts.

Finally, the research employs a **functional analysis** to evaluate whether smart contracts can be equated with traditional contracts under principles of equivalence. By focusing on the legal effects of automated performance rather than its technical mechanisms, this study seeks to clarify the boundaries between code and law in a transnational context.

This methodological framework ensures that the analysis is comprehensive, encompassing not only theoretical perspectives but also practical implications. It further enables the study to highlight both divergences and convergences in global regulatory approaches, thereby contributing to the broader debate on legal certainty in the digital economy.

¹¹⁹ UNIDROIT (2016). *UNIDROIT Principles of International Commercial Contracts*. Rome: International Institute for the Unification of Private Law.

¹²⁰ Directive (EU) 2019/770 on certain aspects concerning contracts for the supply of digital content and digital services.

¹²¹ Law Commission of England and Wales (2021). *Smart legal contracts: Advice to government*. London: Law Commission.

¹²² Arizona Revised Statutes § 44-7061 (2017); Tennessee House Bill 1507 (2018); Wyoming Senate Bill 125 (2019).

4. Findings

The analysis of smart contracts within the framework of international private law reveals several critical challenges that hinder their seamless integration into cross-border commerce. These challenges highlight the tension between technological innovation and legal certainty, and they underscore the necessity of harmonized international rules.

4.1 Applicable Law

One of the most pressing concerns is the determination of the law governing smart contracts. Traditional conflict-of-law rules, such as those found in the Rome I Regulation within the European Union, presuppose a written or oral agreement that clearly indicates the parties' choice of law.¹²³ In the case of smart contracts, however, such a choice is rarely embedded in the code, leaving courts and arbitral tribunals uncertain as to which legal system should apply. This problem becomes even more acute when parties are located in multiple jurisdictions or when decentralized platforms do not reveal the geographical origin of contracting parties.

4.2 Jurisdictional Issues

Closely related to applicable law is the question of jurisdiction. The Brussels I Regulation (Recast) provides general rules on jurisdiction in civil and commercial matters, yet these rules are difficult to apply when contractual relationships are coded on decentralized networks.¹²⁴ The absence of a central authority or physical location complicates the identification of a competent forum. Disputes may therefore lead to conflicting claims of jurisdiction, creating procedural uncertainty and increasing litigation costs.

4.3 Recognition and Enforcement of Automated Obligations

Smart contracts, by their very nature, execute obligations automatically through code. While this offers efficiency, it also raises questions regarding the recognition and enforcement of such obligations. For example, if a smart contract automatically transfers assets in violation of consumer protection laws or public policy, should courts recognize such transfers as valid?¹²⁵ Furthermore, automated execution may conflict with doctrines such as mistake, fraud, or force majeure, which typically require judicial interpretation. The lack of clear rules risks undermining the enforceability of smart contracts in

¹²³ Regulation (EC) No 593/2008 of the European Parliament and of the Council of 17 June 2008 on the law applicable to contractual obligations (Rome I).

¹²⁴ Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (Brussels I Recast).

¹²⁵ Raskin, M. (2017). *The law and legality of smart contracts*. *Georgetown Law Technology Review*, 1, 305–341.

transnational disputes.

4.4 Consumer Protection Concerns

Smart contracts are increasingly used in consumer transactions, raising significant concerns about transparency and fairness. The European Union's Consumer Rights Directive requires that consumers be provided with clear information about the identity of the trader, the essential characteristics of goods or services, and the right of withdrawal.¹²⁶ These obligations are difficult to reconcile with smart contracts coded in technical language inaccessible to the average consumer. As a result, consumers may unknowingly consent to unfavorable terms, creating a risk of imbalance in contractual relationships.

4.5 Dispute Resolution Mechanisms

Dispute resolution is another area of concern. Traditional mechanisms such as litigation or arbitration are ill-suited for disputes arising from automatically executed code, where transactions may be completed before a court can intervene. Innovative approaches, such as online dispute resolution (ODR) platforms and blockchain-based arbitration, have been proposed as alternatives,¹²⁷ but their compatibility with existing international private law principles remains uncertain.

4.6 Fragmentation of Regulatory Approaches

Finally, the comparative analysis highlights the fragmentation of regulatory approaches worldwide. While some jurisdictions have explicitly recognized the validity of smart contracts, others remain silent or adopt cautious positions. This lack of uniformity undermines predictability and may discourage businesses from adopting smart contracts in cross-border trade. Without harmonized standards, there is a risk of forum shopping, regulatory arbitrage, and legal uncertainty in international commerce.

Taken together, these findings demonstrate that smart contracts, while technologically innovative, present unresolved challenges in international private law. Unless addressed through harmonization and reform, these challenges risk limiting the transformative potential of blockchain-based contractual instruments.

5. Discussion

The findings of this study reveal that while smart contracts offer substantial potential for innovation in global commerce, their integration into international private law remains incomplete and fragmented. This

¹²⁶ Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights.

¹²⁷ Mania, K. (2015). *Online dispute resolution: The future of justice. International Comparative Jurisprudence*, 1(1), 76–86.

discussion section explores possible pathways for addressing the challenges identified, focusing on harmonization, functional equivalence, and the role of international institutions in shaping future regulation.

5.1 The Principle of Functional Equivalence

One of the most promising approaches to integrating smart contracts into existing legal frameworks is the principle of functional equivalence. This principle, widely adopted in international instruments such as the UNCITRAL Model Law on Electronic Commerce, asserts that electronic transactions should not be denied legal effect solely because they are conducted digitally.¹²⁸ Applied to smart contracts, functional equivalence allows for recognition of automated obligations as long as they perform the same function as traditional contracts. While this approach does not resolve all issues-particularly those related to conflict of laws-it provides a pragmatic foundation for legal certainty.

5.2 Harmonization Efforts at the International Level

International private law requires consistency across jurisdictions to function effectively. Institutions such as UNIDROIT and UNCITRAL play a vital role in promoting harmonization. The UNIDROIT Principles emphasize good faith, party autonomy, and flexibility, values that are particularly relevant to digital contracts.¹²⁹ UNCITRAL, meanwhile, has advanced model laws on e-commerce and electronic signatures, which could be extended to address blockchain-based instruments.¹³⁰ These efforts highlight the potential for developing soft law instruments that encourage convergence in national regulations, thereby reducing legal uncertainty.

5.3 Regional Leadership: The European Union

The European Union is uniquely positioned to lead in this field, given its history of harmonizing private law and consumer protection. The EU's Digital Services Act and Digital Markets Act, while not specifically addressing smart contracts, provide a regulatory framework for digital platforms that could be extended to blockchain-based applications.¹³¹ Moreover, the European Parliament's call for a comprehensive approach to distributed ledger technologies demonstrates political momentum for

¹²⁸ UNCITRAL Model Law on Electronic Commerce (1996).

¹²⁹ UNIDROIT (2016). *UNIDROIT Principles of International Commercial Contracts*. Rome.

¹³⁰ UNCITRAL Model Law on Electronic Signatures (2001).

¹³¹ Regulation (EU) 2022/2065 on a Single Market for Digital Services (Digital Services Act).

regulatory innovation.¹³² By adopting a regional standard, the EU could influence global practices in a manner similar to the GDPR's extraterritorial reach.

5.4 The Role of National Legislations

National initiatives, such as the legislative recognition of smart contracts in U.S. states like Arizona and Wyoming, illustrate the experimental nature of regulatory approaches.¹³³ While such initiatives provide legal certainty domestically, they also risk deepening fragmentation when applied to cross-border transactions. A key challenge for international private law is therefore to reconcile these domestic innovations with broader principles of uniformity and predictability.

5.5 Prospects for Dispute Resolution

The emergence of online dispute resolution (ODR) and blockchain-based arbitration presents a potential solution to jurisdictional and enforcement challenges.¹³⁴ However, their integration into international frameworks requires clear standards for due process, recognition of awards, and compliance with principles of fairness. Without such safeguards, alternative mechanisms may undermine rather than strengthen trust in smart contracts.

5.6 Towards a Balanced Approach

Ultimately, the debate on smart contracts and international private law reflects a broader tension between innovation and regulation. Excessive regulation may stifle technological progress, while insufficient regulation risks undermining consumer trust and legal certainty. The challenge is therefore to strike a balance, ensuring flexibility for innovation while safeguarding the predictability and stability required in cross-border commerce.

6. Conclusion

The study of smart contracts within the framework of international private law demonstrates both the opportunities and the challenges posed by digital innovation in cross-border commerce. As shown in the findings, issues such as the determination of applicable law, jurisdiction, consumer protection, and enforcement of automated obligations remain unresolved. These challenges are aggravated by the fragmented nature of national regulations, which create uncertainty for businesses and individuals

¹³² European Parliament (2019). *Resolution on distributed ledger technologies and blockchains: Building trust with disintermediation* (2017/2772(RSP)).

¹³³ Arizona Revised Statutes § 44-7061 (2017); Wyoming Senate Bill 125 (2019).

¹³⁴ Mania, K. (2015). *Online dispute resolution: The future of justice*. *International Comparative Jurisprudence*, 1(1), 76–86.

engaging in cross-border transactions.

Nevertheless, the discussion reveals that meaningful solutions are possible. The principle of functional equivalence provides a pragmatic basis for recognizing smart contracts as legally valid instruments, ensuring that technological form does not undermine legal substance. International organizations such as UNIDROIT and UNCITRAL have already laid important foundations through principles and model laws, and their continued efforts can promote convergence and reduce regulatory fragmentation. The European Union, with its tradition of harmonizing private law and its global regulatory influence, is particularly well-positioned to set standards that may shape international practices.

At the same time, the integration of smart contracts into international private law must respect the delicate balance between innovation and regulation. Excessive regulation could stifle technological progress, while regulatory inertia risks undermining trust in digital commerce. A flexible yet predictable legal framework is therefore essential to enable innovation while safeguarding legal certainty.

In conclusion, smart contracts should not be viewed as a disruptive force that dismantles traditional private law, but rather as an evolutionary development that requires legal adaptation. By fostering harmonization, encouraging functional equivalence, and integrating innovative dispute resolution mechanisms, international private law can rise to the challenge of digital transformation. The ultimate goal is not merely to accommodate technological innovation but to ensure that it contributes to a fair, efficient, and trustworthy global digital economy.

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- Arizona Revised Statutes § 44-7061 (2017).
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