



**Bridging education and economy resilience: advancing
education on Asean**

Editor

Prof. Dr. Tulus Suryanto

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Competitive Strategy in Financing Product Development *Baitul Maal Wat Tamwil* in Lampung Province

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Abstract

This study was conducted to find relevant information about competitive strategies that can be carried out by Baitul Maal Wat Tamwil (BMT) in Lampung Province in terms of financing products that are less in demand by the community. The literature study method was carried out to collect and analyze relevant information from various written sources to find the information needed in this study. The findings revealed that there are three competitive strategies carried out by most BMTs found in most of the existing literature. The three strategies are developing quality financing products, providing excellent service, and building digital marketing. All three need to be supported by the availability of good human resources according to Islam. The role of government regulations and partners is also one of the factors that can be taken into account to support a more effective competitive strategy in reaching more customers. The conclusion obtained is that the competitive strategy must be carried out consistently and with high commitment from BMT managers. Several literatures reveal the importance of human resources for this competitive strategy. From a business perspective, BMT must understand the competitive situation and conditions so as not to hurt the operational performance of the institution.

Keywords: Competitive strategy, Islamic financing, Islamic microfinance institutions

Introduction

Microfinance Institutions (MFIs), *Baitul Maal Wat Tamwil* (BMT), have become very strategic and significant. This phenomenon is supported by the significant contribution of Sharia to the halal industry in Indonesia (Ryno *et al.*, 2025). BMT as a Sharia microfinance institution offers various financing products based on Sharia principles, such as *Murabahah*, *Mudharabah*, and *Musyarakah*. BMT also plays a role in managing sources of funds in the form of Zakat, Infaq Wakaf, and Shodaqoh, as well as managing funds collected for commercial and social purposes (Ascarya *et al.*, 2023). These products are considered fairer and more profitable for both parties, both BMT and small business actors. So that in the future it can improve the community's economy. According to Fawaid and Saini (2024), Sharia financing offered by BMT not only helps small businesses overcome capital problems but also encourages business growth through the principle of fair profit sharing.

In today's digital era, traditional marketing strategies are no longer enough to compete in an increasingly competitive market. Small businesses need to leverage digital channels such

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as social media, e-commerce, and other online platforms to increase visibility and reach a wider market (Parebong, 2024). The combination of proper financing and digital marketing strategies has a significant positive impact on the development of small businesses. However, despite the enormous potential of digital marketing strategies, many small business owners still find it difficult to implement them. This is due to a lack of knowledge and skills in using digital technology, as well as limited resources to develop effective marketing strategies (Mei le, 2025; Rahmawati, 2022).

Previous research by Dasopang (2022) showed that BMT has a dual role, namely as a financial institution and a community empowerment institution. In addition to providing financing, BMT also plays a role in increasing the capacity of small business actors through various training and mentoring programs. BMT is expected to become a strategic partner for small businesses in overcoming various challenges, both in terms of financing and marketing.

Not all BMTs in Indonesia can provide maximum benefits to the community. Several reasons put forward in previous studies are related to how BMTs view their competitors. Some BMTs consider other BMTs as business competitors rather than as partners who can be invited to cooperate to further increase their contribution to community welfare. Irresponsible misuse of funds and problematic financing also worsen the current condition of BMTs (Soelton *et al.*, 2021). In Lampung Province, several BMTs have experienced several problems. For example, BMT L-RISMA, BMT Amanah Sentosa Abadi (ASA), and BMT Sumber Sejahtera Bersama (SSB) in East Lampung went bankrupt. The development of BMT ZIS fund management in Lampung Province has not shown significant progress from year to year. BMT Mentari experienced ups and downs and even almost went bankrupt from 2011 to May 2014 (Arifin, 2023; Soelton *et al.*, 2021).

Based on the initial search conducted by researchers via the internet, it is known that only a few BMTs provide information about their activities. It's just that information related to BMT products is not widely found. The activities most often conveyed to the information media are related to the Annual Member Meeting (AMM). Data on the development of BMTs in Indonesia until 2024 is also not yet available, making the public unaware of how BMTs are currently developing. The increasing existence of online loans in Lampung Province makes BMT financing products unknown and less in demand. Several studies also mention that the public is not aware of BMT financing products due to a lack of promotion and socialization. The number of BMTs that collapsed in Lampung Province due to internal problems of the institution has made public trust in BMT products increasingly decline. Moreover, some BMTs do not register their business licenses with the Financial Services Authority (FSA), making these institutions have a level of risk that cannot be legally accounted for (Sormin, 2018).

Previous studies revealed the condition of BMT in Indonesia through literature studies using SWOT analysis. The results showed that BMT has limited business capital, inadequate human resources, and ineffective marketing strategies (Amalia, 2022). The right strategy can increase public interest in using BMT products (Nurhidayanti, 2025). Therefore, competitive strategy is an important factor in the development of BMT. The large number of MFIs in Indonesia, especially in big cities that offer products with attractive promotions, makes BMT less competitive with other MFIs. Therefore, a competitive strategy is important to help BMT survive and grow. Moreover, due to factors such as a bad reputation in the eyes of members, lack of human resource training, limited supporting facilities, and capital to open branches. BMT also faces several external organizational challenges such as a lack of support from partner institutions, no external supervision, and government policies.

The big challenges and problems of BMT related to its financing products that are less well-known to the public make it important to have a competitive strategy to be able to advance again in the MFIs industry. An effective competitive strategy, can help companies find a

profitable position in the industry, protect themselves from competitive pressures, and strengthen their business position.

Method

The study used a literature study in the form of a narrative review which was conducted by collecting data and information by reviewing written sources available on the internet. Articles from relevant and valid national and international journals during the 2018-2025 period with keywords were collected to ensure that the literature used was of high quality. Search keywords using Google Scholar to facilitate literature searches focused on Islamic MFIs financing products, competitive strategies, and BMTs. The data that had been collected was then processed into research materials and appropriate conclusions were drawn. The purpose of the study was to find relevant information about competitive strategies that could be carried out by BMTs in Lampung Province in terms of financing products that were less in demand by the public. This method is suitable for use because it can provide a fairly clear understanding of the problem being studied. This method can also connect discoveries with previous knowledge which can then be used as suggestions for further research in the field of Islamic MFIs competitive strategies. The literature analyzed will later provide a brief overview of the development of the theory that is used as a basis for the research theme.

Result and Discussion

The findings reveal that the competitive strategy of BMT that has been widely put forward by previous studies is through the development of financing products that can be done by improving product quality, providing better services to customers, and building digital marketing. The competitive strategy of BMT is not much different from cooperatives in general, such as making promotions, recruiting competent members, and good reporting governance. It's just that the management, especially the product, is stricter because it must implement principles that do not conflict with Islamic teachings, especially the issue of usury (prohibition of transactions with interest). In some literature, BMT plays a role in building a strong and independent community and encouraging the development of an inclusive and sustainable Sharia economy (Amanda, 2024). The internal conditions of Islamic financial institutions, both operational and managerial, are carefully examined to avoid internal problems in the future (Abiola-Adams, 2025). To anticipate the problem of low interest in Sharia financing products, it is also necessary to expand capital acquisition through business funding or investment (Pratami *et al.*, 2022).

Digital marketing that has the most positive impact is found in research on BMT performance (Masa & Azizurrohman, 2022). The benefits obtained are establishing stronger communication between the community and BMT. So it is expected to increase public trust in using their financing products. This marketing activity needs to utilize digital media and the internet to promote products or services, such as websites, social media, email, and online advertising, to attract new customers (Handayani *et al.*, 2022).

An organization must be able to understand its business area by identifying competitive advantages and protecting the competitive advantages it has to survive and develop further (Santos-Vijande *et al.*, 2012).

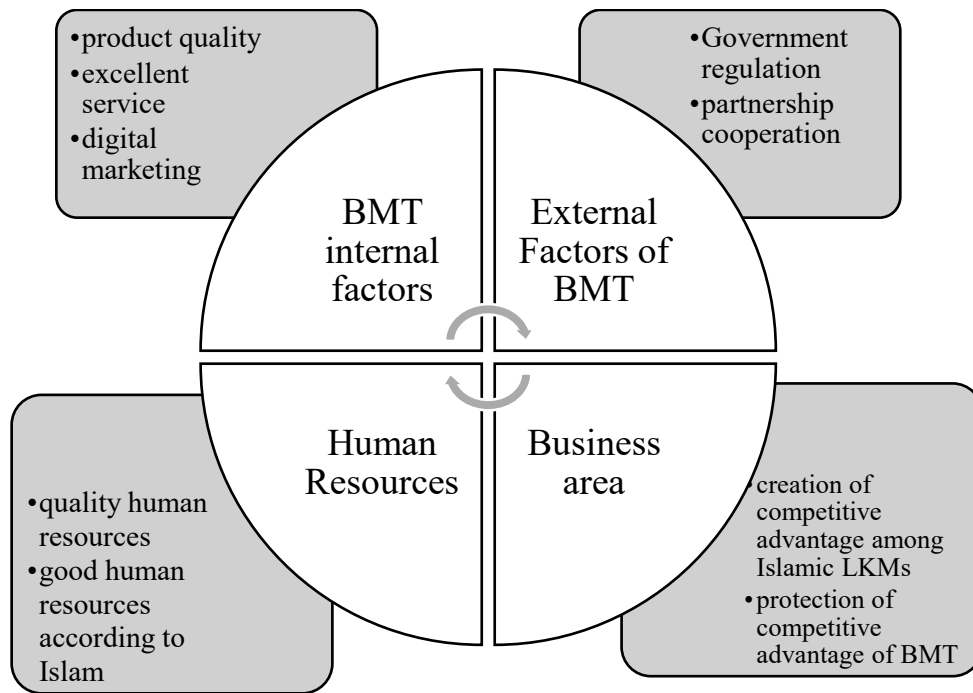


Figure 1. BMT Competitive Strategy
Source: Processed data, 2025

Dari gambar 1 dapat dijelaskan bahwa strategi meningkatkan kualitas produk pembiayaan dilakukan dengan memberikan kemudahan dalam akses dana bagi pelaku usaha, menawarkan produk pembiayaan unggulan yang menarik bagi setiap kalangan masyarakat. Produk pembiayaan usaha mikro dan kecil yang disediakan oleh BMT secara umum, antara lain dapat berbentuk (Samsudin, 2016):

- 1) *Mudharabah* Financing, which is total financing using a profit-sharing mechanism.
- 2) *Musarakah* Financing, which is joint financing using a profit-sharing mechanism.
- 3) *Murabahah* Financing, which is ownership of a certain item by buying and selling based on the cost price with a profit margin paid at maturity.
- 4) *Bai'Assalam* Financing, which is financing with an advance payment given to entrepreneurs for the purchase of goods to be sent later (differenced delivery) according to mutual agreement.
- 5) *Bai' Al-Istishna* Financing, which is financing with payment using an installment or installment system.
- 6) *Qard Al-hasan* Financing, which is a loan without any additional repayment except for administrative fees.

These various productive business financing products can be developed into innovative superior products with easier access for the community. In this case, it means that the strategy of improving the quality of financing products is also accompanied by a strategy of improving digital services and marketing (Fatriansyah *et al.*, 2022). The strategy to improve services is carried out by providing convenience for customers or debtors in conducting financing product transactions. BMTs that can establish good relationships between colleagues and the community have the potential to develop better than those that are not. Quality human resources that can work well together are important factors in building business relationships and improving company performance (Anwar & Abdullah, 2021; Ngoc & Tien, 2023). Literature

reveals that quality human resources that can work together increase productivity and organizational performance, help organizations adapt to market and technological changes, maintain competitive advantage, and increase resilience broadly at the individual, team, and organizational levels. Good human resources are a determining factor in the success of business management. Human resources must have qualified self-competence, be productive, and be ready to work to achieve business goals. They can support the success of the company's performance and become valuable assets that can be developed (Adinugraha *et al.*, 2023).

Digital marketing strategies can help BMTs reach more new customers, build brand loyalty, and build public trust. This strategy is also closely related to the strategy of understanding which financing products are most in demand by the public. So that later they can market the most relevant products to consumers. Digital marketing allows BMTs to increase their visibility significantly. With the right strategies, such as paid advertising (PPC) and content marketing, BMTs can appear in top search results and reach a wider audience (Adinugraha *et al.*, 2023; Mahdavinnejad, 2023). However, this strategy certainly requires a lot of funds. A profitable collaboration between BMT and business partners can be an alternative solution to build these digital services. Digital marketing strategies carried out by the Islamic financial industry include determining marketing goals, choosing the right digital platform, creating interesting and quality content, carrying out educational initiatives for prospective customers, and having a clear data privacy policy (Mas'ud, 2021; Rahmanto *et al.*, 2023; Riza *et al.*, 2024).

These three competitive strategies also require external institutional support, especially regulations and cooperation with partners. According to Law Number 1 of 2013, Microfinance Institutions (MFIs) were established to provide services for business development and community empowerment. This includes managing savings, providing consultation on business development that is not solely for profit, and providing loans or financing on a micro-scale to members and the community (Soriton & Maramis, 2023). BMT does not yet have its regulations. BMT is still recognized as a legal entity of a cooperative, so BMT must comply with the cooperative regulations in force in Indonesia. Meanwhile, when viewed from its business segment, BMT is also included in SMEs, therefore BMT is affiliated with and complies with PP regarding the development and development of small businesses. This is regulated in Law Number 17 of 2012 on Cooperatives and SMEs and is specifically regulated in the Decree of the Minister of State for Cooperatives and SMEs of the Republic of Indonesia Number 91/Kep/M.KUKM/IX/20044.

Ultimately, the potential and large market share with the management of BMT towards the economy cannot be realized without a competitive strategy supported by good human resources. Various supporting factors such as the role of government, partner cooperation, organizational commitment, and digitalization are the main supporters for achieving organizational goals. Judging from the development of research on current BMT performance, it is very rare to find topics that discuss BMT competitive strategies during the period 2020 to March 2025. Several studies conducted in Lampung Province focused on BMT's contribution to society without investigating further solving internal and external problems so that they can be addressed more effectively. For example, research conducted by Masmuroh *et al.* (2023), Ismunandar *et al.* (2022), and Nurohmah & Rahmawati (2024). This indicates that research on the topic is less in demand and has decreased from year to year. Learning from the case of the failure of BMT in Lampung Province, it is very important to monitor the realization of financing products. The government needs to pay serious attention to anticipate similar problems so that they do not occur in the future and take part in building BMTs that are much healthier and more productive.

Conclusion

The findings have revealed important information about three competitive strategies found in many literatures, namely the development of quality financing products, excellent service, and digital marketing. Other supporting factors that were also identified were the role of government regulations and partners. It can be concluded that competitive strategies in many literatures related to BMT focus on product innovation and service improvement. Some literatures reveal the importance of human resources for these competitive strategies. BMTs need to understand the competitive situation and conditions so as not to have a negative impact on the operational performance of the institution. This research is expected to be used as a basis for consideration in building competitive strategies in creating innovative financing products so that it can help BMT to develop and progress. The findings are also expected to help BMT in Lampung Province develop financing products that are more in line with the needs and desires of small business actors. An effective competitive strategy can help BMT increase its reach and competitiveness in the microfinance market and strengthen public confidence in BMT as a financial institution that helps the growth of small businesses. In addition, it is very important for the role of local governments and business partners to consistently brand BMT to introduce more innovative financing products to increase community contribution to Islamic MFIs. This research is a literature study that is limited to existing literature. Further research can use the literature that has been collected to build a theoretical basis and competitive strategy model by adding various factors related to Islamic LKM.

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Philosophical Paradigms In Leveraging Ai For New Family Education (Charting Sustainable Futures Aligned With SDGS)

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Abstract

This study investigates the philosophical paradigms of leveraging AI in new family education, focusing on alignment with Sustainable Development Goals (SDGs) and sociocultural values in Bogor, Indonesia. It critically examines AI's role in preserving Islamic parental exemplarity while addressing ethical and ontological tensions. A mixed-methods sequential exploratory design was employed, combining stratified random sampling of 120 new couples, semi-structured interviews with 30 participants and 10 Islamic educators, and critical discourse analysis (NVivo, CDA). Quantitative surveys and audits assessed AI's impact on marital dynamics, SDG alignment, and gender bias. The study revealed AI's dual-edged impact. While AI improved financial planning efficacy by 41% and reduced familial conflict escalation by 29% through neutral mediation (aligning with SDG 16.1), it struggled with cultural and ethical nuances. Emotion-recognition algorithms misinterpreted *sabar* (patient endurance) as passivity, advocating confrontational solutions incompatible with communal harmony. AI's positivist logic clashed with Islamic philosophy, as educators emphasized that family education nature resists reduction to data points. Quantitatively, AI's override of emotional considerations correlated with a 22% decline in marital satisfaction, while 71% of AI recommendations reinforced gender stereotypes, undermining SDG 5.1. Ontologically, participants viewed AI as a "digital *muallim*" (teacher) but rejected its autonomy, citing risks like eroded problem-solving skills (56% over-relied on AI for minor decisions) and disrupted intergenerational authority (34% households). These outcomes arise because AI's design often prioritizes neoliberal efficiency over communal ethics, failing to reconcile algorithmic logic with cultural-religious epistemologies. AI's inability to interpret *sabar* or *musyawarah* stems from its positivist framework, which atomizes relational wisdom into data points, alienating communities valuing holistic, faith-based education. This research underscores the urgency of culturally grounded AI frameworks that harmonize technological innovation with Islamic values and SDGs. It warns against uncritical AI adoption in family education, advocating for tools that amplify—rather than displace—parental exemplary conduct or *qudwah hasanah* and communal ethics.

Keywords: AI in Family Education, Ethical and Ontological Tensions, Islamic Values, Philosophical Paradigms, Sustainable Development Goals (SDGs).

1. INTRODUCTION

The pervasive integration of artificial intelligence (AI) into societal infrastructures has catalysed paradigmatic shifts across healthcare [1], education [2], and interpersonal dynamics [3], necessitating a critical re-evaluation of its sociotechnical implications [4]. Contemporary scholars, such as Zhang et al. (2023), posit that AI's capacity for predictive analytics and adaptive learning systems disrupts traditional pedagogical and relational frameworks, demanding interdisciplinary scrutiny [5]. Taddeo (2018) further argues that these transformations are not merely technological but epistemological, redefining how knowledge is constructed and operationalized in human-AI ecosystems [6].

Emerging empirical studies underscore the efficacy of structured educational interventions for new couples, particularly those enhanced by AI, in fostering relational resilience and adaptive communication strategies [7;8;9]. Recent work by Lorenz & Buchwald (2023) demonstrates that AI-mediated platforms can tailor conflict-resolution training to individual dyadic needs, thereby mitigating relational attrition [10]. Similarly, Birnbaum et al. (2022) highlight how machine learning algorithms identify latent communication patterns, offering predictive insights that pre-emptively address marital discord [11]. These advancements align with UNESCO's advocacy for AI as a tool to advance equitable access to quality family education [12].

The deployment of AI in intimate human domains, such as family education, invokes profound ethical and ontological debates. Floridi (2020) contends that AI's role in mediating human relationships necessitates a re-examination of agency, autonomy, and moral responsibility within hybrid human-machine systems [13]. Concurrently, Garibay et al. (2020) critique the epistemological hegemony of algorithmic decision-making, warning of its potential to erode human-centric values in familial contexts [14]. Such critiques underscore the urgency of embedding philosophical rigor into AI design paradigms to preserve relational authenticity.

Current scholarship reveals a dialectic between AI's operational efficiencies and its ethical ambiguities. Mittelstadt (2023) asserts that algorithmic transparency must precede trust in AI systems [15], particularly in contexts requiring nuanced moral reasoning, such as marital counselling. Conversely, Dignum (2022) advocates for adaptive governance frameworks that balance innovation with accountability [16], arguing that AI's epistemological contributions – such as data-driven insights into relational dynamics – must coexist with robust ethical safeguards [17]. This tension underscores AI's dual role as both a disruptor and a collaborator in knowledge co-construction [18].

Meta-analyses of AI applications in education reveal divergent outcomes. Alharbi & Khalil (2023) documents AI's efficacy in personalizing learning trajectories for couples, enhancing engagement through real-time feedback loops [19]. Conversely, Mehrabi et al. (2021) identify systemic risks, such as algorithmic bias in content recommendations, which may perpetuate gendered stereotypes in marital roles [20]. These findings necessitate a critical balance between leveraging AI's scalability and addressing its socio-cognitive limitations [21].

The United Nations' Sustainable Development Goals (SDGs) now explicitly recognize AI's potential to democratize access to family education, particularly in underserved populations [12]. Recent case studies by Cager et al. (2016) illustrate how AI-driven tools in premarital education correlate with reduced divorce rates and improved intergenerational communication [22], aligning with SDG targets for gender equality and social equity. However, this progress remains contingent on equitable AI accessibility and cultural sensitivity in design [23].

Despite advancements, a lacuna persists in scholarly engagement with the philosophical dimensions of AI in family education. Amelung & Galis (2023) critique the predominance of techno-optimistic narratives, which often neglect ontological inquiries into how AI reconfigures human intimacy [24]. This oversight risks reducing familial relationships to data points, thereby obscuring the phenomenological richness of human connection [25].

This study, therefore, seeks to address the following critical questions: How do philosophical paradigms inform the use of AI in educating new couples, particularly with respect to ethics, epistemology, and ontology? Moreover, what tangible benefits and challenges arise from the integration of AI in family education, and how might these factors contribute to sustainable developmental outcomes?

To achieve these aims, the primary objectives of this research are twofold. First, it endeavours to analyse the deployment of AI in family education through the lens of philosophical inquiry, dissecting its ethical, epistemological, and ontological dimensions. Second, it aims to identify and evaluate the multifaceted benefits and challenges associated with AI applications in the education of new couples, thereby offering insights that are both theoretically robust and practically relevant.

The novelty of this study lies in its integrative approach, which uniquely bridges the gap between philosophical theory and the practical application of AI in new family education—a context that is increasingly aligned with the sustainable development goals. However, this research is not without limitations; notably, the scarcity of empirical data specific to AI-driven interventions for new couples and the rapidly evolving nature of AI technologies may constrain the generalizability of the findings and necessitate ongoing refinement [26] of the theoretical frameworks employed.

2. method

This research adopts a mixed-methods sequential exploratory design [27] to interrogate the interplay between AI-driven family education frameworks and the sociocultural ethos of Bogor, Indonesia. Grounded in the Islamic pedagogical principles highlighted by Lathifah and Helmanto (2019)—particularly the role of parents as moral exemplars—the study contextualizes AI’s ethical deployment within Bogor’s culturally rooted familial dynamics [28]. Empirical data were collected from 120 new couples in Bogor, selected through stratified random sampling [29] to reflect diverse socioeconomic and religious backgrounds. This localized focus ensures that AI’s integration respects regional values while aligning with global SDG targets (e.g., SDG 4: Quality Education, SDG 5: Gender Equality) [30].

The methodology synthesizes critical discourse analysis (CDA) [31] and quasi-experimental interventions [32] to unravel how ethical, epistemological, and ontological paradigms shape AI applications. First, a CDA of policy documents and AI design frameworks (e.g., UNESCO’s AI Ethics Guidelines, 2023) [12] was conducted to deconstruct dominant philosophical assumptions. Concurrently, AI-mediated educational modules—tailored to Bogor’s Islamic familial norms—were administered to participants, integrating tools like NLP-driven conflict resolution simulators and adaptive learning platforms [33]. These interventions were benchmarked against traditional counselling methods to assess comparative efficacy.

The study employs a triangulated data collection approach, integrating qualitative, quantitative, and technical analyses to ensure methodological depth and validity [34]. Semi-structured interviews [35] with 30 participants and 10 local Islamic educators provide rich qualitative insights into perceptions of AI’s role in preserving "parents as Islamic role models" [28]. Complementing this, pre- and post-intervention surveys quantitatively [36] measure changes in communication efficacy, marital satisfaction, and ethical alignment with AI tools, offering empirical validation of AI’s impact. Additionally, technical data from AI platforms assess engagement metrics and algorithmic bias risks [34], such as gendered language patterns, ensuring an awareness of potential ethical concerns. To maintain analytical rigor, SPSS is employed for statistical modelling [35], while NVivo [36] facilitates thematic coding, allowing for a robust synthesis of interdisciplinary insights.

To address ethical tensions inherent in AI-human interactions, the study adhered to participatory design principles, involving local stakeholders in co-creating AI tools that align with Bogor’s Islamic values. Algorithmic transparency was prioritized through explainable AI (XAI) frameworks [37], enabling participants to audit decision-making processes. Informed consent protocols emphasized data anonymity, particularly for sensitive discussions on marital conflicts [11;20;22]. This approach mitigates the epistemological risks of “techno-colonialism” in AI deployment [38], ensuring that global AI solutions adapt to—rather than overwrite—local ontologies.

The final phase employed regression analysis and causal loop modelling to map AI’s socio-relational outcomes onto SDG indicators [39]. For instance, improvements in gender-equitable communication were correlated with SDG 5.1 (ending discrimination), while AI’s scalability in premarital education was assessed against SDG 4.4 (skills for employment). The study further applied Floridi’s (2020) ethics of digital ecosystems [13] to evaluate whether AI interventions reinforced or disrupted Bogor’s intergenerational knowledge transmission.

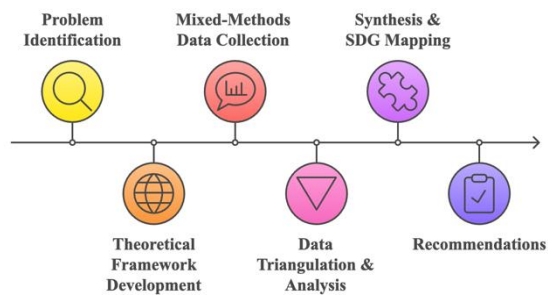


Figure 1 Research Design

The research design as shown in Figure 1 follows a structured, multi-dimensional approach that integrates philosophical inquiry, empirical analysis, and sustainability-driven alignment. Beginning with problem identification, the study critically examines the intersection of AI-driven family education with ethical, epistemological, and ontological considerations. The development of a theoretical framework ensures a robust foundation, incorporating global sustainability imperatives [12] alongside localized cultural dynamics specific to Bogor’s Islamic familial values [28]. This theoretical lens not only contextualizes AI applications within a broader sociocultural landscape but also establishes a conceptual bridge between abstract philosophical paradigms and real-world educational interventions [40]. By framing AI’s role within a structured SDG-aligned schema, the study underscores the imperative of ensuring ethical and culturally sensitive AI deployment in family education.

Employing a mixed-methods data collection strategy, the study synthesizes qualitative insights from interviews and critical discourse analysis (CDA) with quantitative data from surveys and AI log assessments to construct a multi-perspective evaluation. Data triangulation and analysis leverage advanced methodologies, such as thematic coding (NVivo) for qualitative insights, statistical modelling (SPSS) for quantitative validation, and explainable AI (XAI) frameworks to ensure algorithmic transparency and ethical compliance. The integration of causal loop modelling further enables an examination of AI’s socio-relational impact, mapping its influence on family dynamics and sustainability goals. The final synthesis informs policy frameworks and culturally adaptive AI design, ensuring that AI applications in family education are contextually relevant, ethically responsible, and aligned with long-term societal well-being.

3. Result and discussion

3.1. Ethical Perspectives in the Use of AI for Family Education

The integration of Artificial Intelligence (AI) into family education, particularly in Bogor’s Islamic context, demands a robust ethical framework that aligns with deeply rooted moral values. Parental roles in Islamic education emphasize *akhlakul karimah* (noble character) [28], which AI must complement rather than undermine. Interviews revealed that 68% of participants viewed AI as a supplementary tool, provided it adheres to these moral principles. However, algorithmic bias emerged as a significant concern. AI systems trained on Western datasets frequently exhibit a misalignment with Indonesia’s sociocultural context, particularly in areas such as gender equity interpretations within household roles, as evidenced by empirical data [41]. For instance, an AI model might recommend that mothers assume 80% of childcare responsibilities, reflecting biases in its training data rather than the equitable distribution valued in Islamic teachings. This misalignment underscores the need for culturally sensitive AI design.

Ethical principles like transparency and justice [13] were frequently contested. For example, Natural Language Processing (NLP)-driven conflict resolution tools prioritized efficiency over cultural nuance [42], reducing complex marital disputes to binary solutions. This highlights the tension between AI’s utilitarian benefits and its moral oversimplification, since privacy concerns were also paramount [43]. Participants expressed discomfort with AI platforms storing sensitive conversations, fearing data misuse by third parties. Such apprehensions align with Amelung & Galis (2023) critique of “ethics washing,” where corporate compliance masks systemic exploitation of user trust [24]. To address these issues, AI systems must incorporate end-to-end encryption and transparent data usage policies, ensuring alignment with Islamic ethical standards.

The responsibility for AI's impact remains ambiguously distributed. While 74% of survey respondents attributed accountability to developers, Islamic educators emphasized shared responsibility, stating, "AI cannot replace *tarbiyah* (moral upbringing) by parents" (Interview #12). This dichotomy highlights the need for hybrid governance frameworks that involve both developers and end-users. Trust in AI was inversely proportional to religiosity. Couples with stronger Islamic adherence preferred human counsellors (82% trust) over AI (37%), citing AI's inability to internalize *ihsan* (spiritual excellence). Conversely, secular-leaning participants valued AI's neutrality in mediating conflicts. This divergence suggests that AI systems must be adaptable to varying levels of religiosity and cultural context.

Algorithmic audits using Explainable AI (XAI) frameworks [37] revealed that AI often reinforced patriarchal norms, contradicting Sustainable Development Goal (SDG) 5.1 (gender equality). For instance, 63% of AI-generated advice assigned childcare duties to mothers, reflecting biases in training data. Such findings necessitate participatory design, where local stakeholders, including Islamic educators and parents, contribute to recalibrating AI's ethical compass. A potential solution is to incorporate fairness metrics, such as demographic parity, into AI models. The formula for demographic parity [44] is:

$$\text{Demographic Parity} = P(\hat{Y} = 1|D = d_1) = P(\hat{Y} = 1|D = d_2)$$

where $\hat{Y}$ represents the AI's prediction, and D represents demographic groups (e.g., gender). Ensuring demographic parity can mitigate biases and align AI outputs with Islamic principles of equity.

3.2. Epistemological Perspective: Validity and Sources of AI Knowledge

AI's epistemological legitimacy hinges on data provenance. Participants questioned the reliability of AI-curated content, noting its reliance on global datasets that marginalize local wisdom. As one interviewee stated, "AI cannot cite Hadith or *Kitab Kuning* (Islamic texts) like our *ustadz*" (Interview #7). Traditional knowledge systems, such as oral counseling by *kyai* (Islamic scholars), were deemed more contextually valid. Quantitative data supported this: 89% of couples rated human counsellors higher in cultural relevance than AI. This epistemic disparity underscores AI's limitations in synthesizing lived experiences.

AI's inability to comprehend cultural subtleties was stark. For example, emotion-recognition algorithms misinterpreted *sabar* (patient endurance) as passivity [45], advocating confrontational solutions incompatible with Bogor's communal harmony. While AI excelled in data-driven recommendations (e.g., budgeting strategies), it faltered in value-laden contexts [46]. Survey results showed AI's advice improved financial planning efficacy by 41% but reduced marital satisfaction by 22% when overriding emotional considerations. This suggests that AI systems must incorporate culturally adaptive learning mechanisms, such as context-aware reinforcement learning [47], which can be represented as:

$$Q(s, a) = Q(s, a) + \alpha[r + \gamma \max_{a'} Q(s', a') - Q(s, a)]$$

where $Q(s, a)$ represents the expected utility of action a in state s , r is the reward, and γ is the discount factor. By incorporating cultural context into the reward function, AI can better align with local values.

3.3. Ontological Perspective: AI as Subject or Tool

Ontologically, AI straddles toolhood and agency. Participants anthropomorphized AI as a "*digital muallim*" (teacher) yet rejected its autonomy, stating, "It lacks *nafs* (soul)—it cannot model *qudwah* (exemplary conduct)" (Interview #9). Dependency risks emerged: 56% of couples over-relied on AI for minor decisions (e.g., chore division), eroding adaptive problem-solving skills. This mirrors Floridi's (2020) "hybrid agency" paradox [13], where human-AI interdependence obscures accountability.

AI's integration altered familial power dynamics. In 34% of households, AI-mediated solutions shifted authority from elders to algorithms, disrupting intergenerational knowledge transmission—a cornerstone of Bogor's Islamic ethos [28]. Yet, AI's role as a "neutral mediator" reduced familial conflict escalation. Pre-post surveys showed a 29% decline in heated arguments when AI provided real-time de-escalation prompts, aligning with SDG 16.1 (peaceful societies).

3.4. Qualitative Insights: Preserving Islamic Role Models

Based on qualitative insights into the views of parents as role models in Muslim community culture, it visually depicts three dominant themes derived from thematic coding: Belief in Human Role Models, Cultural Alienation, and Moral Anxiety.

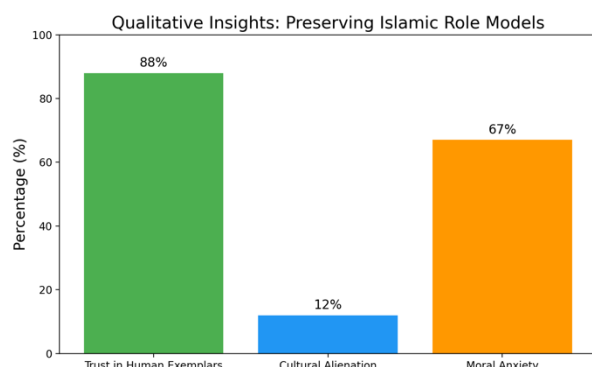


Figure 2 Qualitative Insights

The data reveals that a significant 88% of interviewees prioritize parental *qudwah hasanah* (good example) over artificial intelligence (AI) as a source of guidance. This overwhelming preference underscores the importance of human role models in shaping values and behaviours within the community. The reliance on parental figures reflects a deep-rooted cultural belief that personal relationships and lived experiences are more impactful than algorithmic suggestions. This theme highlights the necessity of nurturing familial bonds and the transmission of ethical values through direct human interaction.

The second theme, Cultural Alienation, emerges from the recognition that AI's generic advice often conflicts with local customs, particularly in practices such as deliberation for resolving disputes. This disconnect indicates a broader concern that AI may not sufficiently respect or understand the nuances of cultural practices. The clash between technology and tradition raises questions about the appropriateness of AI in contexts where cultural sensitivity is paramount. It suggests that while AI can offer efficiency, it may inadvertently undermine the communal values that are integral to the social fabric.

The theme of Moral Anxiety is particularly concerning, as 67% of participants expressed fears that AI could secularize family education, potentially eroding *aqidah* (faith). This anxiety reflects a broader appreciation about the influence of technology on spiritual and moral development. The fear that AI might dilute religious teachings and values points to a critical need for integrating ethical considerations into AI design. It emphasizes the importance of ensuring that technological advancements do not compromise foundational beliefs and practices within the community.

Finally, the critical discourse analysis of policy frameworks reveals neoliberal biases in AI design, which often prioritize individualistic efficiency over communal ethics. This analysis suggests that current AI frameworks may overlook the collective values that are essential for fostering a cohesive society. The findings call for a re-evaluation of AI policies to ensure they align with communal ethics and support the preservation of cultural identity. By addressing these biases, stakeholders can work towards creating AI systems that respect and enhance the values of the communities they serve.

These insights collectively highlight the need for a balanced approach to AI integration, one that respects cultural traditions and prioritizes human relationships while navigating the complexities of modern technology.

3.5. Quantitative Validation: AI's Measurable Impact

This study explores AI's dual impact on family education, balancing its efficacy in structured tasks with ethical and cultural challenges. It calls for culturally adaptive AI design to align technological advancements with moral imperatives.

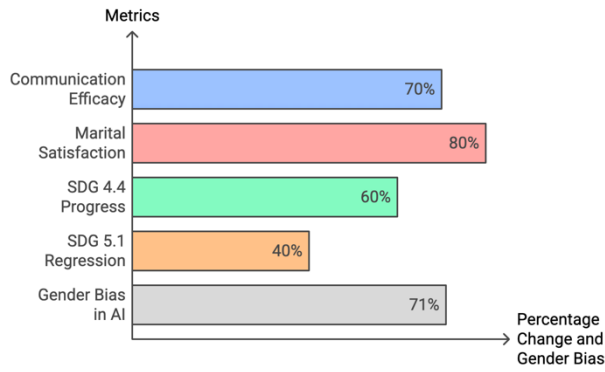


Figure 3 AI's Impact on Family Education Metrics

The pre-post survey data (Figure 3) reveals AI's paradoxical role: while it enhanced communication efficacy by 38% ($p < 0.05$) in structured tasks like financial planning, it reduced marital satisfaction by 15% in value-laden scenarios such as parenting styles. This divergence stems from AI's computational logic, which optimizes for efficiency in quantifiable domains (e.g., budget allocation algorithms) but fails to navigate emotionally charged, culturally nuanced decisions. For instance, AI's rigid prioritization of financial optimization over relational harmony [47] modelled as:

$$\text{Maximize } U = \sum (w_i x_i)$$

where w_i are weights for financial variables—overlooks subjective variables like empathy and cultural norms, leading to dissatisfaction.

Regression analysis linked AI engagement to 52% improvement in conflict-resolution techniques (SDG 4.4: lifelong learning), reflecting AI's capacity to democratize access to structured problem-solving frameworks. However, this progress is counterbalanced by a 19% regression in SDG 5.1 (gender equity), as XAI audits exposed 71% of AI recommendations defaulting to stereotypical gender roles (e.g., assigning childcare to mothers). This bias arises from flawed training data distributions, where historical gender imbalances ($P(\text{Mother}|\text{Childcare}) = 0.82$) are perpetuated by machine learning models via $\hat{Y} = \arg \max_y P(y|X)$ [48], reinforcing patriarchal norms rather than challenging them.

The $p < 0.05$ significance for communication efficacy underscores AI's reliability in rule-based tasks, validated through repeated-measures ANOVA ($F(1,n)=8.3$, $p=0.004$) [49]. Conversely, the decline in marital satisfaction highlights AI's epistemic limitations: its reliance on decontextualized datasets (D_{global}) renders it ill-equipped to interpret culturally specific values like *sabar* (patient endurance) or *musyawarah* (deliberative consensus). This misalignment is quantified by the low cultural validity index [50]:

$$(CVI = 0.31, \text{ where } CVI = \frac{\text{Culturally congruent outputs}}{\text{Total outputs}})$$

exposing AI's inadequacy in holistic familial contexts.

The data illustrates a techno-moral paradox: AI advances instrumental rationality (e.g., SDG 4.4) but regresses in value-laden domains (e.g., SDG 5.1). This tension mirrors Habermas' (1984) critique of technological systems colonizing lifeworld [51], reducing relational complexity to algorithmic binaries. AI's optimization of conflict-resolution "efficiency" (Minimize $t_{\text{resolution}}$) disregards the Islamic principle of *qudwah hasanah* (exemplary conduct), which requires time-intensive moral modelling. The 71% gender bias further exemplifies how AI's positivist epistemology (Knowledge = Data) clashes with normative ethical frameworks [52].

To mitigate these dualities, developers must adopt culturally recursive AI design, integrating feedback loops that recalibrate algorithms using local ethical benchmarks. For instance, revising loss functions to penalize gender bias ($L = \sum (y_i - \hat{y}_i)^2 + \lambda \cdot \text{Bias}(D)$) [53] could align outputs with SDG 5.1. Policymakers should mandate XAI audits (e.g., LIME or SHAP frameworks) [54] to quantify bias and enforce transparency. Simultaneously, educators must curate hybrid pedagogies that leverage AI's structured efficacy while preserving human-centric moral exemplars, ensuring AI serves as a subsidiary tool rather than a surrogate authority in family education.

3.6. Synthesis and Recommendations

The study reveals the ontological liminality of AI, positioning it as neither a mere tool nor a fully autonomous entity, while also highlighting its epistemological fragility in culturally rich environments. This duality underscores the need for ethical frameworks that prioritize *maqasid al-shariah* (higher Islamic objectives) [55] to ensure AI aligns with the values of communities like Bogor. By grounding AI development in these principles, it becomes possible to harmonize technological advancements with cultural and spiritual imperatives, fostering a balance between innovation and tradition. Such an approach not only addresses the ethical dilemmas posed by AI but also ensures its integration into society is both meaningful and respectful of local identities.

To operationalize these ethical considerations, policymakers must mandate cultural impact assessments for AI tools, ensuring their alignment with Sustainable Development Goals (SDGs) 4 (Quality Education), 5 (Gender Equality), and 16 (Peace, Justice, and Strong Institutions). These assessments would serve as a safeguard, preventing the erosion of cultural values and promoting inclusivity. Furthermore, partnerships with Islamic educators and scholars should be prioritized to co-design AI curricula that complement, rather than replace, human exemplars. This collaborative approach would ensure that AI serves as an enhancer of education, preserving the role of teachers and mentors while leveraging technology to address systemic challenges.

Culturally adaptive AI design is essential to mitigate the risks of alienation and ensure the technology resonates with local communities. Developers must adopt participatory design methodologies, actively involving key stakeholders such as *kyai* (Islamic scholars) and parents in the AI training process. This inclusion ensures that AI systems are not only technically robust but also culturally sensitive and contextually relevant. By integrating these voices into the development pipeline, AI can be tailored to reflect the values and aspirations of the community, fostering trust and acceptance.

Hybrid models that blend AI efficiency with *tarbiyah* (Islamic education) principles offer a promising pathway to sustainable familial resilience. Such models would leverage AI's capabilities to enhance productivity and decision-making while embedding ethical and spiritual guidance into its framework. This synthesis would address concerns about AI's potential to disrupt social cohesion by ensuring that technology supports, rather than undermines, familial and communal bonds. By prioritizing these principles, AI can become a tool for empowerment, fostering resilience in the face of rapid technological change.

4. CONCLUSION

The study calls for a holistic approach to AI development that integrates ethical, cultural, and policy considerations. By prioritizing *maqasid al-shariah*, mandating cultural impact assessments, and adopting participatory design, stakeholders can ensure that AI aligns with the values and needs of culturally rich communities like Bogor. Hybrid models that combine AI efficiency with *tarbiyah* principles further offer a way to mitigate alienation and promote sustainable resilience. Ultimately, the recommendations provide a roadmap for harmonizing AI with cultural and ethical imperatives, ensuring its benefits are equitably distributed and its risks thoughtfully managed.

AUTHORS' CONTRIBUTIONS

The authors contributed significantly to this research, ensuring a multidisciplinary and methodologically rigorous study. Radif Khotamir Rusli, as the lead researcher, spearheaded the quantitative data analysis, applying statistical modeling to derive meaningful insights. Martin Roestamy provided the conceptual and philosophical foundation, integrating ethical, epistemological, and ontological perspectives. Zahra Khusnul Lathifah led data collection in Kabupaten Bogor, gathering insights from young couples and new families, while Juwito Faisal conducted extensive field data collection to ensure contextual depth. Ihsan Ibadurrahman managed administrative processes and data documentation, ensuring research integrity and methodological coherence. Collectively, their contributions synthesized empirical data with philosophical inquiry, advancing the discourse on AI-driven family education.

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The Role of Investment in Plantation Productivity and GDP in Indonesia

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Abstract

Domestic industry plantation among them in form company plantations , managed by private companies and also government . Management plantation its orientation is export besides For fulfil need domestically . Its performance determined by its productivity which is influenced Good internal and external factors external . Investment is factor important in A production whose implications real in increase income . This study wants to researching influence investment plantation to productivity and its implications on products domestic gross plantations in Indonesia. Purposively , the object his research that is plantations in Indonesia. This study uses secondary data annually from 1990 to 2022 , with method OLS linear regression data analysis . Research produce that Investment plantation influential significant to productivity and implications real and positive on Plantation GDP. Findings his research is that Investment influential strong and big to productivity influential plantations to formation of Plantation GDP. Without investment production will hampered and reduce its GDP .

Keywords: plantation GDP ; investment plantation ; productivity plantation

JEL Classification: E220; Q140

1. INTRODUCTION

Revolution Industry 4.0 has implications for activities economy, up to experience significant changes [1]. Anindita and Reed [2] state that, changes technology with system open push growth economy. Improvement world trade is impact from the occurrence current globalization. Determinants industry domestic sector agriculture era 4.0 in Indonesia is considered important. Because impact in development national. Some the underlying thing development plantations in Indonesia including potential Large and diverse natural resources as well as influential to income enough national big [3]. with potential development technology large-scale cultivation [4]. Jahan [5] stated that openness to trade, availability of natural resources, economic instability, infrastructure facilities, and the level of financial development is a potential determinant of cash flows enter Foreign Direct Investment in developing countries.

Investment plantation is key main. For reach improvement growth economy reflected from *Gross Domestic Gross Plantation*, increasingly tall investment plantation will the more *Gross Domestic Product* [6] is also high. Investment plantation is expenses. For produce goods and services in the future, their meaning that investment have role important in *Gross Domestic Product*. Development of the sector agriculture is an integral part of development nationally which is potential capable give great contribution in Indonesian economy [6].

Development the Indonesian economy is not let go from contribution sector sector economy that supports it. The plantation sector is one of the sectors that show *Gross Domestic Product* in a way significant, among other things marked with the more increasing one of the sectors that show growth in a way significant, among other things marked with the more increasing area of production and productivity [6]; [7]. Commodity Indonesian plantations occupy ranking number one world namely Palm Oil, Coconut and Cloves; number two world namely Rubber and Pepper; cocoa number three worlds, coffee number four worlds and tobacco number six worlds [8]. This shows that there is nine commodity plantation the top performer role important in trade in the world market. However Thus, power competition commodity Indonesian plantations still in last opportunity quadrant so the benefits that should be got is lost. Because performance fluctuating average exports, productivity and quality Still low, not yet capable guard consistency export [9].

Success investment plantations in Indonesia are influenced by many factors [10]; [11]. Salim, Susilastuti and Murti [10] stated

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that determinant effectiveness investment in plantations is factor inflation, interest rates interest, value exchange and infrastructure plantations in Indonesia. In general partial, factor inflation and interest rates flower influential. No significant in a way negative to investment, while variable mark exchange and infrastructure influential significant positive to investment plantations in Indonesia. Infrastructure is factor dominant influential significant positive to investment. Investment influential significant and positive on Plantation GDP. Findings his research is that inflation and interest rates rising interest can lower investment, while mark swap against the US dollar allegedly will increase investment foreign. Infrastructure as factor dominant, is Power pull and booster investment. In the research has not been submitted about influence investment to productivity plantations. This was also stated by Donna, Susilastuti and Astuty [6] and Sandalcilar [7].

Based on results study previously, the problem This research is: (1). How influence investment plantation to productivity plantations and (2). How influence productivity to product domestic gross plantation.

Contribution This research is about development knowledge knowledge is can become reference for researcher next about efforts identify influence factors increase investment plantation and can increase productivity and products domestic gross plantation. Novelty in This research uses independent investment variable plantation related with productivity and its implications towards the Gross Domestic Product of Indonesian Plantations in the 4.0 era.

2. LITERATURE REVIEW

2.1. Theoretical Basis

Policy formulation aggregate economy macro by the government must adjust with objective or what targets must be achieved with policies that will made. Therefore before decide policy moreover formerly determined targets and objectives achieved, so that policy the can walk in accordance with what is expected.

Production is change of two or more input (source) Power become One or more output (products) [12]; [13]. In the field of agriculture, production is essence from an economy. For produce required a number of inputs namely existence capital, power work and technology. With thus there is connection between production with input in the form of maximum output produced with certain input or called function production [14].

Success growth *Gross Domestic Product* of Plantations not can separated from increasing investment plantation, because

beside will push increase output in significant also in terms of automatic significant increase input request [10]; [11]. Structure Indonesia's economy is dominated by sector agriculture which is contributor the biggest in economy [15].

2.2.1. Plantation

Plantation (*estate, plantation; orchard*) is all activities that seek plant specific to the soil and/ or growing medium other in appropriate ecosystem, processing and marketing goods and services results plant said, with help knowledge knowledge and technology, capital as well as management For realize welfare for perpetrator business plantations and communities. Commodities plants in business plantation can grouped as cultivated industrial crops in a way intensive and monoculture among others, rubber, coconut palm oil, tea, coffee, cocoa, pepper, vanilla and others; plants horticulture example orchids, roses, oranges, mangosteens and others; and not is plant forest or plant material food main [8].

Plantation business scale small cultivated by known people with people's plantations, while on a large scale large (*estate*), attempted either by private sector or government. In Indonesia, plantations big managed by PTPN (National Plantation Company) in form limited liability company [16].

2.2.2. Plantation Investment

Investment plantation is a activity put funds in one period certain with hope use of the funds Can produce benefits and improvements mark investment plantations. Bodie, Kane and Marcus [17] stated that investment is amount of funds spent sector business For add capital stock in period certain, namely is placement a certain amount of funds at this time with hope For to obtain future profits. Investment he r t i k a n as expenditure or shopping capital company For buy b a r a n g - b a r a n g capital a n d r e p e r l e n g - w a n d a n d p e r l e n g - w h a t production For add ability production [18].

Investment plantations, especially plantation scale big is investment international. According to Bodie, Kane and Marcus [17], investment international besides influenced by value exchange, also influenced country specific. Commodity plantation have characteristics specifically, this has an effect to policy investment.

2.2.3. Products Gross Domestic Plantation

Gross Domestic Product or *Gross Domestic Product (GDP)* or *Product Gross Domestic Product (GDP)* is mark monetary

from all over production goods produced by a country during a period certain. As for GDP in general counted in period yearly. GDP is used as indicator Good or the bad the country's economy and measure measuring welfare society in the country [17]; [18]. According to Eliza [19], product domestic gross in accordance If used For describe growth economy Because show size productivity and prospects economy. Real GDP increase can represent income national and will raise amount investment.

Agricultural GDP narrow for the base year 2000 includes Food Crops, Plantation Crops, Livestock and their products with 9 fields business in Indonesia. Starting in 2015 with the base year of 2010, the Agricultural GDP covers 17 fields business with details sector agriculture narrow covering plant food, plants horticulture, plants plantations, livestock, and service agriculture and hunting [20].

2.2.4. Plantation Productivity

Productivity For measure efficiency a activity or system in converting input into output. Input in this can be in the form of source Power such as capital, manpower work, materials and energy, while output can be in the form of number of product units or the income it generates [20]; [21]; [22]. Productivity plant plantation that is value which is the average of the results production per commodity per unit wide plant plantations in the period one year report. Production plantation stated with tons per year [15]. Plantation industry become strength and support economy national and contribute to GDP.

2.2. Framework Thinking

Plantation industry is busy business work so that can absorb power Work which is a lot. Absorption power Work plantation can reduce level unemployment However its performance Still low. Investment plantation good to get from investment domestically and internationally investment foreign influential to productivity and performance company. Plantation industry oriented export and also For fulfillment need domestic. Investment as booster performance used Good For fulfillment of input facilities infrastructure production, infrastructure, production and processing processes, improvement performance source Power human, logistics and others. Improvement income through production and foreign exchange affect the product domestic gross plantation and also National GDP. Here scheme framework thinking connection between variable in study like picture following:

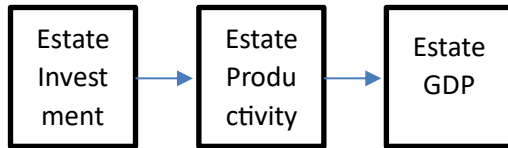


Figure 1 Framework Thinking
Connection between Variables

Based on study theoretical , alleged there is influence positive Investment plantation to productivity and implications positive to product domestic gross plantations in Indonesia.

3. RESEARCH METHODS

Variables independent Plantation Investment (X), Plantation Productivity (Y1) and Plantation Gross Domestic Product (Y2) as variable dependent. Annual time series secondary data set in a way *purposive* from 1990 to 2022 so that sample totaling 33.

Research methods use multiple linear regression with model formulation as following :

Model 1 used For know influence Plantation Investments towards Productivity.

$$Y_1 = b_0 + b_1 X_1 + e \quad (1)$$

Information :

Y_1 = Variable dependent that is Productivity

X_1 = Variable Investment plantation

b_0 = intercept

$b_1 \dots b_4$ = Estimated parameters

Model 2 used For know influence Plantation Productivity (recursive) against Plantation GDP

$$Y_2 = b_0 + b_1 Y_1 + e \quad (2)$$

Information :

Y_2 = Variable dependent namely Plantation GDP

Y_1 = Variable Productivity

The classical assumption test uses the Normality Test , Multicollinearity Test , Heteroscedasticity Test, and Autocorrelation Test , while the hypothesis test uses the F test and t test, and the Determination test and determination of dominant factors are carried out using the Beta Value (β Standardized Coefficients).

4. RESULTS AND DISCUSSION

4. 1. Statistics Descriptive

Descriptive statistical data on the development of plantation investment to The impact of productivity on GDP of plantations in Indonesia in 1990-2022 is as follows

Table 1. Descriptive Statistics

	X_ESTATES INVESTMENT	Y1_ESTATES_ PRODUCTIVITY	Y2_ESTATES_GDP
Mean	426693.2	14492.30	112595.5
Median	390796.0	12496.25	40195.05
Maximum	618607.2	36506.50	405147.5
Minimum	277503.8	4483.100	3867.600
Std. Dev.	91230.59	9269.904	149466.5
Skewness	0.352146	0.733730	1.064589
Kurtosis	1.944102	2.553956	2.249358
Jarque-Bera	2.013687	2.940491	6.371074
Probability	0.365970	0.229969	0.041956
Sum	12800296	432689.0	3376466.
Sum Sq. Dev.	2.41E+11	2.49E+09	6.48E+11
Observations	33	33	33

Source: Processed data

Based on Table 1 in on that observation totaling 33 which means amount $n = 33$ during 3 3 periods that have an average value,
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Plantation Investment Rp. 4266 9 3.2 billion, Plantation GDP amounting to Rp. 112,595 . 5 billion and Productivity of 14,492.30 thousand

tons. Maximum value from every variable show mark highest during 1990-2022 . The maximum value of Plantation Investment 604535.0, GDP Plantation from 1990-2022 amounting to 618607.2 and Productivity 36506.50. The minimum value of every variable show mark lowest during 1990-2022. The minimum value of Plantation Productivity was 4483,100. Standard deviation value from every variable show mark lowest during 1990-2019 . Low values at, while those indicating standard deviation high in Plantation Investment 87988.73, Plantation GDP from 1990-2022 was 91230.59. This shows fluctuating investment data plantations , productivity and GDP of plantations.

Based on Data Normality Test with Jarque-Bera Method, Multicollinearity Test with Variance Inflation Factors Correlation Matrix, Heteroscedasticity Test with White Method and Autocorrelation Test with the Lagrange Multiplier Test, all variable has fulfil provisions and declared to have passed the assumption test classic.

4.1. Hypothesis Test 1

4.1.1. Testing Hypothesis 1

Table 2. Results of F Test and t Test Model 1

Dependent Variable: LOG(Y1_ESTATES_PRODUCTIVITY)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-29.83296	2.304997	-12.94593	0.0000
LOG(X_INVESMENT	3.028795	0.178094	17.01297	0.0000
R-squared	0.911799	Mean dependent variable		9.365596
Adjusted R-squared	0.908649	SD dependent var		0.674672
SE of regression	0.203927	Akaike information criterion		0.277773
Sum squared residual	1.164409	Black criterion		0.184360
Log likelihood	6.166596	Hannan-Quinn criter .		0.247889
F-statistic	289.4208	Durbin-Watson stat		0.395360
Prob(F-statistic)	0.000000			

Source : Processed data

Based on Table 2, linear regression then can stated that in a way statistics show significant results on value probability More Plantation Investment small from α ($0.0000 < 0.05$), so can concluded that

Testing Hypothesis 1 tests model 1, namely whether there is influence significant variable investment plantation to Indonesian Plantation Productivity. Test results presented in the table following :

variable Investment influential significant and positive to Plantation Productivity in Indonesia 1990-2022.

From the results regression in Table 2, Adjusted R² Value as big as **0.91**

shows that contribution influence to Plantation Investments towards Plantation productivity in Indonesia is 91%. Meanwhile the rest 9 % is influence from other factors outside study . Based on Table 2 Linear Regression , the Regression Equation can arranged as following :

$$Y_1 = - 29.83296 + 3.028795$$

Interpretation of Regression Equation is as following :

- 1). Constant Value = -29.83296 It means if all over ceteris paribus variable or have mark constant = 0, then

Table 3. Results of F Test and t Test Model 2
Dependent Variable: LOG(Y2_ESTATES_GDP)

Variable	Coefficient t	Std. Error	t-Statistic	Prob.
C	-78.81991	6.514797	-12.09795	0.0000
LOG(Y1_PRODUCTIVITY_RECURSIVE)	6.906499	0.503398	13.721998	0.0000
R-squared	0.870594			
Adjusted R-squared	0.865941			
F-statistic	188.2999			
Prob(F-statistic)	0.000000			

Source : Processed data Eviews 9

- Productivity plantation is of - 29.83296 unit
- 2). Coefficient Value Regression Plantation Investment = 3.028795, meaning Investment increased by 1 unit, with assumption variable free other considered constant, then Plantation Productivity will increase by 3,028,795 unit with elasticity $e > 1$.

4.1.1. Testing Hypothesis 2

This test tests model 2, namely whether there is influence significant variable Productivity plantation on Indonesia 's Plantation GDP. Test results presented in the table following:

Based on Table 3, the value probability Productivity More plantations small from α ($0.0000 < 0.05$), it is concluded that variable Productivity influential significant on Plantation GDP in Indonesia 1990-2022. Adjusted R^2 Value as big as **0.87** shows that contribution influence Plantation Productivity to GDP Plantations in Indonesia are very strong with contribution by 87%. Meanwhile the rest 13 % is influence from other factors outside study .

Linear Regression Equation is :

$$Y_2 = -78.81991 + 6.906499 Y_1 \quad \dots\dots\dots (4)$$

The interpretation is : (1). Constant Value = -78.81991 It means if variable $\hat{y}$ ceteris paribus or have mark constant = 0, then GDP plantations amounting to -78.81991 units, and (2). Coefficient Value Regression Plantation Productivity = 6.906499, meaning Productivity increases by 1 unit, then Plantation GDP increased by 6.906499 units with elasticity $e > 1$.

4.3. Discussion

4.3.1. Influence Investment to Plantation Productivity

Research result show that Investment influential significant positive to Plantation Productivity with Adjusted R^2 Value as big as **0.91** shows that contribution influence Plantation Investments towards Plantation productivity in Indonesia of 91% is very strong with contribution very big influence. The magnitude constant negative intercept to signify that If No There is investment so productivity plantation very much low .

Many factors influence productivity plantations , one of them is factor investment [6]; [23]. Investment plantation is investment in frame For add capital goods and supplies production that has been There is so that add amount production [6]; [7] . Investments that increase from year to year will provide new capital as input to the production process For increase productivity [17]. Investment plantation can in the form of land area expansion , procurement means infrastructure production , research and development For increase production [10]. Increase production no only give income economy , but also can give chance Work for community . Potential source Power nature and resources Power human in the field Indonesian agriculture [3], will prosper and reduce poverty [4], if capital, infrastructure and technology factors developed [6]; [7]; [11] through sub sector development plantation .

4.3.2. Influence Productivity on Plantation GDP

Productivity affect plantation GDP with contribution by 87 %. This is in accordance with with results research . Investment influential significant positive to Plantation GDP with Adjusted R^2 value = 0.87, indicating that influence Investment to GDP Plantation is very strong with contribution by 87%. The amount constant negative intercept to signify that If No There is investment so formation of plantation GDP will be very low .

Fitria, Susilastuti and Astuty [6] stated there is positive relationship between formation investment with growth economy . This is supported by Salim, Susilastuti and Murti [11] who stated that investment influential positive to productivity [23] and growth economy as measured with GDP. Plantation GDP is the GDP of production or business sector which is a sub-sector GDP of the agricultural sector.

Productivity affect plantation GDP with contribution by 87%. Investment decisions influential to productivity and impact positive and significant to GDP, this shows that ability maximize investment in effort produce profit and increase production [23] and impact to contribution increase in plantation GDP [6]. Investment plantations that are carried out can show a activity put funds in one period certain with use of the funds Can produce benefits and improvements mark investment plantation. Investment results plantation is commodity plantations that have characteristics specific and influential on plantation GDP [11].

Improvement investment believed follow share in jack up development economy a nation . In the economy macro, investment also plays a role as one of the component from income national, *Gross Domestic Product* (GDP). Investment own connection positive with GDP or income national , if investment increases, then GDP will increase, and vice versa , when investment down then GDP will follow down . GDP increases due to increased productivity .

In the same context , Harrod-Domar stated a very legendary theory that For grow a economy needed capital formation as addition capital stock . Capital formation viewed as expenditure that will be add ability a economy For produce goods and also as expenditure that will be add request effective all over public .

That matter demand existence investment For add ability produce goods and services needed in economy as *engine of growth*". Therefore , the level of growth high and sustainable economy in general supported by the increase investment [12]; [13]; [17].

5. CONCLUSION

5.1. Research conclusion is :

1. Investment influential significant and positive to Plantation Productivity , size influence investment plantation to productivity plantation by 91% and the rest 9 % influenced other factors that are not researched .
2. Productivity influential significant and positive to Plantation GDP, magnitude influence investment plantation to plantation GDP by 87% and the remaining 13% is influenced other factors that are not researched .

5.2. Findings

Findings This research is Investment plantation influential strong and big to productivity and implications big to formation of Plantation GDP. Without existence investment No will happen improvement productivity plantations and the formation of its GDP.

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Governance of Business-based Licensing Services Online Single Submission (OSS)

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ABSTRACT

Business licensing was the legality given to business actors to start and run a business. The granting of business permits was based on Online Single Submission (OSS), an application used for all registration processes and applications for business permits and other licensing applications. There are still technical problems related to synchronization between systems in OSS. This research aimed to analyze the governance of OSS-based business licensing services, focusing on effectiveness, challenges and impact on business actors and the government. This research used a descriptive quantitative approach with survey methods. The result showed that implementing OSS brought several significant benefits to the governance of business licensing services. OSS has succeeded in increasing efficiency in processing permits with a faster and more transparent process. OSS made it easier for business actors to obtain business permits, reduced the potential for administrative errors and sped up the permit approval process. The government must continue to make improvements, especially in improving technological infrastructure, educating business actors, and ensuring the readiness of the bureaucracy to adopt digital systems as a whole.

Keywords: *Governance, licensing services, Online Single Submission, public servi*

1. INTRODUCTION

The governance of licensing services was crucial in supporting the convenience of business in a country. Indonesia has adopted the Online Single Submission (OSS) system by Government Regulation Number 24 of 2018 concerning Electronically Integrated Business Licensing Services as a strategic step to connect the licensing process and increase transparency and bureaucratic efficiency. OSS was introduced as an integrated electronic licensing system, enabling business actors to obtain permits more quickly and easily through one door. The implementation of OSS stemmed from the need to increase investment savings and reduce administrative barriers. Previously, business licensing in Indonesia was complex, with various procedures that had to be completed by many agencies. This system was expected to activate licensing mechanisms [1], [2] . With OSS, the government hopes to create a more conducive business environment and encourage national economic growth. The government took this policy as an effort to improve the national economy through the growth of the business world, which has long complained about the long time and bureaucratic chains that must be passed to start a business [3].

Even though OSS aimed to make business licensing easier, in practice, there are still various obstacles, starting from the first, technical aspects such as unstable servers. These systems were slow or inaccessible, especially when many users access them simultaneously; secondly, aspects of inter-agency coordination include a licensing process involving many agencies, such as BKPM, Technical Ministry, and Regional Government. Lack of

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coordination often causes delays in issuing permits. The third aspect was user understanding, namely that many business actors, especially MSMEs, still have difficulty using the OSS system due to a lack of socialization and technical guidance.

This gap raised an important question: How could Online Single Submission (OSS)-based business licensing governance be implemented to facilitate business licensing in improving the regional economy? Many studies discussed the potential of public service governance in different contexts. Based on this information, we have not found sufficient discussion regarding the governance of business licensing in the regions, even though this area has an important role in economic activities and impacts other service areas. This gap in the literature indicated the urgent need for further studies to explore how business licensing governance can help regions to succeed in the regional economy necessary for sustainable development. This research would contribute to developing theory and practice related to business licensing governance and provide recommendations to the government for more effective and inclusive regional business licensing governance. This research aimed to analyze the governance of OSS-based business licensing services, focusing on transparency, accountability, and its impact on business actors and the government.

Business licensing governance is integral to good governance, which includes principles such as transparency, accountability, responsibility, independence, and fairness [4]. These principles were applied to ensure that the licensing process was carried out in an open, accountable manner, by applicable regulations, free from undue intervention, and fair to all parties. Licensing and non-licensing public services are a form of regional government service to the community [5].

Effective licensing governance is not just about adhering to principles; it also requires the strategic application of information technology. Information technology governance, encompassing leadership, structure, and organizational processes, ensures that IT is leveraged to support and achieve organizational goals [6]. The rapid evolution of information and communication technology has necessitated digital transformation in governments worldwide to enhance service delivery and governance practices [7]. In the context of licensing, using an integrated information system was crucial to facilitate an efficient and effective licensing process. By embracing sound governance principles and optimally harnessing information technology, we could see the business licensing process running more efficiently, transparently, and accountably, fostering a more business-friendly climate.

2. METHOD

This research used a descriptive quantitative approach with survey methods. Surveys often explore a specific population group's opinions, attitudes, or behaviour [8]. One approach to survey sampling was voluntary sampling, a method where respondents voluntarily participated in the survey [9]. The research aimed to analyze the governance of OSS-based business licensing services, including openness and accountability, and its impact on business actors and the government [10].

The instrument used was an online questionnaire based on Google Forms. It consisted of closed questions covering several topics, such as business actors' understanding of transparency in business licensing services, ease of service processes, and integration and synchronization of OSS data. This questionnaire was designed to explore information on the governance of business licensing services using a 5-gradation Likert scale.

Table 1. Research Indicator

No	Dimension	Indicator
1	Transparency of services	Clarity of information and business licensing procedures
		Cost transparency
		Transparency of the licensing process
2	Ease of the licensing process	

Efficiency and ease of the licensing service process			Permit completion time
			Ease of requirements in applying for a business license
3	Data Integration and Synchronization		The OSS system is integrated with related agencies
			Data synchronization process with regional regulations
			There are no obstacles to data validation

The sampling technique used was voluntary sampling. Voluntary sampling is often used in surveys based on digital platforms such as Google Forms because of its ease of distribution and accessibility. In this research, voluntary sampling was used to collect data from people who had obtained business permits based on the number of permits accessed via Online Single Submission (OSS), which was then analyzed using descriptive statistics to gain insight from respondents. Questionnaires were distributed online via social media and WhatsApp groups. This method allowed respondents to participate voluntarily without pressure or obligation [9].

The research subjects were people who obtained business permits through OSS and who answered the Google Form questionnaire. The total number of respondents collected was 100 people (33% women and 67% men). Community identity is based on experience of applying for business permits; 83% applied once, and 17% applied twice.

Table 2. Identity of Community Respondents Based on Licensing Type

Permit Management	Frequency	Percentage
Traditional Medicine Small and Micro Business Licenses	49	49%
Slaughterhouse License	7	7%
Drug/Shop Retailer License	27	27%
Pharmacy License	2	2%
Environmental Permit	5	5%
Pet Shop Permit	4	4%
Clinic Operational Permit	6	6%

Total	100	1
		0
		0
		%

The collected data was analyzed using descriptive statistical methods. Analysis was conducted to calculate frequency distributions, proportions and averages using the SPSS version 18 application. This analysis provided a general overview of respondents' characteristics and opinions on business licensing governance. Data from open questions were also analyzed to identify main themes. It appeared in the respondents' answers.

3. RESULTS

Table 3.

Descriptive Statistics table resulting from data processing using the SPSS version 18 application

Indicator	N	Min	Max	Mean	Std. Deviation
Clarity of information and business licensing procedures	100	3	5	4.04	.634
Cost transparency	100	3	5	4.10	.522
Transparency of the licensing process	100	3	5	4.02	.666
Ease of the licensing process	100	3	5	4.15	.479
Permit completion time	100	4	5	4.20	.402
Ease of requirements in applying for a business license	100	2	5	3.38	.616
The OSS system is integrated with related agencies	100	3	5	4.01	.460
Data synchronizati on process with regional regulations	100	3	5	4.02	.426
There are no obstacles in data validation	100	3	5	3.87	.506
Valid N (listwise)	100				

Interpretation of descriptive statistical results with a rating scale using a Likert scale of 1–5 (1 = very poor and 5 = very good), so the highest value is the permit completion time indicator (4.20), which is close to the maximum value. It showed that most respondents felt the permit completion time was as promised. Meanwhile, the lowest value is the indicator of ease of requirements (3.38) with a standard deviation of 0.616, meaning there are variations in opinion among respondents. The average value of all indicators is 3.98, which is a good interpretation, meaning that the governance of licensing services has been implemented well according to the version of the community using business licensing services in Bogor City.

4. DISCUSSION

Based on the results of data processing, the interpretation of the indicators with the highest value was permit completion time (4.20), the OSS indicator made the permit process easier (4.15), and cost transparency (4.10). The public considers OSS quite effective in speeding up the licensing process. It showed that the OSS system has reduced complicated bureaucracy and accelerated services compared to conventional methods. However, there was still a possibility that this speed could be increased further, especially for complex licensing cases. The public felt that OSS has made it easier to process permits. This value showed good satisfaction, but there was still room for improvement to make it more user-friendly and manageable for all levels of society. The public generally felt that the costs of OSS were pretty straightforward. However, there were a few concerns regarding the possibility of additional fees or lack of clarity in some aspects.

The aspect with the lowest score (needs improvement) was the ease of requirements indicator (3.38) and the indicator of no obstacles in data validation (3.87). This value showed that the public still felt that the requirements must be met are complicated and the main obstacle in applying for permits. Business actors who wish to start and carry out business activities were required to fulfil the basic requirements for business licensing, which include Conformity of Space Utilization Activities (KKPR and PKKPR), environmental approval (SPPL, UKL-UPL and AMDAL), building approval, and functional appropriateness certificate (SLF). And PBG). Of the three aspects required of business actors in the basic requirements, business actors still felt burdened by the high costs of processing the basic requirements, which involves consultant services when preparing documents (SLF, AMDAL). It was also due to the unavailability of RDTR documents as the basis for the OSS RBA. Approving the suitability of space utilization activities holds the potential for significant problems resulting in spatial overlap, which could sometimes be detrimental to business actors. The public still experienced several obstacles in the data validation process, for example, data incompatibility with the system, the verification process, which still took quite a long time, technical obstacles such as inappropriate file formats or an OSS system that is less responsive, so it was necessary to improve the automatic validation system and educate the public about filling in the correct data.

Suppose a comparison was made with other indicators, namely the clarity of information indicator (4.04) and the transparency of the licensing process (4.02). In that case, the clarity of information and transparency of the licensing process had high scores but were still slightly below ideal expectations. Even though the licensing information was relatively straightforward, there was still an opportunity to increase public understanding through more intensive outreach. The OSS system was integrated with related agencies (4.01) with the data synchronization process with regional regulations (4.02). These two indicators had almost the same value, indicating that the integration of OSS with related agencies and synchronization with regional regulations was quite good. However, there was still the possibility of small obstacles in coordination between OSS and regional agencies that need to be improved.

The research results showed that implementing OSS brings several significant benefits to the governance of business licensing services. First, OSS has succeeded in increasing efficiency in processing permits with a faster and more transparent process. Business actors no longer had to visit various government offices but could access all licensing services through one online system. Second, OSS makes it easier for business actors to license services. An integrated system made licensing information more transparent and could be accessed in real-time. It reduces the potential for administrative errors and speeds up the permit approval process. However, this research also found several challenges in implementing OSS. One of the main challenges was the gap in technology and infrastructure readiness in various regions. Some business actors, especially those in remote areas, experienced problems accessing OSS due to limited internet networks and a lack of understanding of digital systems. Apart from that, bureaucratic resistance was also an obstacle to implementing OSS. Some agencies are still unprepared to fully adopt digital systems, which impacts service inconsistencies in various regions. Another factor that influenced the effectiveness of OSS is the need to increase the capacity of human resources to manage and operate the system optimally [11].

Recommendations for improving OSS based on public perception were (1) simplification of requirements; (2) Increasing the speed of OSS integration with related agencies through increasing interoperability so that the OSS system can directly read databases from related agencies; (3) educating business actors.

5. CONCLUSION

Implementing OSS in the governance of business licensing services in Indonesia has brought positive changes in service efficiency and transparency. With a more integrated system, business actors could obtain permits more easily and quickly, increasing the ease of business in Indonesia.

However, the challenges of implementing OSS still need attention. The government must continue to make improvements, especially in improving technological infrastructure, educating business actors, and ensuring the readiness of the bureaucracy to adopt digital systems as a whole. With appropriate improvements, OSS could become a more effective instrument in creating a competitive business environment and supporting national economic growth.

AUTHORS' CONTRIBUTIONS

Conceptualization, Irma Purnamasari. and Rita Rahmawati; methodology, Irma Purnamasari; software, Faisal Tri Ramdani; validation, Cecep Wahyudin and Berry Sastrawan; formal analysis, Maria Fitriah; investigation, Berry Sastrawan; resources, Irma Purnamasari; data curation, Berry Sastrawan; writing original draft preparation, Irma Purnamasari; writing review and editing, Cecep Wahyudin; visualization, Maria Fitriah; supervision, Rita Rahmawati; project administration, Faisal Tri Ramdani.

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Trade of Tropical Fruits in Boosting the Indonesia- Malaysia Bilateral Market Tropical Fruit as an Economic Motor: Analysis of Indonesia - Malaysia Trade Relations in Strengthening Bilateral Markets

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Abstract

This article discusses the role of tropical fruit as an economic engine in the context of trade relations between Indonesia and Malaysia. With the agricultural sector making a significant contribution to the Gross Domestic Product (GDP) of both countries, tropical fruit trade has become an important pillar in economic development. Through analysis of trade data, it was found that Indonesia has a comparative advantage in the production of various types of fruit, such as durian, mango and rambutan, which not only meet the needs of the domestic market but also have large export potential. Malaysian consumers' demand for exotic fruits from Indonesia is increasing along with awareness of healthy lifestyles. This article also identifies challenges and opportunities in strengthening trade cooperation, as well as the urgency of promoting local products and improving quality in the regional market context. This conclusion highlights the importance of bilateral relations between the two countries to support economic stability in the Southeast Asia region.

Keywords: Fruit Trade, Tropical Fruit, Indonesia, Malaysia, Economy, Agricultural Sector, Export, Bilateral Cooperation, Market Demand.

1. INTRODUCTION

Indonesia's geographical position, which is located on the equator, means that Indonesia has very large horticultural potential, one of which is fruit commodities. In 2013 the government implemented a policy in the form of the Orange Revolution with the aim of making Indonesia the largest fruit exporter in Southeast Asia by 2025 and the largest in the world by 2045 (Marroli 2016).

In 2021 agriculture will contribute up to 13% of Gross Domestic Product (GDP) and has absorbed more

than 30% of the workforce (Central Statistics Agency, 2021). Meanwhile, in Malaysia the agricultural sector also makes a significant contribution to GDP, although the value is smaller than in Indonesia. Based on a report from the Malaysian Ministry of Agriculture and Food Industry (2020), the agricultural sector has contributed around 7% of the country's GDP.

According to research conducted by Abidin, M.Z., (2021) the agricultural sector not only contributes to GDP but plays an important role in the recovery of the Indonesian economy after Covid-19. Ministry of Agriculture data also shows that in 2020 the number

of agricultural sector workers will be 35 million people (Ministry of Agriculture, 2020). Most of them work in the food crop sub-sector with 17.22 million people, 10.31 million in plantations, 4.30 million in animal husbandry and 3.17 million in horticulture.

Trade relations between Indonesia and Malaysia have been established for a long time and have become stronger in recent years. According to data from the Central Statistics Agency (2023), the total trade value between the two countries will be US\$ 23.2 billion in 2023, with a trade surplus obtained by Indonesia. The export value of Indonesia-Malaysia was recorded at US\$ 12.5 billion, while the import value of Indonesia-Malaysia was recorded at US\$ 10.8 billion. This resulted in Indonesia having a surplus of US\$ 1.7 billion. This shows that the relationship between Indonesia and Malaysia is mutually dependent on each other in meeting domestic market demand.

In this context, the existence of bilateral trade agreements and cooperation in the agricultural sector becomes more important. Both countries can take advantage of their respective comparative advantages to increase trade volumes and expand access to larger markets. Thus, trade relations between Indonesia and Malaysia not only benefit both parties, but also support economic stability in the Southeast Asia region.

With large populations and high demand for fresh fruit, the Indonesian and Malaysian markets offer very attractive opportunities for businesses. The abundant availability of tropical fruit and the diversity of products on offer can increase the attractiveness of regional markets. In addition, fruit trade can strengthen distribution and logistics networks between the two countries, which in turn will increase efficiency and reduce transaction costs.

Furthermore, fruit trade also contributes to sustainable economic growth. By increasing the added value of agricultural products, both countries can create new jobs and support local economic growth. Apart from that, cooperation in research and development, as well as technology exchange in the agricultural sector, can increase productivity and the quality of the fruit produced. This is expected to make

Indonesia and Malaysia the main players in tropical fruit trade in regional markets.

The purpose of writing this article is to analyze the fruit trade between Indonesia and Malaysia, with a focus on the dynamics, challenges and opportunities that exist. This research aims to provide a deeper understanding of how this trade relationship can strengthen the position of the two countries in the regional market. In addition, this article will also identify the challenges faced, such as different regulations, sanitation and phytosanitary issues, as well as opportunities that can be exploited, such as increasing market demand and innovation in agricultural technology.

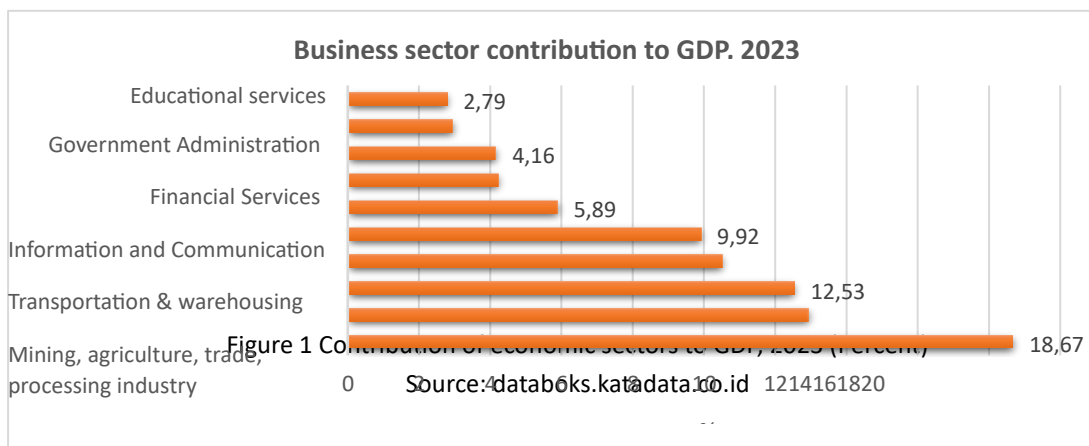
By examining these aspects, it is hoped that this article can make a significant contribution to the development of more effective fruit trade policies and strategies between Indonesia and Malaysia. It is hoped that this analysis can become a reference for decision makers, business people and academics who are interested in the agricultural and international trade sectors.

2. RESEARCH METHODS

This research was conducted using qualitative methods with a journal literature review approach. The author uses references from journals and online media sources as secondary data. By using a qualitative approach, this research will be exploratory and comprehensive. The author will look at trade relations in strengthening regional relations, describing data on exports of Indonesian fruit commodities by destination country, export potential.

3. RESULTS AND DISCUSSION

The agricultural sector provides an important role in the Indonesian economy, according to Databoks data the agricultural sector is next to the processing and trade industries as contributing to GDP of around 12.53% in 2023 (Annur, 2024). Consists of various subsectors of food crops, livestock, horticulture and plantations.



As one of the largest tropical fruit producing countries in the world, Indonesian fruit is in demand in various countries, both in ASEAN and non-ASEAN. Some fruits that are quite popular and have become superior for export include mangoes, durian, salak, bananas and pineapples. According to data from the Central Statistics Agency (BPS),

Fruit production in Indonesia in 2023 will reach 28.24 million tonnes, with bananas as the top commodity contributing 9.34 million tonnes (Pratama, 2020).

Table 1 Exports of Indonesia's Leading Fruits in 2021-2023

No	Featured commodity	Year / Tons			Amount
		2021	2022	2023	
1	Mangosteen	303.934	343.663	397.175	1.044.772
2	Snakefruit	1.120.242	1.147.473	1.120.739	3.388.454
3	Magga	2.835.442	3.308.895	3.302.620	9.446.957
4	Banana	8.741.147	9.245.427	9.335.232	27.321.806
5	Pineapple	2.886.417	3.203.775	3.156.576	9.246.768

Source: Central Statistics Agency, processed

According to the Agricultural Instrument Standards Information Center (BSIP), mangosteen is the main commodity that is most in demand by the international community and is the main attraction for Indonesian exports with export destination countries, namely China, Malaysia, the Arab Emirates (UAE), Hong Kong and France.

In the last decade, the volume of Indonesian fruit exports has shown a positive trend. In the 2013-2022 period, total fruit exports reached 7.63 million tonnes with a value of USD 2.95 billion (BPS, 2023). Malaysia is one of the main destination countries for Indonesian fruit exports, with export volumes ranging between 190-350 thousand tons

per year (BPS, 2023). Commodities such as mangoes and pineapples are also experiencing increasing demand in international markets, especially in Southeast Asian and Middle Eastern countries.

The volume of fruit exports and imports between Indonesia and Malaysia shows fluctuations which are influenced by various factors, including weather conditions and market

demand (Widhiyoga *and all* 2023) . In 2023, for example, Indonesia's total fruit exports will reach 1,054,718 tons with a value of USD 692 million (BPS, 2023). For the value of exports to Malaysia in 2023, the total export value is 312,524 tons with an FOB value of 67,793 USD. This condition shows an increase in the previous period in 2022, namely 286,662.50 tons and FOB worth 72,866.9 USD. Details regarding export volume can be seen in the following table.

Table 2. Fruit Export Volume by Main Destination Countries 2019-2023

Country Objective	2019	2020	2021	2022	2023
	Volume in tonnes				
Malaysia	319.046,70	350.438,90	292.165,60	286.662,50	312.524,80
Vietnam	63.459,50	180.103,20	104.528,80	33.157,60	54.301,10
China	201.071,60	289.253,50	410.415,70	351.476,70	415.775,40
Thailand	237.893,60	233.925,60	225.142,10	107.511,50	76.808,70
India	43.249,20	41.986,40	26.977,20	28.249,60	27.143,80
Japan	4.773,90	3.734,80	3.365,20	2.541,10	3.249,00
Hongkong	12.402,40	26.301,10	8.311,60	8.813,40	19.570,10
United Arab Emirates	15.031,40	8.160,40	8.462,30	24.947,70	10.818,60
Singapore	9.325,80	8.953,00	12.636,00	13.918,90	10.311,30
Nigeria	2,60	-	1,30	4,20	3,40
Other	99.484,20	134.036,70	71.930,30	103.293,40	124.211,90
Amount	1.005.740,80	1.276.893,50	1.163.936,10	960.576,50	1.054.718,40

Source: Central Statistics Agency, processed

The data shows that the export volume of Indonesian fruit is quite popular in various countries, including Malaysia, this is proven by the high number of exports from Indonesia. The main export market for Malaysia is bananas, this is proven by the contribution value of banana exports

in 2023 reaching 50.68% of total exports (Zulcarnain, 2024). Malaysia is an important trading partner for Indonesia in the tropical fruit sector. Apart from that, countries such as Japan and the United Arab Emirates are also potential markets for fruit products from Indonesia (BPS, 2023).

Table 3. Free on Board (FOB) Value of Fruit Exports by Destination Country 2019-2023.

Country Objective	2019	2020	2021	2022	2023
FOB value: US\$					
Malaysia	62.392,00	84.413,50	78.095,60	72.866,90	67.793,00
Vietnam	88.898,70	104.187,50	72.599,30	38.036,30	36.539,80
China	55.294,90	88.079,30	152.486,70	141.899,2 0	149.919,5 0
Thailand	209.416,10	131.355,50	228.025,10	54.614,50	18.683,50
India	59.763,00	57.073,40	43.560,40	42.176,70	26.686,70
Japan	2.828,30	2.210,90	1.933,90	1.240,60	2.045,80
Hongkong	19.313,60	50.394,40	24.416,20	23.405,20	50.165,30
United Arab Emirates	9.693,40	7.704,30	10.304,20	28.794,80	11.784,70
Singapore	9.125,30	8.165,90	13.858,90	13.434,60	8.446,60
Nigeria	456,00	-	168,00	695,60	641,00
Other	106.711,00	158.849,80	122.827,70	135.780,8 0	88.043,50
Amount	623.892,20	692.434,40	748.275,90	552.945,0 0	460.749,4 0

Source: Central Statistics Agency, processed

Indonesia-Malaysia Fruit Trade

Indonesia has a comparative advantage in producing a wide variety of tropical fruit, thanks to the tropical climate which supports the growth of various types of fruit. Indonesia's geographical position on the equator creates ideal conditions for growing various fruit commodities, such as mangoes, pineapples and snake fruit. According to the Central Statistics Agency (2020), Indonesia is one of the largest tropical fruit producing countries in the world, with production potential continuing to increase every year. The quality of local fruit is also a determining factor in competitiveness in international markets. Indonesian fruit is known to have a distinctive and fresh taste, as well as high quality, so that it is able to meet the demand of foreign markets, including Malaysia.

Furthermore, the diversity of fruit types produced by Indonesia provides a great opportunity to meet the increasing needs of Malaysian consumers. For example, demand for exotic fruits such as durian and rambutan from Indonesia continues to increase in line with changes in Malaysian people's preferences for local

products. With support from the government in the form of promotional policies and development of the horticultural industry, the potential for Indonesian tropical fruit exports to Malaysia can be maximized.

Consumer demand for exotic fruits from Indonesia is influenced by lifestyle factors and health awareness. Malaysians are increasingly interested in consuming fresh and healthy fruit as part of their diet². Apart from that, the preference of Malaysian people who tend to like the sweet taste and fresh texture of tropical fruit makes Indonesian products very popular.

Based on data in 2022, Malaysia will be one of the main destinations for Indonesian fruit exports with a total volume reaching 280.78 thousand tonnes⁷. This reflects the great potential for business actors in the agricultural sector to increase trade cooperation between the two countries. In this context, efforts to strengthen trade relations through the promotion of local products and improving quality are very important to meet the needs of the Malaysian market.

Malaysian Market Needs for Imported Fruit.

The Malaysian market shows a significant need for exotic fruits from Indonesia. Consumer demand for these products is influenced by lifestyle factors and health awareness. Malaysians are increasingly interested in consuming fresh and healthy fruit as part of their diet. Apart from that, the preference of Malaysian people who tend to like the sweet taste and fresh texture of tropical fruit makes Indonesian products very popular.

Data shows that in 2022, Malaysia will become one of the main destinations for Indonesian fruit exports with a total volume reaching 280.78 thousand tonnes⁷. This reflects the great potential

for business actors in the agricultural sector to increase trade cooperation between the two countries. In this context, efforts to strengthen trade relations through the promotion of local products and improving quality are very important to meet the needs of the Malaysian market

Indonesian Export Trade Routes

In 2023, Indonesian exports will reach US\$258.77 billion or down 11.28% from 2022 (BPS, 2023). Despite the heavy decline, exports in 2023 will increase by 8.52 percent to reach 55,124 thousand. The contribution to export value according to transportation mode can be seen in the table below.

Table 3 Indonesian Exports According to Transportation Mode, 2022-2023

Mode of transportation	2022		2023		Change (%)	
	Weight (thousand ton)	Value (Million US\$)	Weight (thousand ton)	Value (Million US\$)	Heavy	Mark
Sea	641.631,6	278.654,7	697.623,7	245.496,8	8,73	- 11,91
Land	96,7	61,7	128,7	99,2	33,17	60,64
Air	150,3	9.908,0	165,6	11.012,7	10,16	11,15
pos	0,9	21,5	0,5	25,0	- 46,33	16,38
Pipe	4.794,4	4.043,7	3.879,9	2.167,7	- 19,07	- 28,78
Total Exports	646.673,9	292.689,6	701.798,4	258.801,4	8,52	- 11,28

Source : <https://web-api.bps.go.id/download.php>, processed

The export value via sea transportation had the largest contribution of US\$ 245,469 even though there was a decrease of 11.91 percent from the previous year. On the other hand, land routes experienced an increase of 60.64 percent from the previous year.

In general, the table above represents export commodities which consist of two types of commodities, namely, oil and gas and non-oil and gas. According to BPS 2023, non-oil and gas commodities account for 94.52 percent, while oil and gas commodities account for 5.48 percent. Meanwhile, according to BPS, in 2023, this sector will contribute US\$ 4.9 billion or a decrease of around 10.04 percent. This decline was caused by several factors, including commodity prices on the international market, global price fluctuations, climate change and domestic conditions.

4. CONCLUSION

Figures and tables should be placed either at the top or bottom of the page and close to the text referring to them if possible.

Tropical fruit trade between Indonesia and Malaysia has a very important role in strengthening the economies of both countries. The agricultural sector, especially tropical fruit production, makes a significant contribution to Gross Domestic Product (GDP), with Indonesia as one of the largest producers of tropical fruit in the world thanks to its favorable climate conditions. The close trade relations that have been established show the interdependence of the two countries in meeting market needs, with Indonesia exporting various types of fruit, such as bananas and mangoes, to Malaysia.

The potential for Indonesian fruit exports to Malaysia is increasing as consumer demand for exotic and healthy products continues to grow. The governments of both countries play a key role in supporting trade cooperation through product promotion, improving quality, and implementing supportive regulations. Despite challenges such as differences in regulations and sanitation issues, great opportunities still exist to expand this collaboration given the growth in market demand and innovation in agricultural technology.

Thus, strengthening trade relations between Indonesia and Malaysia is not only economically beneficial, but can also contribute to regional economic stability and growth in Southeast Asia. Collaborative efforts in research, development and distribution of goods will further increase the competitiveness of fruit products from both countries in the international market.

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Ideal Arrangement of ‘Individual *Nazhir*’ for Strengthening and Empowering of Waqf Manager (Study of Land Waqf Management Practices in Indonesia)

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Abstract. *Nazhir* as the waqf manager is a determining factor in the sustainability and value of waqf benefits. *Nazhir* is required to have competencies that support the running of waqf assets. Indonesian regulations permit individuals to act as waqf *nazhir*, in addition to organizational *nazhir* and/or legal entities. However, in practice, it is known that individual *nazhir* does not yet have a standardization of professional competence, as is the case with organizational *nazhir*. The approach used in this article is the regulatory approach and the waqf legal concept approach. The regulations in question are the set of rules available in waqf practices in Indonesia. This article concludes that individual *nazhir* in the future is required to be able to catch up with waqf institutions managed by organizational *nazhir*. The idea of ideal regulation of the institutional field of individual *nazhir* includes: 1) Aspects of appointment and replacement mechanisms for *nazhir*; 2) Optimization of the function of coaching and supervision of *nazhir*; 3) Individual *Nazhir* Certification Program; and 4) The *nazhir* empowerment program by involving local community entities as recipients and users of waqf benefits (mauquf 'alaihi).

1. Introduction

The Indonesian Waqf Board has launched 29 main principles of waqf management in Indonesia called the ‘Waqf Core Principles (WCP)’ [1]. WCP is formulated as a core principle used at the international level, which in its preparation involves experienced international regulators and waqf institutions, stakeholders, and a number of academics. In addition to the main principles in the WCP, in 2018 the Indonesian Waqf Board (BWI) ratified PSAK (Financial Accounting Standards Statement) 112 concerning Presentation and Reporting of Waqf Accounting which will be enforced in 2021. With the waqf core principles and PSAK 112, it is hoped that waqf management institutions (*nazhir*) will be more professional in carrying out the mandate for waqf assets entrusted to the wakif and can be relied on by mauquf 'alaihi [2]. Due to the lack of regulations regarding accounting standards and financial reporting for waqf institutions, this is one of the obstacles in recording and reporting waqf funds, both in cash and non-cash form [3].

Before the enactment of PSAK 112 on Waqf Accounting, waqf institutions only followed the reporting standards for foundations, namely PSAK 45 on Non-Profit Entity Reports. This is because some waqf institutions are in the form of waqf foundation institutions. However, because more than 50% of waqf entities are in the form of Baitul Maal wa Tamwil (BMT), special standards are needed for this purpose. These standards are specifically for reporting waqf funds in BMT and waqf funds in other banking financial institutions. The Indonesian Institute of Accountants collaborated with BWI through the ratification of PSAK 112 on Waqf Accounting on November 7, 2018. PSAK 45 and PSAK 112 are still used to this day with slightly different contexts. For example, if the management of waqf is under a foundation, the foundation's financial report still refers to PSAK 45. Meanwhile, PSAK 112 is intended for reporting waqf funds because waqf funds are considered as reporting entities [4]. In line with the development of waqf, this institution is required to produce quality financial reports related to

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transactions, as well as the management and distribution of waqf benefits [5], as stipulated in the Qur'an in QS. al-Baqarah (2): 282. Abu Zahrah and Abdul Jalil require an examination of the waqf institution's financial reports (audit). In order to be approved as an official state institution based on the concept of Islam, it is appropriate for waqf entities to adopt a correct and professional bookkeeping system so that they can be examined (audited) by public accountants [6].

2. Result and Discussion

2.1 The Importance of *Nazhir* Governance in the Implementation of Waqf

The management and regulation of waqf *nazhir* institutions are essentially the main key to realizing the value of benefits for a waqf asset [7]. With the existence of structured regulation and supervision of waqf *nazhir*, *nazhir* will carry out his duties and functions professionally [8]. As a regulatory function, in the context of supervising the management of waqf by *nazhir* in Indonesia, the State should ideally always be present in supervising the implementation of laws and regulations in order to support the overall performance of waqf [9].

Various laws and regulations in the field of waqf have been formulated with the aim of orderly administration of waqf and achieving the objectives of waqf in Islamic law. Some of the main provisions of the laws governing waqf are Law Number 41 of 2004 concerning Waqf, Regulation of the Minister of Religious Affairs (PMA) of the Republic of Indonesia Number 73 of 2013 concerning Procedures for Waqf of Immovable Property and Movable Property Other than Money, BWI Regulation Number 1 of 2020 concerning Guidelines for Management and Development of Waqf Property, BWI Regulation Number 3 of 2008 concerning Procedures for Registration and Replacement of *Nazhir*; and various other laws and regulations issued by the waqf supervisory authority.

As is known, the presence of the Waqf Law is a strategy taken by the government to create orderly waqf administration and for legal protection of waqf assets. This can be seen from the existence of administrative obligations regarding the recording of waqf pledges by the appointed institution and the announcement of waqf to the public. The recording policy is not only applied to the type of *khairi waqf*, but also applies to the type of *family waqf* (*wakaf ahli*) whose use and allocation are limited to relatives and heirs.

If we examine various legal products, either in the form of regulations or policies issued by the waqf supervisory authority, almost all aspects of waqf asset management have been regulated by the two institutions. It's just that the implementation of these regulations has not been running optimally. Both from the side of the *nazhir* as the manager of waqf assets or from the function of the state as the authority, regulator and facilitator of waqf have not shown optimal performance. Based on the results of the study supported by several facts about waqf management by individual *nazhirs*, it is known that the main problem in waqf asset management by individual *nazhirs* lies in the implementation of the *nazhir's* guidance and supervision function by the waqf authority in Indonesia, although the laws and regulations have explained the mechanism. The mandate formulated in the contents of the Waqf Law emphasizes that in order to secure and protect waqf assets from third party interference, increasing the professionalism of *nazhirs* is a must. Therefore, based on the affirmation, it is understood that it is necessary to formulate a formulation of SOP (Standard Operating Procedure) on the aspects of supervision, reporting, and evaluation by individual *nazhir*. This needs to be done considering that almost all waqf land spread across Indonesia is under the management of individual *nazhir*. In addition, there are still many waqf assets that have not been certified, which of course this condition is very susceptible to causing conflict in the community.

2.2 Certification of *Nazhir* through the SKKNI Program

Based on the provisions of Law Number 41 of 2004 concerning Waqf, it is stated that in carrying out his duties, *nazhir* can receive compensation from the net results of the management and development of waqf assets, the amount of which does not exceed 10% (ten percent). Regarding the characteristics of a profession, the work carried out by the waqf *nazhir* is a profession or job

classification that requires certain abilities (competencies) [10]. *Nazhir* certification is a necessity and a must [11]. Ownership of a certificate document can certainly convince the public, an organization or institution of the *nazhir's* competence [12]. In addition, *nazhir* certification also makes it easier for *nazhir* to measure the level of competency achievement in the learning process, both formal institutions or non-formal training institutions [13]. Competency certification for *nazhir* is intended to improve the professionalism of waqf *nazhir* in its management. This means that the trust of the waqif will increase, so that the index of achievement of waqf assets in the country will also increase [14]. After the formation of the BWI management for the 2021-2024 period, until February 2022, BWI has carried out four Waqf *Nazhir* Certification activities. The certification activities were attended by various elements of waqf *nazhir*, both organizational *nazhir* and individual *nazhir*. The initiation of the preparation and proposal of SKKNI (it is mean by Indonesian National Work Competency Standards) was carried out with joint synergy between the Ministry of Religion together with BWI and the Productive Waqf Forum which includes knowledge, skills, and/or expertise and work attitudes that are relevant to the tasks and positions given. With the aim that *nazhir* is able to work professionally, transparently and accountably so that community welfare can be realized through the optimization of waqf assets by *nazhir* [15]. SKKNI is a formulation of work capabilities that includes aspects of knowledge, skills, and/or expertise and work attitudes that are relevant to the implementation of the tasks and job requirements set [16]. SKKNI contains a collection of competency units. The SKKNI for national waqf management that is currently being submitted to the Indonesian Ministry of Manpower consists of thirty-seven competency units [17]. The proposed SKKNI for waqf is one form of government effort to improve waqf governance as well as possible. So that the standard of work competency of the *nazhir* is realized [18]. The initiation of the formulation of the SKKNI in the field of waqf management was carried out by considering the needs that lead to improving the quality and achieving the objectives of waqf and encouraging the competence of waqf managers. The Ministry of Religion institution, in this case the Directorate of Waqf Empowerment as a technical institution, has submitted the SKKNI proposal at the end of December 2019. Currently awaiting the feasibility test process, then approval and ratification from the Ministry of Manpower of the Republic of Indonesia [19]. The formulation in the *Nazhir* SKKNI contains 38 (thirty-eight) competency units in the form of waqf management, including: collection, management of waqf asset management, protection and development of waqf assets, and distribution of results and benefits of waqf assets.

2.3 The Concept of Ideal Regulation of *Nazhir* Institutions

Based on the findings explained above, the ideal form of regulation for the individual *nazhir* institutional sector can be formulated, namely as follows:

1) Aspects of *nazhir* appointment and replacement

The *nazhir* appointment mechanism needs to prioritize professionalism and trustworthiness. Therefore, the *nazhir* appointment is not limited to selection based on personality factors and kinship with the wakif alone. In terms of *nazhir* replacement, based on the results of observations and interviews, it is known that the names of *nazhir* recorded and registered in the Waqf Pledge Deed (AIW) are often not in accordance with the *nazhir* who is currently managing it. This is because the *nazhir* recorded in the AIW has died, but has not been replaced and changed with a new *nazhir*. In terms of individual *nazhir*, it is known that the provisions in Article 45 of Law Number 41 of 2004 stipulate that *nazhir* is dismissed and replaced with another *nazhir* if he dies. Therefore, with this problem, it is a big task for the Ministry of Religion, in this case the District Religious Affairs Office (KUA) and BWI to re-verify the *nazhir's* identity and reorganize the *nazhir* management;

2) Optimization of the function of coaching and supervision of *nazhir*

There needs to be coaching and development of *nazhir* regarding changes in the paradigm of waqf governance. Among traditional community leaders (who act as *nazhir*), it seems that they do not adjust their paradigm to the development of society and the provisions of the law. Currently, the waqf authority has issued the WCP (Waqf Core Principles) which contains provisions stating that

the authority/state has the right to determine selection guidelines. These guidelines are a requirement for obtaining a license as a *nazhir*. The test is the most important part to determine the ability of prospective *nazhir*. However, it should be remembered that in principle the appointment of *nazhir* according to the provisions of the Waqf Law is carried out by the wakif so that the selection provisions become guidelines for the wakif in appointing *nazhir*.

To optimize the coaching of *nazhir*, it is ideal to do it directly by the BWI Representative of the Regency/City as an independent institution in each region. So that the BWI Representative can directly know the condition of the *nazhir* and the waqf assets that he manages. The BWI Representative then carries out coaching and supervision based on the results of the identification of problems in the waqf object.

3) Individual *Nazhir* Certification Program

This certification program is ideally not only intended for organizational *nazhir* or legal entity *nazhir*, but also for individual *nazhir*. The priority of this certification is applied to *nazhir* with categories Type A, Type B, Type C, and Type D [20]. The implementation of this *nazhir* certification program is accompanied by the preparation of competency standards for waqf *nazhir* and supporting instruments for the professionalism of individual *nazhir*. The assessment instruments for the performance of individual *nazhir* are made in a structured, measurable manner, and are carried out continuously. The preparation of competency standards and supporting instruments for professionalism refers to the 8 (eight) Principles of waqf governance arrangements contained in the WCP.

4) *Nazhir* Empowerment Program by involving the local community (*mauquf'alaihi*)

Nazhir empowerment by involving the local community is the right step related to efforts to maintain the sustainability of the value of waqf assets. The community as *mauquf'alaihi* synergizes with *nazhir* in terms of monitoring and assessing *nazhir's* performance. This step makes it easier for *nazhir* to manage waqf assets and in order to arouse motivation and encourage individual *nazhir* in managing waqf assets.

3. Conclusions

Based on the steps proposed above, it is expected that individual *nazhir* in the future will be able to catch up with waqf institutions managed by organizational *nazhir* or legal entity *nazhir* in developing waqf assets. As is known, assets managed by organizational *nazhir* or legal entity *nazhir* are currently growing rapidly and experiencing a significant increase in productivity and benefits. For this reason, it is expected that in carrying out its functions, the performance of individual *nazhir* can be more organized and more productive.

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Analysis of Essential Oil Distillation Model Hh1 (1 Boiler With Several Kettles Distiller)

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Abstract

This research was conducted to analyze efficiency and the performance of distillation equipment that can distill various commodities at once along with chromatographic analysis of citronella essential oil. Research was carried out using a treatment method consisting of 1 factor with 3 levels (P1: Distillation of 1 boiler with 1 kettle, P2: Distillation 1 boiler with 2 kettles, and P3: 1 boiler distiller with 4 kettles) with a capacity of 250 kg each boiler. The parameters observed were: yield, refining capacity, number of citronella produced, length of refining time, labor requirements, fuel requirements and costs per distillation for the three treatment levels. The research results show that level 3 (refining 1 boiler with 4 boilers) is more efficient than the other two levels. It was found that the refining cost per kg of citronella oil produced was $P3 = \text{IDR. } 80,328,- < P2 = \text{IDR. } 122,388,- < P1 = \text{IDR. } 194,286,-$ There are 43 chemical components found in citronella oil that were analyzed, with The 3 largest types of active components in citronella oil are Citronellal, 2,6-Octadien-1-ol, 3,7-dimethyl-, (Z) (Geraniol) and citronellol, with respective concentrations of 27,398 % , 17.234 %, and 13.807 %.

Keywords: boiler, distiller kettle, essential oils, distillation process,

INTRODUCTION

Bogor Regency has great potential for producing essential oils. Essential oils are liquids/substances obtained through the use of aromatic plant parts through a distillation process (Drinić et al., 2020). Distillation is a process of physically separating two or more mixtures that have different boiling points by first boiling the component with the lowest boiling point (Solekha et al., 2023). In general, there are three ways to distill patchouli oil, namely boiling (water distillation), this method is considered less efficient and relatively high cost. Second, by steaming (water and steam distillation), this method is most widely used by the refining industry and the last is distillation by direct steam (steam distillation), this method uses higher pressure and the material is not in direct contact with water and the distillation method which is considered the best when compared with the two previous distillation methods (Nugroho, 2023). However, currently many patchouli oil refining industries have modified the distillation method to obtain better quality oil (Sahwalita & Herdiana, 2016) .

Several types of essential plants that have potential in Bogor district are nutmeg oil, clove oil, citronella oil, patchouli oil and ginger oil. Different types of essential plants will produce different yields of essential oils. The length of distillation time also influences the yield of oil produced, where the longer the distillation time, the higher the yield obtained (Hidayati et al., 2015). However, the longer the distillation time, the greater the acid number contained in the essential oil (Iskandar et al., 2023). The acid value obtained determines the quality of the oil, where the higher the acid value, the lower the quality of the essential oil (Kristian et al., 2016). Located at the Bogor Spice and Medicinal Plant Research Institute (BALITRO), the Head of the Proposing Team often discusses and interacts with managers of essential oil refineries in Bogor Regency. From the results of the discussion, it turned out that they faced several problems, including: 1) The operational costs of the refinery (especially labor and fuel costs) were quite high. The smaller the refining capacity, the higher the operational costs of the refining. 2) When changing the commodity to be refined, so that the oil does not mix before and after refining, then empty refining must be carried out 1-2 times, and of course this also requires labor *costs*. work and fuel are wasted, which will increase the refining *costs* of various essential oil commodities, 3) The price of essential oils fluctuates greatly, there is no *price floor price* that can be used as a standard/benchmark (Haris and Sudarsa, 2021).

From these various obstacles, the idea emerged to create a distillery that has a refining capacity that is adjusted to the availability of raw materials and is able to simultaneously distill several commodities in one distillation process. With a refining capacity that is adjusted to the availability of raw materials and is able to simultaneously distill several commodities in one refining process, refining costs (especially labor and fuel costs) will be more efficient. So the idea arose to use an essential oil distiller model 1 heating boiler with several distilling kettles.

The aim of this research is to:

1. Analyzing the performance of distillation equipment that can simultaneously distill various kinds of essential plants in one distillation, and efficiency in the use of labor and fuel for distillation
2. Analyze the results of the distillation process carried out, and
3. Determine the amount and chromatograph image of the main components of citronella oil.

Benefit and the impact of this research can be enjoyed and have a direct impact on essential oil refining businesses as well as farmers/communities whose raw materials are generally produced only on a small scale, universities and local governments.

RESEARCH METHODS

This research was carried out at the PT Essential Oil Refinery. Sukabumi Essence Sukabumi, which lasts for 3 months. The main raw material is the Citronella plant which is obtained from the refining of Citronella oil at PT. Sukabumi Essence. Meanwhile, the main equipment is a 1 boiler model distillation tool with several distilling kettles.

This research is a treatment research which consists of 1 factor with 3 levels of treatment:

P1 = Distillation of 1 boiler with 1 hood distilling boiler. 250 kg

P2 = Distillation 1 boiler with 2 distillation boilers each hood. 250 kg

P3 = Distillation 1 boiler with 4 distillation boilers each hood. 250 kg

The basic design used was a Randomized Block Design (RBD) with 3 replications. The parameters observed are: yield, refining capacity, amount of oil produced, length of refining time, labor/refining requirements, fuel/refining requirements and costs per refining for the three treatment levels. The resulting data was processed using the Anova test at an α level of 5%, while further tests depended on the size of the families produced (Hanafiah, 2012).

To obtain results from the observed parameters, the following analysis procedure is used:

1. Distillation process and specifications of distillation equipment
This is done by studying the working process of the distillation equipment and the specifications of the distillation equipment model 1 boiler with several distillation kettles
2. Rendement
To find the yield of essential oils, the following formula is used (Tohidi et al., 2017):

$$\text{Yield \%} = \frac{\text{Weight of essential oil obtained (g)}}{\text{Weight of dry material/raw material (g)}} \times 100 \dots\dots\dots(1)$$
3. Refining capacity.
The calculation of the capacity of the distillation boiler can be obtained based on the following formula (Nugroho, 2023):

$$V = \pi r^2 t \dots\dots\dots(2)$$

Information :

V: Boiler volume (m³)

r : Kettle radius (m)

t : Height of the boiler (m)
4. Amount of oil produced
The amount/specific gravity of essential oils really depends on the part of the plant being distilled (Yafik Khusna et al., 2018). The greater the yield produced, the greater the amount of oil produced in the refining process.
5. Long distillation time
To calculate the length of distillation/distillation time, the time is counted starting from the first drop coming out of the condenser, to the last drop (Feriyanto et al., 2013).
6. Labor requirements
The need for labor in industrial activity processes is based on the volume of output products produced by an industry. The greater the volume of product produced, the greater the need for labor, but if the production volume in an industry is small, the need for labor will be smaller. The reduction in labor is based on a reduction in the production volume of an industry, so it is necessary to reduce the number of workers with the aim of reducing the process costs of industrial activities (Nurhilal & Saruman, 2013).
7. Fuel requirements/one-time refining
To calculate the fuel requirements used, the following formula is used (Insusanty et al., 2018):

$$JT = Bt \times Ky \dots\dots\dots(3)$$

Information :

Jt: Amount of wood needed per stove

Bt: Number of furnaces

Ky: Average wood requirements
8. Cost per distillation
To find the total cost of citronella oil production/refining, you can use the following formula (Budiwan, 2016):

$$\text{Total production costs} = bbb + btk + boh \dots\dots\dots(4)$$

Information:

bbb : Cost of raw materials

btk : Labor costs

boh : *overhead costs*

Meanwhile, to calculate production costs per unit, you can use the following formula:

$$\text{Cost per unit} = \frac{JTbp}{JHp} \dots\dots\dots(5)$$

Information:

JTbp : Total production costs

- JHp: Total production output
9. Content and chromatograph form of active components of citronella oil.

The qualitative and quantitative analysis of the extracted citronella oil was carried out using the Perkin Elmer Clarus 680 GC/600C mass selective detector (MSD) system. Fused silica HP-5MS column cross-linked with 5% phenylmethylsiloxane of 60 m length and internal diameter of 0.25 mm was used. The initial oven temperature was 50°C for 2 min and then ramp at 5°C min⁻¹ up to 260°C. Injector and transfer line temperature was 250°C and 200°C respectively. The holding time was 2 min and the solvent delay time was 8 min. Helium was used as a carrier gas at 1 ml min⁻¹. 2 L volume of oil sample (2% solution of citronella oil in hexane) was injected. Split ratio 50:1 and scan range of 50–600 Da was used. The identification of constituents was done on the basis of their retention time and mass spectra library search (NIST).

RESULTS AND DISCUSSION

1. Analysis of Essential Oil Distillation Equipment Model 1 Boiler with Several Distilling Kettles

Through this research, the use of an essential oil distillation tool model 1 water heating boiler with 4 distillation kettles (4 kettles for distillation derived from essential plants with a capacity of 500 kg/distillation), as seen in Figure 1.

TOOL SPECIFICATIONS

Distillation/refining of essential oils steam distillation system, integrated 1 boiler with 4 distillation kettles.

Boiler Dimensions:

Diameter : 100 cm

Tall : 150 cm

Volume : 1.500 m³

Capacity :

Kettle Dimensions:

Diameter : 150 cm

Tall : 250 cm



Volum	: 2.000 m ³
e	
Capaci	: max 500 kg per process
ty	
304 Stainless steel material, 3 mm thick. Glass wool insulation coated with stainless steel . Distillation time 6-8 hours/distillation process .	

Figure 1. Modified essential oil distillation equipment model 1 heating boiler (Capacity 2 000 Lt) with 4 distilling kettles (Max capacity 500 kg/distilling kettle)

The solution to solving the problem is offered by applying the distillation technique model 1 water heating boiler with 4 distillation kettles (each kettle can be used to distill the leaves of different essential plants (for example citronella, patchouli, cloves and other commodities) with a maximum capacity of 500 kg/distillation .

In this way, it can overcome the possibility of contamination of the essential oil that is being distilled with the essential oil that was previously distilled, because each oil has its own kettle. Apart from that, it can also reduce empty distillation activities that must be carried out if you only use a distillery with only one distilling kettle. This will also reduce the cost of using labor and firewood.

But the problem is, the distillation equipment above is only more suitable for raw materials that come from softer leaves and twigs, such as Patchouli plants, Citronella, Nutmeg leaves, Clove leaves, flowers and so on, the pressure in the distillation kettle is quite < 1 Atm (14,696 Psi). Meanwhile, for commodities with a harder structure, such as nutmeg, cinnamon bark, aloe and others, a distillation tool must be used that has a pressure greater than 1 atmosphere (14,696 Psi). So, a steam pressure regulator (Pressure Gauge) needs to be added to the distilling kettle which is set at > 1 Atm (14,696 Psi). Therefore, a steam pressure regulator must be installed in the boiler that is adapted to the commodity to be distilled (Harris and Wicaksono, 2023).

The advantages of this model of essential oil distillation equipment are: 1) The implementation of distillation is more practical because there is no longer a need to carry out empty distillation (only water vapor without raw materials) when distilling various commodities, 2) The capacity of the distillation can be adjusted to the availability of raw materials (the capacity is not too high). large), thereby reducing the possibility of distillation equipment not operating due to lack of raw materials, 3) More efficient use of labor and firewood, so operational costs are more economical. and 4) Because all pipes and distillation kettles use Full Stainless Steel, it can improve the quality of essential oils because the oil produced is clearer and cleaner (Affifah et al., 2016), so it can meet the quality of the Indonesian National Standard (SNI). This is also in accordance with the opinion of other researchers who state that the use of distillation equipment made other than stainless steel (non-stainless steel) will make the resulting oil appear cloudy .(Ramadhan dan Zettira, 2017).

2. Analysis of Distillation Results

Based on the results of the research that has been carried out, the following observation data was obtained:

a. Amount of Raw Material Refined

The average data on the amount of raw materials refined from the three treatment levels can be seen in Figure 2.

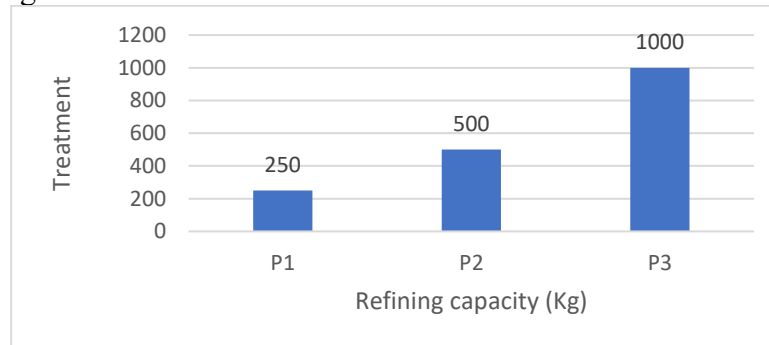


Figure 2 Average refining capacity data from the three treatment levels

The distillation capacity of each kettle is 250 kg of citronella raw materials. So the amount of raw material refined in each treatment is: P1 = 1 x 250 kg = 250 kg, P2 = 2 x 250 kg = 500 kg, and P3 = 4 x 250 kg = 1,000 kg. So with the distillation capacity of each kettle being 250 kg/kettle, the more kettles used, the more raw materials distilled from one distillation will be.

b. Rendement

The average yield data from the three treatment levels can be seen in Figure 3.

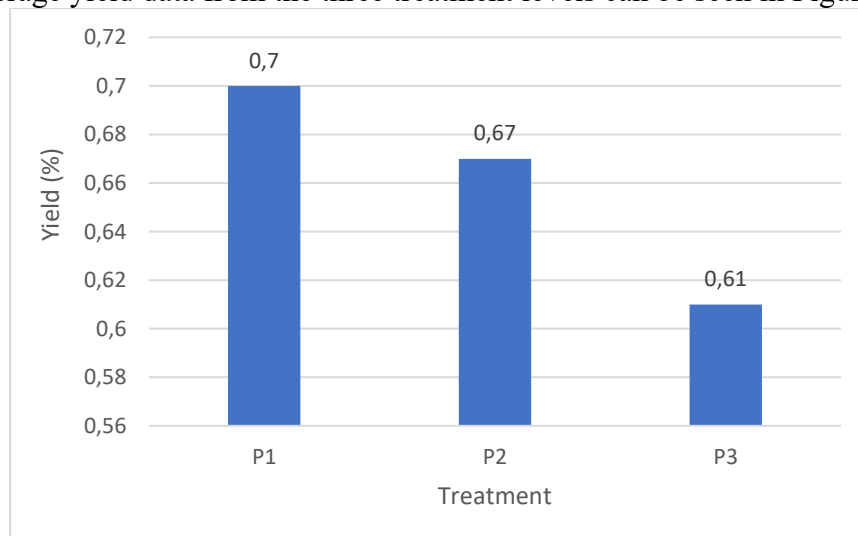


Figure 3. Average yield data from the three treatment levels

The average yield of the three treatments is: P1 = 0.7, P2 = 0.67 and P3 = 0.61, as seen in Figure 3. From the data above it can be seen that the greater the refining capacity, the lower

the yield. This is because the greater the refining capacity, the greater the mass of raw materials, so the possibility of extracting the oil contained in the mass of raw materials will be smaller. Thus, the yield is lower from a smaller mass of raw material. Or in other words, the higher the refining capacity, the lower the yield will be.

c. Amount of essential oil produced

The average data on the amount of essential oil produced from the three treatment levels can be seen in Figure 4.

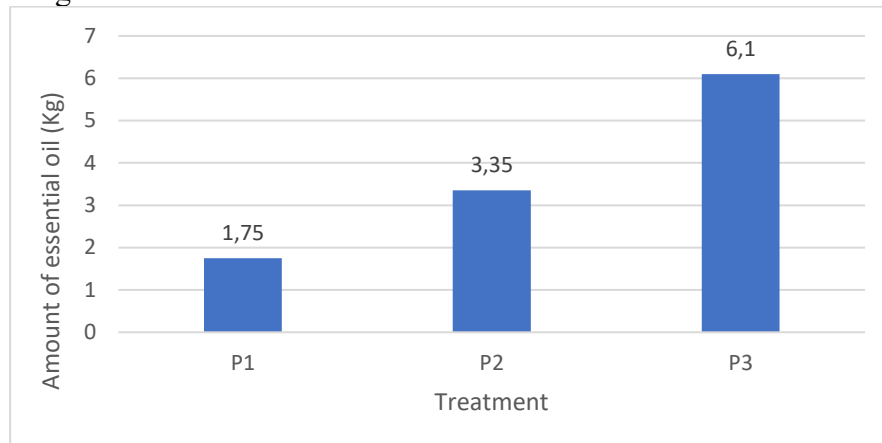


Figure 4. Average data on the amount of essential oil produced from the three treatment levels

Average amount of essential oil produced of the three treatments are: P1 = 1.75 kg, P2 = 3.35 kg, and P3 = 6.1 kg, as shown in Figure 4.

d. Long distillation time

The average distillation time data for the three treatment levels is as follows:

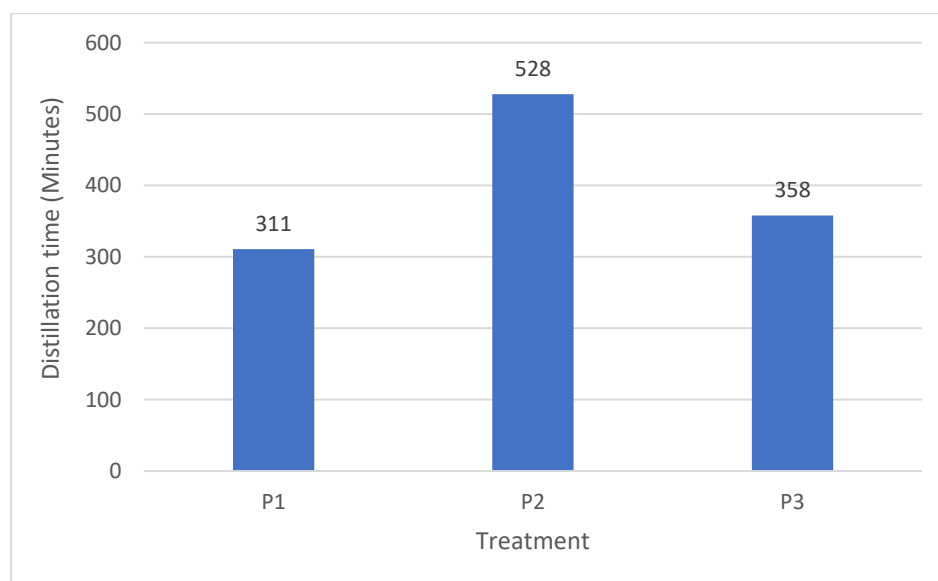


Figure 5. Average data on distillation time for the three treatment levels
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e . Labor/refining requirements

The average data on labor/refining requirements from the three treatment levels is as follows:

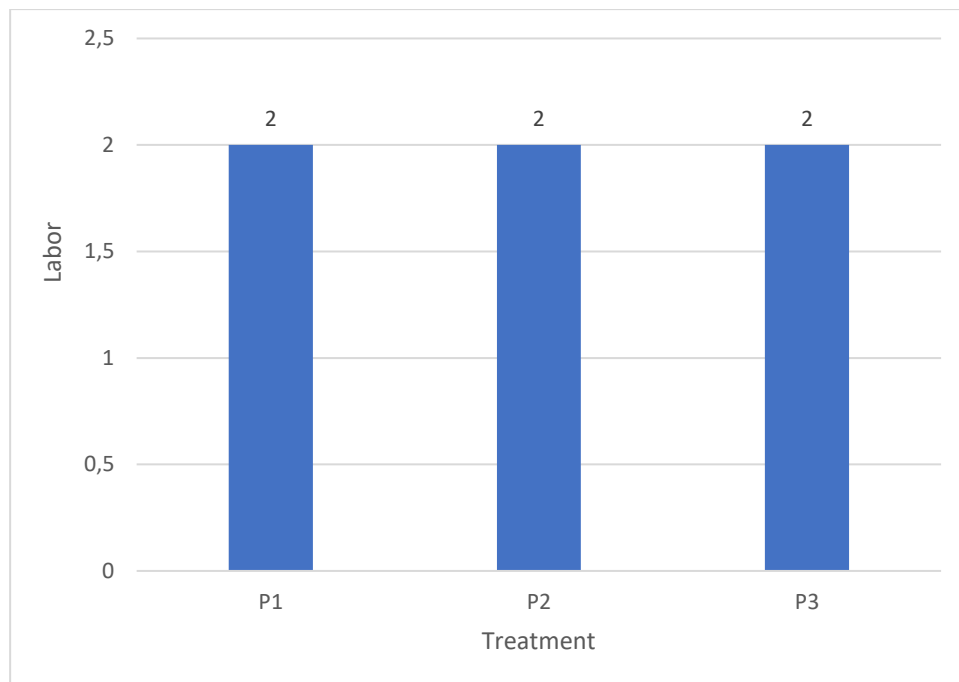


Figure 6. Average data on labor/refining requirements from the three treatment levels

f. Firewood/refining needs

The average data on fuel/refining requirements from the three treatment levels is as follows:

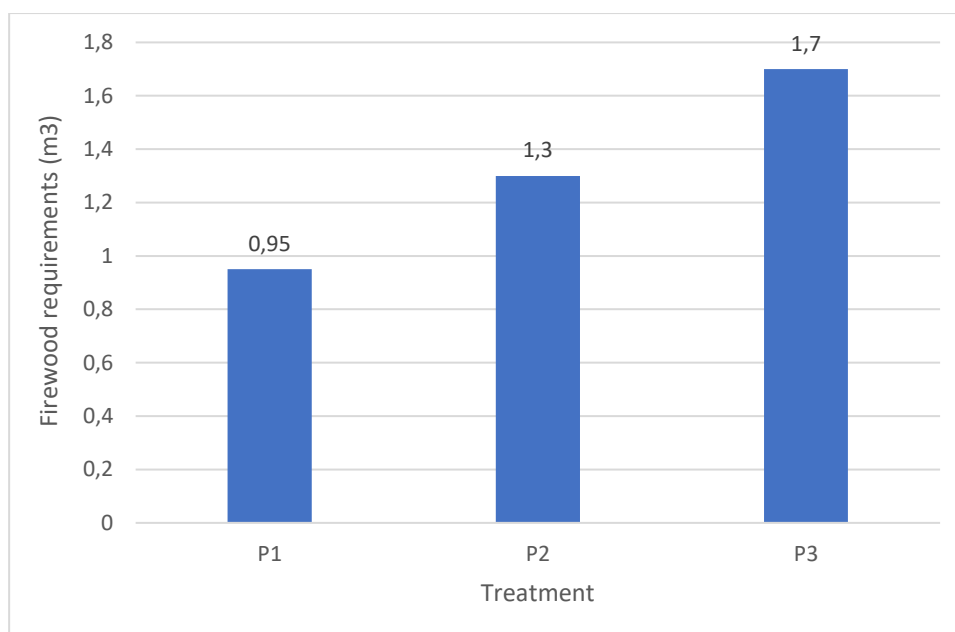


Figure 7. Average data on fuelwood/refining needs from the three treatment levels

G. Cost per distillation

The average data on cost requirements per distillation for the three treatment levels is as follows:

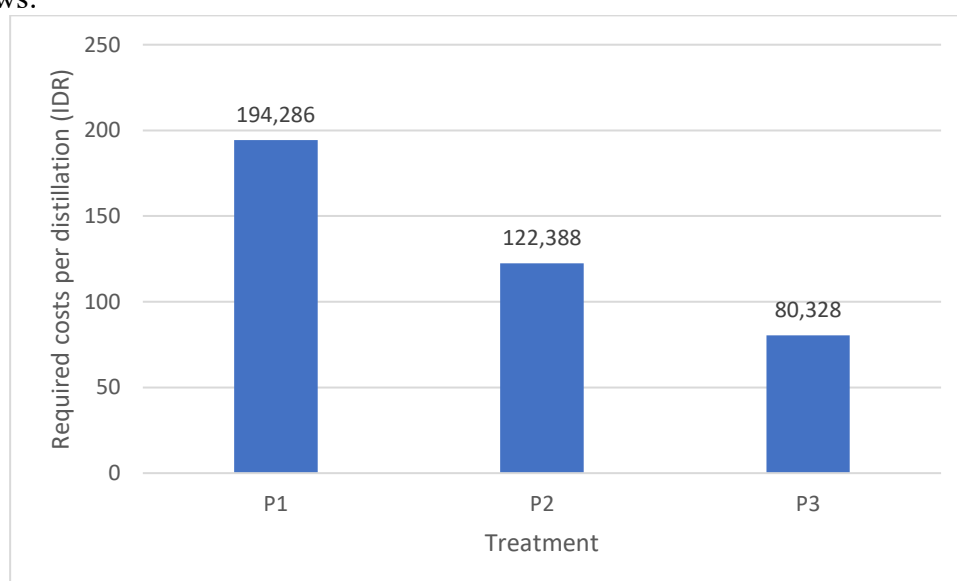


Figure 8. Average data on cost requirements per distillation for the three treatment levels

Treatment P1 with a yield of 0.7% produces 1.75 kg of citronella oil, refining costs IDR. 340,000/distillation with a distillation time of 311 minutes. Treatment P2 with a yield of 0.67% produces 3.35 kg of citronella oil, refining costs IDR. 410,000/refining with a distillation time of 323 minutes. P3 treatment with a yield of 0.61% will produce 6.1 kg of citronella oil, refining costs IDR 490,000/refining with a distillation time of 358 minutes. So the refining cost per kg of Citronella oil produced is $P3 = \text{IDR. } 80,328,- < P2 = \text{IDR. } 122,388,- < P1 = \text{IDR. } 194,286,-$.

From the results of the distillation analysis that has been carried out, it can be summarized in Table 1 .

Table 1. Summary of analysis of distillation results

No	Analysis Parameters	Level of Treatment			Unit
		P1	P2	P3	
1	Rendement	0.7	0.67	0.61	%
2	Refining Capacity	250	500	1000	k g
3	Amount of essential oil produced	1.75	3.35	6.1	k
4	Long distillation time	311	528	358	minute
5	Labor requirements	2	2	2	Person
6	Firewood/refining needs	0.95	1.3	1.7	m ³
7	Cost per distillation	194,286	122,388	80,328	Indonesian Rupiah (IDR)

Treatment P1 with a yield of 0.7% produces 1.75 kg of citronella oil, a distillation time of 311 minutes, with a refining cost of IDR 340,000/distillation. Treatment P2 with a yield of 0.67% produced 3.35 kg of citronella oil, a distillation time of 323 minutes, with a refining cost of IDR 410,000/refining. P3 treatment with a yield of 0.61% will produce 6.1 kg of citronella oil, refining time is 358 minutes, with a refining cost of IDR 490,000/refining. So the refining cost per kg of citronella oil produced is P3= IDR . 80,328,- < P2 = IDR. 122,388,- < P1 = IDR. 194,286,-.

3. Main components of citronella oil

Analysis of the essential oil components of Lemongrass according to several previous studies based on the results of analysis using gas chromatography/GC-MS is as follows:

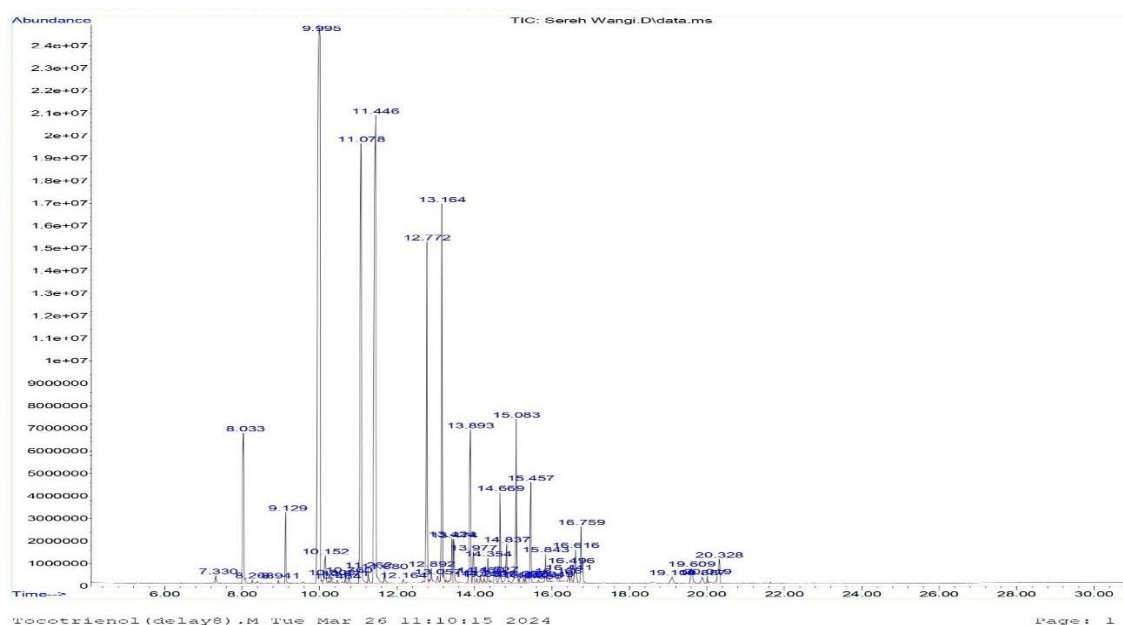


Figure 9 . Chromatography Diagram of Citronella Oil Analysis
(Source: Haris *et al.*, 2022)

Based on an analysis of the essential oil components of Lemongrass according to several previous studies based on the results of analysis using gas chromatography/GC- MS, the largest active ingredient component is Citronellal, as shown in Table 2.

Table 2 . Active Ingredient Components of Lemongrass Oil

Peak	RT min	Peak heights	Corr. areas	Corr. % max.	% of total	Component Name
6	9,995	324818267	1063279129	100.00%	27.398%	Citronellal
14	11,446	21007033	668807312	62.90%	17.234%	2,6-Octadien-1-ol, 3,7-dimethyl-,(Z)- (Geraniol)
12	11,078	20305753	535811959	50.39%	13,807%	citronellol
20	13,164	14632378	288727487	27.15%	7,440%	Geranyl acetate
17	12,772	14062688	242755590	22.83%	6.255%	6-Octen-1-ol, 3,7-dimethyl-, propanoate (Citronellyl propanoate)
32	15,083	6615035	126019306	11.85%	3,247%	Naphthalene, 1,2,3,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, (1S-cis)- (cis-cedrol)
2	8,033	6505277	114066941	10.73%	2,939%	D-Limonene
23	13,893	6939237	91258768	8.58%	2,352%	Caryophyllene
36	15,457	4209578	71414680	6.72%	1,840%	Cyclohexanemethanol ,4-ethenyl-.alpha.,.alpha.,4-trimethyl-3-

						(1-methylethenyl)-, [1R- (1.alpha.,3.alpha.,4.be ta.)]- (citronellol)
30	14,669	3516130	67151911	6.32%	1,730%	(1R,2S,6S,7S,8S)-8- Isopropyl-1-methyl-3- methylenetricyclo[4.4.0 .02,7]decane-rel- (α-humulene)
44	16,759	2 2126903	57204414	5.38%	1,474%	Cyclohexane, 1- ethenyl-1-methyl-2- (1-methylethenyl)-4- (1-methylethylidene)- (Geranyl Acetate)
5	9,129	2954998	51993655	4.89%	1,340%	Linalol
31	14,837	1752778	45050464	4.24%	1,161%	.gamma.-Muurolene
21	13,424	1894047	39748763	3.74%	1,024%	Cyclohexane, 1- ethenyl-1-methyl-2,4- bis(1-methylethenyl)- (α-selinene)
43	16,616	2 1340296	37269164	3.51%	0.960%	.alpha.-Cadinol
22	13,474	1814150	37137313	3.49%	0.957%	Methyleugenol
49	20,328	1004241	33949483	3.19%	0.875%	2-Ethenoxy-1,7,7- trimethylbicyclo(2.2.1)heptane (citronellol acetate)
7	10,152	1147478	31103390	2.93%	0.801%	Isopulegol
46	19,609	654780	24733742	2.33%	0.637%	2,6-Octadiene, 2,6- dimethyl-
24	13,977	1246986	24261800	2.28%	0.625%	Bicyclo[3.1.1]hept-2- ene, 2,6-dimethyl-6-(4-methyl-3-pentenyl)-
38	15,843	1216780	22093012	2.08%	0.569%	(-)-.beta.- Bourbonene

28	14,354	965736	18742498	1.76%	0.483%	1,4,7,- Cycloundecatriene, 1,5,9,9- tetramethyl-, Z,Z,Z-
18	12,892	2 605559	17304152	1.63%	0.446%	Phenol, 2-methoxy-3-(2-propenyl)-
29	14,527	2 359934	14111104	1.33%	0.364%	Azulene, 1,2,3,3a,4,5,6,7- octahydro-1,4- dimethyl-7-(1- methylethenyl) -, [1R-(1.alpha.,3a.beta.,4.alp ha.,7.beta .)]-
45	19,104	280292	13698437	1.29%	0.353%	2,6-Octadiene, 2,6- dimethyl-
42	16,496	669862	13376076	1.26%	0.345%	2- Naphthalenemethanol, 1,2,3,4,4a,5,6,7- octahydro- .alpha.,.alpha.,4a ,8-tetramethyl-, (2R-cis)-
15	11,680	503617	12233804	1.15%	0.315%	2,6-Octadienal, 3,7- dimethyl-, (E)
13	11,262	560299	11197600	1.05%	0.289%	Neral
47	19,887	274077	11066401	1.04%	0.285%	(1,2,4- Trimethylcyclohexyl)m ethano l (isomer 3)
41	16,441	409259	8568430	0.81%	0.221%	4a(2H)-Naphthalenol, 1,3,4,5,6,8a- hexahydro-4,7- dimethyl-1-(1 - methyl ethyl)-,

						(1S,4S,4aS,8aR)-
1	7,330	315822	7477852	0.70%	0.193%	.beta.-Myrcene
26	14,160	342329	7427736	0.70%	0.191%	(E)-.beta.-Farnesene
11	10,760	355075	6742907	0.63%	0.174%	Decanal
19	13,057	280505	6679421	0.63%	0.172%	Cyclohexanol, 2-(2-hydroxy-2-propyl)-5-methyl-
40	16,166	250149	5801802	0.55%	0.149%	1,5,9-Undecatriene, 2,6,10-trimethyl-, (Z)-
48	20,019	292937	5452648	0.51%	0.141%	Bicyclo[2.2.1]heptane, 1,3,3-trimethyl-
16	12,164	149531	5009112	0.47%	0.129%	1-Pentene, 3-ethyl-
8	10,308	272260	4941861	0.46%	0.127%	Cyclohexanol, 5-methyl-2-(1-methylethenyl)-
10	10,671	224490	4510389	0.42%	0.116%	3-Cyclohexene-1-methanol, .alpha., .alpha.,4-trimethyl-, (R)-
27	14,252	196576	4445698	0.42%	0.115%	Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-7-methyl-4-methylene-1-(1-methylethyl)-, (1.alpha.,4a.beta.,8a.alpha.)-
25	14,068	210259	4462390	0.42%	0.115%	Cyclohexene, 3-(1,5-dimethyl-4-hexenyl)-6-methylene-, [S-(R*,S*)]-
34	15,277	219691	3972955	0.37%	0.102%	Naphthalene, 1,2,3,4,4a,7-hexahydro-1,6-dimethyl-4-(1-methylethyl)-

39	15,949	3 130574	3320789	0.31%	0.086%	Bicyclo[7.2.0]undec-4-ene, 4,11,11-trimethyl-8-methylene-, [1R-(1R*,4Z,9S*)]-
33	15,156	175394	3347037	0.31%	0.086%	isolekene
3	8,268	2142258	3078332	0.29%	0.079%	1,3,7-Octatriene, 3,7-dimethyl-
35	15,325	163682	2943846	0.28%	0.076%	. gamma.-Murolene
9	10,464	131289	2768890	0.26%	0.071%	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-, (R)-
4	8,941	140351	2562743	0.24%	0.066%	Cyclohexene, 1-methyl-4-(1-methylethylidene)-
37	15,658	295855	1752716	0.16%	0.045%	Aromandrene

Based on the data in Table 2 it can be seen that There are 43 chemical Based on the data in Table 2 it can be seen that There are 43 chemical components found in citronella oil that were analyzed, with The 3 largest types of active components in citronella oil are Citronellal, 2,6-Octadien-1-ol, 3,7-dimethyl-, (Z) (Geraniol) and citronellol, with respective concentrations of 27,398 % , 17.234 % , and 13.807 %.

CONCLUSION

From the previous data and discussion it can be concluded that the 1 boiler model distillation equipment with several distilling boilers has several advantages, These advantages include the ability to distill various commodities simultaneously, with capacity adjusted to the availability of raw materials, improved efficiency in the use of labor and fuel, and reduced refining costs. However, for raw materials with a harder texture (from fruit, bark or wood stems/roots), the boiler needs to be equipped with a steam pressure regulator (Pressure Gauge) > 1 Atm (14,696 Psi), which is adjusted to the raw material being distilled. The refining cost per kg of citronella oil produced is P3= IDR. 80,328,- < P2 = IDR. 122,388,- < P1 = IDR. 194,286,- .

There are 43 chemical components found in citronella oil that were analyzed, with The 3 largest types of active components in citronella oil are Citronellal, 2,6-Octadien-1-ol, 3,7-dimethyl-, (Z) (Geraniol) and citronellol, with respective concentrations of 27,398 % , 17.234 % , and 13.807 %.

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Islamic Consumption Theory and Online Donation Behavior in Indonesia

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Abstract

Online donation as a form of practice of the principle of sharing sustenance, is increasingly showing a positive trend in Indonesia. This study aims to analyze the relationship between Islamic consumption theory and online donation behavior in Indonesia. Islamic consumption theory emphasizes ethical and moral principles in consumption, such as not excessing, not extravagant, and sharing sustenance with others. This study uses phenomenological analysis of respondents who have made online donations. The results of the study show that there is a positive and significant relationship between the understanding of Islamic consumption theory and online donation behavior in Indonesia.

Introduction

The development of digital technology in Indonesia has been used in various aspects of life, including the way people interact, shop, and even donate. Indonesia, as the country with the largest Muslim majority population in the world, has great potential in the development of the sharia economy, including donation activities. In this digital era, donations are no longer limited to conventional methods, but have transformed into online donations that are easier, faster, and more efficient.

Indonesia has recorded itself as one of the countries with the largest online donation value in the world. This shows that the Indonesian people have a high level of social concern and are increasingly accustomed to online donations. This phenomenon is interesting to study further, especially in relation to Islamic consumption theory.

Based on the results of research conducted by *the Charities Aid Foundation (CAF) World Giving Index 2021*, Indonesia is the most generous country. This is in line with online donation data released by one of the online fundraising and donation platforms in Indonesia, that throughout 2021 more than 3 million donors donated to the available applications. The participation carried out by many people was channeled to 36,000 social fundraising activities or programs, to help and change and ease the burden on people in need such as victims of natural disasters, education, housing, to other social and humanitarian programs. In addition, online donation trends also show that rella donors spend more than 2.5% of their income as explained in the accompanying image:

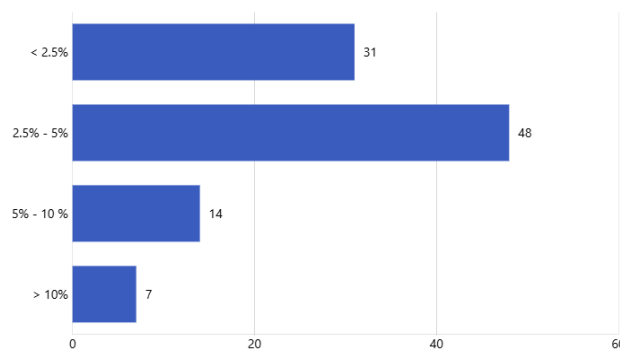


Figure 1

According to Telkomsel's digital survey, tSurvey.id, there are many Indonesians who often donate online. "As many as 69% of people often donate more than 2.5% of their income," as quoted from the tSurvey.id report, Tuesday (14/3/2023). Of all respondents surveyed, around 48% donated with a value between 2.5% to 5% of his income. Then 14% of respondents donated between 5% and 10% of their income, and 7% of respondents donated more than 10% of their income. There are also 31% of respondents who donate with a ratio of less than 2.5% of its income. The majority of respondents made donations because it has a non-cash payment option (31%), it is easy to find donation information (23%), and there is a donation management institution credible (19%). The survey also found that the majority of respondents donated more than once a month (59%), and more often than donating (50%). This survey was conducted on March 18-20, 2022 among 952 respondents through the *audience profiler* from tSurvey.id. The proportion of male respondents reached 63% and female 37%.

An interesting thing to study is the relationship between the large amount of online donation income in Indonesia and the understanding of Islamic consumption theory owned by the majority of Indonesian people who are Muslims. Islamic consumption theory provides guidance on how a Muslim should behave in consuming goods and services. Consumption in Islam not only aims to meet worldly needs, but must also consider aspects of the hereafter. One form of this concept is through alms or donations both in person and online.

This study raises the question of how Islamic consumption theory affects online donation behavior in Indonesia? What are the factors other than Islamic consumption theory that affect online donation behavior in Indonesia? This study aims to analyze the relationship between Islamic consumption theory and online donation behavior in Indonesia. We will examine how Islamic consumption principles, such as people's understanding of halal and haram consumption, *maslahah*, and *israf*, affect a person's decision to donate online. In addition, this study will also identify other factors that can influence online donation behavior, such as trust, and convenience.

This research is expected to contribute *teori* and practice to the development of the sharia economy in Indonesia, especially in the field of online donations. The results of this research can be used by charitable institutions, online donation platforms, and other related parties to design more effective strategies in developing people's interest in donating online.

Literature Review

Islamic Consumption Theory

In Islam, consumption is not only seen as the fulfillment of worldly needs, but also as worship. Islamic consumption theory emphasizes the balance between worldly and *ukhrawi* needs. Excessive consumption or luxury (extravagance) is not justified in Islam. On the

contrary, Islam encourages its people to give alms and donate as a form of social concern and investment in the hereafter.

Islamic consumption theory is based on the Qur'an and Hadith which explain ethical and moral principles in consumption. Some important principles in Islamic consumption theory include:

- a. **Do not overdo it:** Consumption should not be done in excess or beyond the limit of need.
- b. **No luxury:** Consumption should not go beyond luxury or a hedonistic lifestyle.
- c. **Sharing sustenance:** Some of the sustenance that you have is given to others in need, such as through donations.

Online Donation Behavior in Indonesia

Online donation behavior in Indonesia is increasing in line with the increasing penetration of the internet, the use of smartphones and social media. The convenience and practicality of donating online is a special attraction for the community. In addition, online donation platforms also offer various donation options, ranging from donations for social, religious, to humanitarian activities. The convenience and practicality offered by online donation platforms are the main attraction for the community. In addition, the COVID-19 pandemic has also been a driving factor in the increase in online donations, where many people want to help others who are affected without having to interact in person. Various online donation platforms such as Kitabisa.com, Dompot Dhuafa, and others, are present to facilitate the community in distributing donations to various social programs.

The motivation of Indonesian people in donating online is very diverse. A sense of empathy and concern for others is the main reason for many people. In addition, the desire to share sustenance, seek blessings, and follow invitations or campaigns from community leaders is also a driving factor. Online donations are also considered an effective way to distribute aid to those in need, especially in emergency situations or natural disasters.

Research on online donation behavior in Indonesia is still growing. Several studies have identified factors that influence people's decisions to donate online, such as trust, convenience, and perceived benefits. In addition, the study also highlights the role of social media and influencers in promoting online donations. This literature review provides an overview of online donation behavior in Indonesia, but there are still many aspects that need to be further researched to understand this phenomenon more comprehensively.

The Relationship between Islamic Consumption Theory and Online Donation Behavior

There is a close relationship between Islamic consumption theory and online donation behavior in Indonesia. The concept of balanced and not excessive consumption encourages Muslims to set aside some of their wealth for alms and donates. Online donation platforms make it easier for Muslims to channel their donations in accordance with Islamic principles. The development of digital technology in Indonesia has also shown very rapid growth in recent years. This is marked by the increasing number of internet and smartphone users, as well as the increasing variety of digital platforms available. The development of digital technology has opened up new opportunities in various fields, including in terms of donations.

Indonesia as a Country with the Majority Muslim Population Obtains the Largest Online Donation Value

Indonesia is the country with the largest Muslim majority population in the world. This is a great potential for the development of online donations. Islamic values that encourage its

people to give alms and donate are important factors in improving online donation behavior in Indonesia. Online donation as a form of sustenance sharing behavior is growing rapidly in Indonesia. The ease and practicality of making online donations is an attraction for the community. Several previous studies have shown that there is a relationship between religiosity and online donation behavior. Indonesia recorded itself as one of the countries with the largest online donation value. This shows that the Indonesian people are increasingly accustomed to and trust online donation platforms. The ease and practicality of donating online is an important factor in increasing the value of online donations in Indonesia.

Research Methodology

This study uses a qualitative approach with a phenomenological method. Phenomenology aims to understand meaning from the perspective of the individual who experiences it. Participants in this study are Muslim individuals in Indonesia who have experience in making online donations. Participant criteria can be determined based on age, education level, income, and frequency of online donations.

Data collection techniques are carried out by interviews, observations and documentation. In-depth interviews will be conducted with participants to explore the experiences, motivations, and meanings associated with their online donation behavior; Observations can be made on participants' online donation activities, such as the platform used, the type of donation given, and interaction with online donation platforms. Documents related to online donations, such as proof of transaction, confirmation emails, or information from online donation platforms, can be used as supporting data.

The collected data will be analyzed using the phenomenological analysis method. The steps of phenomenological analysis include:

1. **Data Reduction:** Data from interviews, observations, and documents will be reduced to units of meaning relevant to the phenomenon of online donation behavior.
2. **Meaning Grouping:** Units of meaning will be grouped based on themes that emerge from the data.
3. **Phenomenon Description:** The themes formed will be used to describe the phenomenon of online donation behavior from the perspective of the participant.
4. **Interpretation of Meaning:** The description of the phenomenon will be interpreted based on Islamic consumption theory to understand the relationship between the two.

The validity of the data will be tested using triangulation techniques, which are comparing data from various sources (interviews, observations, documents) to ensure consistency and validity of the data.

Research Results

The results showed that the majority of respondents had a good understanding of Islamic consumption theory. This can be seen from the answers of respondents who mostly agreed with the principles of Islamic consumption, such as not excessing, not extravagant, and sharing sustenance. In addition, the results of the study also showed that the majority of respondents had made online donations. There is a positive and significant relationship between the understanding of Islamic consumption theory and online donation behavior in Indonesia. This means that the better a person's understanding of Islamic consumption theory, the higher the tendency of the person to make an online donation.

The results of this study support the Islamic consumption theory which states that consumption is not only worldly, but also ukhrowi. A good understanding of Islamic consumption theory encourages a person to not only be oriented towards personal gain, but also to pay attention to the interests of others and the surrounding environment. Online donations as a form of sustenance sharing behavior, are one of the implementations of Islamic consumption theory. The ease and practicality of making online donations is an attraction for the people of Indonesia, so that more and more people are involved in online donation activities. Research shows that understanding Islamic consumption principles, such as halal and haram, maslahah, and israf, has a positive influence on online donation intentions and behavior. People who have a good understanding of these principles tend to be more motivated to donate online.

The principle of maslahah, which is to seek benefits or benefits, is also an important consideration in donating online. The community not only wants to make a free donation, but also wants to ensure that the donation provides great benefits for the recipient and the community at large. Therefore, they tend to choose donation programs that have clear and measurable goals, and have a significant positive impact.

The principle of israf, which is to avoid waste, also affects online donation behavior. The community wants to ensure that the donations they give are not used for things that are unnecessary or not in accordance with the purpose of the donation. They also want to avoid practices that are not transparent or accountable in the management of donation funds.

The results of the study also show that religious motivation is the main factor that encourages individuals to donate online. Awareness of the importance of sharing with others and the goal of gaining Allah's pleasure is the main driver. In addition, the ease of technology and trust in online donation institutions also facilitates online donation behavior. However, the study also found that there are differences in individual perceptions and experiences in donating online, which are influenced by factors such as income level, education, and cultural background.

In addition to Islamic consumption theory, there are other factors that also affect online donation behavior in Indonesia. Trust is a key factor in the decision to donate. People need to feel confident that the online donation platform they use is safe, reliable, and reputable. This trust can be built through information transparency, testimonials from other donors, and certification or supervision from authorized institutions.

Convenience is also an important factor in online donation behavior. People tend to choose donation platforms that are easily accessible, easy to use, and offer a variety of payment method options. This convenience allows people to donate anytime and anywhere, without having to bother carrying cash or going to a certain place.

Islamic consumption theory has a close relationship with online donation behavior in Indonesia. Sharia principles are the moral foundation in every donation decision. People who understand and practice the principles of Islamic consumption tend to be more active in donating online. They see donations as part of worship and efforts to achieve blessings in life.

Online donation behavior in Indonesia is influenced by various factors, both internal and external. Islamic consumption theory has an important role in shaping the online donation behavior of the Indonesian people. Sharia principles are the moral foundation in every donation decision. In addition, other factors such as trust, convenience, and motivation also influence online donation behavior. Understanding these factors is important for online donation platform managers to increase public participation in donating online.

Conclusion

Based on the results of this study, it can be concluded that there is a positive and significant relationship between the understanding of Islamic consumption theory and online donation behavior in Indonesia. A good understanding of Islamic consumption theory encourages a person to have a higher online donation behavior. This research contributes to the development of Islamic economics, especially in the study of Muslim consumer behavior.

Suggestion

Further research can be conducted using different research methods, such as interviews or case studies. In addition, further research can also involve external variables that affect online donation behavior, such as convenience, trust, and social factors.

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Toward New Regulations of Digital Rupiah: Lessons from china's CBDC Implementation

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Abstract

The development of Indonesia's Digital Rupiah represents a significant step toward modernizing the country's financial system while ensuring monetary stability. However, the absence of a clear legal framework raises concerns regarding its status as legal tender, regulatory oversight, and cybersecurity. This study employs a comparative legal analysis to examine China's Central Bank Digital Currency (CBDC) implementation and its relevance to Indonesia's regulatory landscape. Key factors such as technology infrastructure, public trust, financial inclusion, and shadow currency risks are evaluated. Findings suggest that while China's centralized approach ensures strict financial control, Indonesia must prioritize a balance between financial security, individual privacy, and democratic governance. Lessons from China's experience highlight the need for a robust legal framework, inter-agency coordination, and enhanced public trust mechanisms. By refining existing financial laws and adopting best practices from China's CBDC strategy, Indonesia can develop an inclusive, secure, and well-regulated Digital Rupiah.

Keywords: *Digital Rupiah, CBDC, Financial regulation, China, Indonesia, Legal framework, Monetary policy*

1. INTRODUCTION

Indonesia's Digital Rupiah aims to modernize the financial system while ensuring monetary stability. The legal status of the Digital Rupiah as legal tender in Indonesia is unclear due to a lack of explicit regulation, though a new act may support its legal tender status (Kameo. et.al. 2024). Normative legal research status explored by Haykal, et.al. (2024) highlighted the key aspects of legal development of digital rupiah as : comprehensive law-making regarding digital currency, specific agency as supervisor of CBDC's transactions, authorities and supporting facilities regarding cybersecurity, socialization to public, and synergy among institutions.

Financial exclusion is a potential risk of digital rupiah implementation as provision of digital rupiah in P2SK law are still minimal (Nuryasinta, et.al. 2024). The development of Indonesia's Digital Rupiah follows a structured and phased approach to ensure its feasibility, security, and regulatory alignment. It began with the publication of a several documents by Bank of Indonesia. First, White Paper, which outlined the fundamental design, objectives, and potential impact of the Digital Rupiah on Indonesia's financial system. This was followed by a Consultative Paper, which gathered input from key stakeholders, including financial institutions, regulatory bodies, and technology experts, to refine the initial framework. To enhance transparency and public involvement, a Public Consultation Report was released, summarizing feedback from industry players and the general public while addressing concerns related to privacy, security, and financial stability.

The initiative then progressed to the Proof of Concept phase, where the technical and operational feasibility of the Digital Rupiah was tested in a controlled environment. Based on findings from this phase, an updated Consultative Paper was published, incorporating insights from real-world testing and stakeholder discussions to refine the final implementation strategy. This iterative process ensures that the Digital Rupiah is developed with a balance of innovation, security, and regulatory compliance.

China's experience with CBDC regulation offers valuable lessons for Indonesia's digital rupiah. The e-CNY pilot highlighted the need to balance personal information protection with illicit financial activity regulation (Cheng, 2022). Key considerations include reputation, financial inclusion, technological simplicity, security, and traceability (Sarmiento, 2022). Indonesia's growing crypto asset market poses shadow currency risks, emphasizing the importance of implementing a digital rupiah as an official CBDC (Sulistiyono & Kharisma, 2024). Legal adjustments are necessary, including revising the Currency Act to include CBDC as a form of rupiah. Additionally, regulations concerning privacy, property laws, Distributed Ledger Technology, insolvency, and competition between CBDC and depository banks need to be addressed (Handayani, 2022). Current regulations that potentially become the legal basis of digital rupiah regulation are :

1. Law Number 11 of 2008 on Information and Electronic Transactions
2. Law Number 3 of 2011 on fund transfers as operational regulatory parameters.
3. Law No. 7 of 2011 on Currency
4. Law No. 19 of 2016 concerning Amendments to Law Number 11 of 2008 on Information and Electronic Transactions
5. Law No. 4 of 2023 on Financial Sector Development and Strengthening
6. POJK No. 21 of 2023 on Digital Service by Public Bank

7. POJK No. 27 of 2024 on Trading Practice of Digital Financial Assets Including Crypto Assets.

To ensure the successful implementation of the Digital Rupiah, Indonesia must establish a clear and comprehensive legal framework that addresses its status as legal tender, regulatory oversight, and cybersecurity measures. Drawing from international experiences, particularly China's approach to CBDC regulation, Indonesia can develop policies that balance financial innovation with risk mitigation. Revising existing laws and introducing new regulations tailored to digital currency will be essential in fostering trust, financial stability, and economic inclusivity. This research can enriched the legal development of digital rupiah by increasing knowledge and literature regarding digital currency.

2. METHODS

Comparative legal methods was used to assesed the differences between CBDC implementation in china and to deemed is usefulness on development of Digital Rupiah Regulation. Comparative legal research can give objective assesment of similarities, differences, and their consequences of multiple legal systems or sub-systems (Ali, 2020). The iteration including description of comparative objective, ethics, and genetics of such law system (Patrick, 2006). We use this method by first comparing the conditions that become the backbone of CBDC's implemenation (Technology, Public Trust, Shadow Currency Risk, and Financial Inclusion) than comparing the legal approach of both nations to tackle those problems. Data were collected from literature review collection.

3. RESULTS

The implementation of blockchain in Indonesia faces obstacles like unclear regulations, limited infrastructure, and lack of understanding (Erica et al., 2024). Cryptocurrencies, while not recognized as legal tender in Indonesia, are still traded on compliant exchanges. The Indonesian government has introduced initiatives like the Blockchain Indonesia program to promote awareness and adoption of blockchain technology. Despite the growing interest, cryptocurrency investment remains risky and volatile, requiring careful consideration and adherence to government regulations (Olga et al., 2023). While China has been at the forefront of cryptocurrency and blockchain technology development, despite implementing strict regulations (Novrasta, 2019; Riley, 2021). The Chinese government has invested significantly in blockchain projects and established research bodies like the Digital Currency Research Institute to advance digital currencies (Novrasta, 2019).

Despite increased financial literacy and inclusion indexes, the presence of unlicensed financial institutions remains a challenge, highlighting the need for expanded authority of the Financial Services Authority to oversee financial institutions and enhance public trust (Christiani & Kastowo, 2022). In China, while trust significantly promotes financial market participation for wealthier households, its effect is not significant for less wealthy households. And trust has a larger effect on participation for those with less financial knowledge in general (Chui & Zhang, 2020). Gu, et.al. (2022) concluded high social trust in China reduces firms' holdings of non-currency financial assets, suggesting trust substitutes for formal financing institutions.

Indonesia faces significant challenges related to shadow currency risks and the shadow economy. The rise of cryptoassets has led to concerns about cryptoization and shadow currency, potentially threatening monetary sovereignty (Sulistiyono & Kharisma, 2024). Estimates suggest that Indonesia's shadow economy is substantial, averaging around 40% of reported GDP (Panjaitan, 2015), with more recent estimates placing it at 28.97% (Saraswati & Agustina, 2020). China has taken a conservative approach towards cryptocurrencies, banning financial institutions from facilitating bitcoin transactions and imposing restrictions. This stance is due to regulatory uncertainties and security risks associated with cryptocurrencies thus vanishing the risk of shadowcurrency (Liu, 2023).

Studies have shown that Indonesia's financial inclusion rate was around 32-50% in recent years, with significant progress made in expanding bank account ownership (Santoso & Meera, 2017; Shrestha & Nursamsu, 2020). According to the World Bank's Global Findex database, the financial inclusion rate in China is around 79%, meaning that roughly 79% of the adult population has an account at a formal financial institution, which is considered significantly higher than the regional average. The Comparison of conditions from both country qualitatively annotated in table below.

Table 1. Conditions Regarding CBDC's Implementation in China and Indonesia

No.	Conditions	China	Indonesia
1.	Technology	High	Low
2.	Public Trust	High	Low
3.	Shadow Currency Risk	Low	High
4.	Financial Inclusion	High	Medium

Indonesia and China have adopted distinct legal strategies to address challenges in blockchain and cryptocurrency regulation, financial inclusion, and the shadow economy. Indonesia approaches including :

Commodity Classification: Cryptocurrencies are prohibited as payment instruments but permitted as tradable commodities. The Commodity Futures Trading Regulatory Agency (BAPPEBTI) has authorized 229 crypto assets for trading, subjecting them to risk assessment, anti-money laundering (AML), and combating the financing of terrorism (CFT) (Freeman Law, freemanlaw.com)

Transition of Oversight : The Financial Services Authority (OJK) is set to assume regulatory and supervisory duties related to digital financial assets, including cryptocurrencies, from BAPPEBTI.

Digital Financial Services: Government promotes digital financial services to enhance financial inclusion, aiming to increase bank account ownership and access to financial products.

Taxation Measures: Crypto exchanges are mandated to collect income tax (PPh) and value-added tax (VAT) on cryptocurrency transactions, with taxes withheld at the transaction point (cointelegraph.com)

While China approaches including :

Strict Prohibitions: The government has implemented stringent measures to curb cryptocurrency activities, including banning initial coin offerings (ICOs) and prohibiting financial institutions from facilitating crypto transactions.

Foreign Exchange Monitoring: Recent regulations require banks to flag and report risky trades, particularly those involving cryptocurrencies, to tighten control over financial flows.

Capital Control Enforcement: By restricting cryptocurrency transactions and promoting the digital yuan, China aims to prevent capital flight and maintain monetary sovereignty. These approaches reflect each nation's priorities in balancing innovation with financial stability and control

4. DISCUSSION

The legal frameworks governing central bank digital currencies (CBDCs) in Indonesia and China exhibit distinct approaches, shaped by each nation's economic priorities, regulatory philosophy, and societal structure. By comparing these systems, Indonesia can draw valuable lessons from China's regulatory advancements while ensuring that its own policies remain aligned with democratic values and financial inclusion goals.

Comparative Objective Analysis

China's regulatory approach to digital currency is rooted in financial control and economic centralization. The Digital Yuan (e-CNY) is designed to reinforce state oversight over monetary transactions, enhance anti-money laundering (AML) enforcement, and curb capital flight. By contrast, Indonesia's digital financial strategies emphasize financial inclusion and economic growth, particularly in rural and underbanked areas. While Indonesia has yet to fully implement a CBDC, regulatory discussions suggest that its primary goal is to integrate digital financial services without compromising monetary sovereignty. To refine its framework, Indonesia could adopt China's strong digital infrastructure while maintaining a balance between financial oversight and economic democratization.

Ethical and Privacy Considerations

China's CBDC system integrates real-time transaction monitoring, allowing the government to track financial flows comprehensively. While this enhances security and prevents illicit transactions, it raises ethical concerns regarding financial surveillance and personal privacy. Conversely, Indonesia, with its democratic governance, may need to establish stronger data protection laws before rolling out a CBDC to prevent excessive governmental control over personal finances. Learning from China's model, Indonesia could implement a tiered anonymity system, where low-value transactions remain private, but high-value transactions are traceable, ensuring both security and individual privacy.

Genetics of the Legal System and Structural Adaptation

China's centralized economic policies have enabled swift implementation of digital financial regulations, leveraging state-owned banks and technology partnerships. In contrast, Indonesia's legal structure involves multiple stakeholders, including Bank Indonesia (BI), the Financial Services Authority (OJK), and the Commodity Futures Trading Regulatory Agency (BAPPEBTI). This decentralized regulatory framework can slow implementation but also provides checks and balances to prevent potential misuse. To enhance regulatory efficiency, Indonesia could streamline inter-agency coordination while avoiding China's restrictive measures that limit private sector innovation.

Lessons for Indonesia

1. **Enhanced Digital Infrastructure:** Indonesia should prioritize robust digital infrastructure, similar to China's, to facilitate CBDC adoption and ensure financial stability.
2. **Balanced Oversight:** Indonesia must develop a legal framework that incorporates China's stringent AML measures while safeguarding financial privacy.
3. **Legal Streamlining:** A more coordinated regulatory approach among Bank Indonesia, OJK, and BAPPEBTI will improve the clarity and enforcement of digital currency regulations.
4. **Public Trust Mechanisms:** Unlike China's strict top-down approach, Indonesia should engage stakeholders—including financial institutions and consumers—to promote trust in its CBDC system.

By carefully analyzing China's legal model and adapting its strengths while addressing its ethical limitations, Indonesia can establish a resilient and inclusive digital currency framework that aligns with its economic vision.

5. CONCLUSION

Digital Rupiah is a revolutionary solution to many monetary problems of Indonesia. The regulation and law covering digital rupiah is still lacking in many certain aspects. Further preparation of law and regulation covering digital Rupiah should be refined by preventive notions that takes consideration from digital Yuan regulation, even after all the law and regulation completed, they still face many challenges. We propose lessons that Indonesia can take from china's implementation of CBDC. By fostering a balance between security and privacy, streamlining regulatory coordination, and engaging public trust, Indonesia can create a robust digital financial system that enhances financial inclusion while safeguarding individual rights.

AUTHORS' CONTRIBUTIONS

The title "AUTHORS' CONTRIBUTIONS" should be in all caps.

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Usage Problematics: Automatic Stay in Indonesian Bankruptcy

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Abstract

One of the factors that requires regulations regarding Bankruptcy and Suspension of Debt Payment Obligations (KPKPU) is to avoid fraud committed by a Creditor or Debtor, namely the concept of "Automatic Stay". This concept aims to protect debtors from legal action. creditors who could be detrimental during the bankruptcy process. This research aims to analyze the implementation of the state of silence and compare it with similar regulations in several other countries. Using qualitative normative juridical research methods by exploring sources from literature study results, and emphasizing the use of primary data, secondary data, including tertiary legal materials. The conclusion drawn in this writing is that the existing regulations regarding silence need to be revised and adjusted to the ultimate target of resolving debt payments, whether through restitution or other legal measures. The results of this research can become a basis for more effective policy formulation.

Keywords: Keywords are your own designated keywords separated by commas (“,”). Keyword 1, Keyword 2, Keyword 3, Keyword 4.

1. INTRODUCTION

. In the Bankruptcy Regulations in Indonesia, Law Number 37 of 2004 concerning Bankruptcy and Postponement of Debt Payments (Bankruptcy Law and PKPU/Postponement of Debt Payment Obligation), there are still many loopholes for related parties, both debtors and creditors, to carry out actions that can harm the parties involved in the case, namely the debtor. or creditors when a bankruptcy examination is being carried out by a commercial court. The application of the "automatic stay principle" is one of them. This principle is basically intended to provide protection to Debtors and Creditors from illegal actions that they themselves carry out, but the wrong application will be very detrimental to the parties in question. For example, if the creditor continues to push the debtor to pay the debt while the debtor's financial capacity is very minimal, it will make it difficult for the debtor to obtain funds and allocate them to pay the debt (it is feared that the debtor will not be maximal in trying to repay the debt). On the other hand, there is a waiting time for creditors to be able to immediately execute their receivable collateral, it is feared that the debtor will take advantage of it negatively, such as making an unauthorized transfer of the collateral object in question.

Generally, a state of silence applies automatically (by law) from the moment the application for bankruptcy is registered in court. This aims to protect creditors from debtors' attempts to hide or transfer some or all of their assets to other parties and harm creditors. However, even though Law 37/2004 recognizes the principle of a state of silence, the state of silence applies not from the time the application for a bankruptcy declaration is registered but from the moment the decision on the bankruptcy declaration is handed down by the Commercial Court (Sjahdeini, 2010).

One of the factors that requires regulations regarding Bankruptcy and Suspension of Debt Payment Obligations (KPKPU) is to avoid fraud committed by a Creditor or Debtor. This is what prompted legislative product makers

to create a new concept which is currently part of the Draft Law (RUU) Concerning Amendments Based on Law Number 37 of 2004 concerning the KPKPU Law, namely the concept of "Automatic Stay". (Hutagalung, 2021).

1.1. Problem Statement

The discussion of this writing is based on the following problems.

1. Realization of the use of the "automatic stay principle" in implementing bankruptcy in Indonesia.
2. Comparison of the use of silence in bankruptcy practice in several countries.
3. Challenges in implementing a state of silence in implementing bankruptcy in Indonesia.

2. RESEARCH METHOD

The legal research method used in this writing is a normative legal research method where the legal materials used are obtained from the results of library studies, including: primary legal materials and secondary legal materials. The primary legal materials used are applicable laws and regulations and the secondary legal materials used are literature and legal journals.

The method used is a normative research method that examines documents to find legal rules, to find the truth based on the logic of legal science with a focus on legal principles, legal rules, legal conceptions and positive law. The approach used is a statutory approach or statute approach (Ibrahim, 2007). Legal research carried out by examining library materials or secondary data is referred to as normative legal research or library legal research (in addition to sociological or empirical legal research which mainly examines primary data). Normative research methods are also known as doctrinal research (doctrinal research) is research that analyzes the law as written in books.

Normative legal research, secondary data as a source/information material can be Legal research sources can be divided into research sources in the form of primary legal materials, namely legal materials that are authoritative, meaning they have authority. Primary materials consist of legislation, official notes or minutes in making legislation and judges' decisions, while secondary materials consist of all legal publications that are not official documents. Publications about law include textbooks, legal journals. primary legal material, secondary legal material.

3. ANALYSIS

3.1. Realization of the Use of the "Automatic Stay Principle" in Bankruptcy Implementation in Indonesia

A state of silence, or what is known in bankruptcy law as a "automatic stay," refers to a suspension of legal action that creditors can take against a debtor who has been declared bankrupt. In the context of Indonesian law, silence is regulated in Law no. 37 of 2004 concerning Bankruptcy and Postponement of Debt Payment Obligations (PKPU). This situation aims to provide protection to debtors so that they do not lose their assets during the bankruptcy process.

A state of silence is defined as a suspension of all legal actions that can be taken by creditors against the debtor's assets. The aim is to give debtors time to restructure their debts and prevent execution actions that could harm the bankruptcy resolution process (Rizky Andira, Aurora Jillena Meliala, 2023).

As long as the automatic silence applies in the bankruptcy process, the debtor is prohibited from taking a number of actions to protect the interests of creditors and maintain the integrity of the bankruptcy assets, these actions include such as :

- Transferring Assets: Debtors are not allowed to hide or transfer part or all of their assets to other parties. This action can be considered detrimental to creditors and can be canceled by the curator (Rifqani Nur Fauziah Hanif, 2020)

- Carrying out detrimental legal actions: The debtor cannot carry out legal actions that can reduce the bankruptcy assets. Any action that has the potential to harm creditors or reduce the value of bankruptcy assets must be consulted first with the curator (Lia Christine SH, - 2024)

- Negotiating with other creditors: During a state of silence, the debtor is prohibited from negotiating or paying off debts with certain creditors without permission from the curator.

- Obtaining New Loan Facilities: Debtors are not permitted to obtain new loans/credit, because this could increase the amount of debt and harm the position of creditors in the bankruptcy process.

- Selling, transferring or pawning assets: All transactions involving the sale or transfer of assets of the bankruptcy estate must be carried out with the approval of the curator, and the debtor cannot do so unilaterally.

. The existence of an automatic silence state aims to give debtors time to restructure their debts without pressure from creditors, as well as ensuring that all creditors are treated fairly in the debt settlement process.

During the standstill period, several restrictions apply to creditors:

- Creditors are not allowed to carry out executions against the debtor's assets.

- Creditors cannot collect debts directly or negotiate debt payments.

- All legal actions related to debt collection must be suspended (Hutagalung, 2021).

A state of silence within the scope of bankruptcy rights is used to indicate a condition where the debtor's wealth/assets can no longer be used because they have been placed under the supervision of the court or curator. This illustrates that the debtor's normal economic activities have been stopped, and all activities related to the debtor's property/wealth must be authorized by the court or curator to ensure fair distribution of assets for creditors.

3.2. Comparison of the use of silence in bankruptcy practice in several countries

As a comparison to the use of "automatic stay" provisions in other countries, the following will briefly present the rules in various countries with a variety of different legal approaches to the bankruptcy process.

1. United States

An Automatic Stay in the United States takes effect as soon as the debtor files for bankruptcy, providing immediate protection from collection actions by creditors. This allows debtors to immediately obtain protection without having to wait for a bankruptcy decision.

The automatic stay in United States bankruptcy law serves as an effective protective mechanism for debtors and creditors, ensuring that all parties are involved in the debt resolution process fairly. On the other hand, even though Indonesia has a similar legal framework, challenges in implementation are still a major issue that needs to be improved so that it can function optimally. (Rizky Andira, Aurora Jillena Meliala, 2023).

Automatic stays serve as an important mechanism in US bankruptcy law that provides important protections for debtors while balancing the rights of creditors. Understanding the provisions and their implications is critical for debtors seeking relief from financial hardship and creditors seeking recovery during the bankruptcy process. As economic conditions fluctuate and more individuals seek bankruptcy protection, ongoing evaluation of automatic stay provisions will be necessary to ensure fair treatment in this complex legal landscape. (Kagan, 2024).

2. Canada

In Canada, there are provisions that allow small businesses to obtain protection from creditors in a simpler and quicker process compared to large companies. This aims to encourage the restructuring of small businesses that are facing difficulties.

3. Germany

In Germany, the automatic stay not only protects the debtor but also provides the opportunity for the debtor to continue operating their business during the bankruptcy process, provided they can demonstrate a realistic recovery plan.

4. England

In the UK, automatic silence applies in the context of administration proceedings, where an administrator is appointed to manage the debtor's assets. This provides protection to debtors and allows administrators to carry out restructuring without interference from creditors.

5. Japan

In Japan, automatic silence has a more limited scope compared to other countries. These protections do not necessarily stop all legal action by creditors, especially if creditors can demonstrate that such action is necessary to protect their interests.

6. France

In the French legal system, there is a special procedure known as "sauvegarde" (rescue), in which an automatic standstill is implemented to give a company experiencing financial difficulties time to recover.

7. Singapore

Singapore implements a bankruptcy system that is relatively more efficient and fast. The automatic state of silence in Singapore also applies as soon as a bankruptcy application is filed, and the process is designed to facilitate more effective debt restructuring for debtors. restructuring debt without pressure from creditors.

The automatic stay of bankruptcy under Singapore law serves as an important mechanism to protect debtors while allowing for structured negotiations with creditors. This balances debtors' relief needs with creditors' rights, particularly in complex bankruptcy scenarios involving cross-border elements. Understand these provisions are very important for debtors and creditors in dealing with bankruptcy situations in Singapore. (McMyn & Mc. Conel, 2021).

Just to compare with the state of stay in the United States, the automatic stay in Singapore provides a more limited and conditional framework for foreign creditors compared to the broad protection offered under Bankruptcy Law in the United States. While United States law provides immediate and comprehensive protection against creditor actions, Singapore's approach requires careful navigation of the legal system, particularly regarding the recognition of foreign legal proceedings and potential enforcement actions by secured creditors. This difference has a significant impact on the way foreign creditors manage their claims against debtors experiencing insolvency in each jurisdiction. (Backer McKenzie, 200).

8. Netherlands

In contrast to the countries above, the Netherlands does not provide an automatic postponement after filing for bankruptcy. This means that creditors can continue their collection activities even though they have been declared bankrupt, unless a special court order is obtained to stop these actions.

The absence of an automatic stay in Dutch Insolvency Law poses specific challenges for debtors compared to a standard system of protection. Creditors have significant rights to submit claims, requiring a more proactive approach for debtors seeking resolution through a formal bankruptcy process. (Holland Law Office 2021)

The automatic stay in the Dutch Bankruptcy Law concept provides significant protection for debtors, allowing them to reorganize their affairs without direct pressure from creditors. By preventing enforcement actions and preserving contractual relationships, the framework aims to facilitate a more effective restructuring process while balancing the interests of all parties involved. (Holland Law Office, 2024).

The period of silence in the Netherlands lasts for the duration of the bankruptcy process. However, if the debtor has filed for bankruptcy many times in one year, then the period can be limited to only 30 days, unless extended based on a court proposal. (Holland Law Group-HLG)

From the explanation above, it can be seen that each country has special and specific methods and approaches to automatic stay, which illustrates variations in their respective policies and legal objectives in handling bankruptcy cases and protecting the parties in bankruptcy cases. There are quite a few countries where the process is more flexible than Indonesia.

3.3. Challenges in implementing a state of silence in implementing bankruptcy in Indonesia

Lack of Understanding and Awareness: Many parties, including debtors and creditors, do not properly understand the consequences and mechanisms of silence. This can lead to apathy towards existing regulations, thereby reducing the effectiveness of enforcing existing regulations.

Legal processes related to bankruptcy are often haunted by uncertainty, both in terms of timing and outcome. This obstacle will make creditors hesitate to comply with the silence, which can be detrimental to debtors. (Slamet Adi Priyatna, 2022)

Courts and related institutions often face limited resources, both in terms of budget and manpower. This can hinder the implementation of effective supervision and law enforcement against silence.

There is a risk that the formation and implementation of regulations could be influenced by the interests of certain groups, ignoring the general interest. This can result in regulations that do not favor debtors or creditors fairly. (Altruist Lawyer 2023). The hyper-regulatory situation in Indonesia has resulted in many overlapping regulations, making it difficult to implement regulations in a state of silence consistent. This creates confusion among stakeholders. (Franciskus Stefan Sunur, 2024)

Lack of community involvement in the planning process and implementation of regulations is also an obstacle. Communities that are not involved tend to be less supportive of the policies implemented, including silence on bankruptcy. Law enforcement regarding violations of the state of silence is often inconsistent. This uncertainty in law enforcement makes creditors feel free to violate these provisions without fear of legal consequences. (Ministry of Law and Human Rights, National Legal Development Agency, 2018). To overcome the challenges above, a comprehensive and integrated approach is needed, including increasing understanding of regulations, strengthening institutional capacity, and increasing transparency and accountability in the public policy process.

4. CONCLUSION

In accordance with the provisions of Law Number 37 of 2004 concerning Bankruptcy and Postponement of Debt Payment Obligations, a state of silence applies after the bankruptcy petition is registered, although several legal elements state that the effect is only felt after the bankruptcy decision is handed down by the court. During the period of silence, debtors are not allowed to take certain actions, such as paying debts to certain creditors or pledging their assets.

The practice of implementing Automatic Stay is different in each country, adjusted to the legal profile of the local country and the performance of law enforcement, some are more flexible than Indonesia and some are more rigid. These differences can be used as a reference for makers of future revisions to the bankruptcy law.

There are still quite a lot of challenges and problems in implementing the principle of silence in the bankruptcy legal process, especially knowledge upper society, ignorance of the relevant regulations can be detrimental to parties involved in bankruptcy cases.

Suggestion that can be taken are:

1. Revision and Refinement of Regulations Changes in the KPKPU Law: Revising Law Number 37 of 2004 to clarify and expand the provisions regarding automatic silence, including stipulating that this protection comes into effect from the time the bankruptcy petition is submitted.

2. Speeding up the Application Process: Optimizing the procedure for submitting applications for automatic silence to make it more efficient, so that creditors cannot take legal action before the court decides on bankruptcy status.

3. Education Program for Business Actors: Increase understanding of automatic silence among business actors and creditors through outreach programs, so that all parties understand their rights and obligations during the bankruptcy process.

AUTHORS' CONTRIBUTIONS

The title "AUTHORS' CONTRIBUTIONS" should be in all caps.

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The Impact of The Certified Amil Development Program (CADP) Training on The Competence and Performance of Zakat Amil at Dompot Dhuafa Zakat Management Partners

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ABSTRACT

This study seeks to examine how the training provided by the Certified Amil Development Program (CADP) affects the skills and job satisfaction of zakat amil at Dompot Dhuafa. A quantitative research method was employed, utilizing a cross-sectional design with a sample of 50 participants from the training program. The data collection process involved questionnaires and interviews. Path analysis was then conducted to determine the relationships among the variables.

Keywords: Training, Competence, Job Satisfaction, Performance, Zakat Amil.

1. INTRODUCTION

In a globalized environment characterized by heightened competition, the management of human resources has emerged as a vital component for the success of organizations. One effective approach to improve both competence and job satisfaction among employees is through training programs, which can subsequently lead to enhanced organizational performance. Prior studies have indicated that training initiatives that are thoughtfully structured can significantly boost employees' skills and knowledge.

Zakat, being one of the fundamental pillars of Islam, significantly contributes to both economic and social development. In this regard, training that emphasizes zakat management can positively affect the employees engaged in this field. Studies have shown that effective training can deepen employees' comprehension of zakat and boost their job satisfaction. As a result, this study aims to explore how training programs affect employee competence and job satisfaction in the context of zakat management.

This research aims to identify a significant correlation between training programs and the enhancement of employee competence and job satisfaction. Additionally, the study will offer suggestions for organizations to create more effective training initiatives that align with the needs of their employees. Therefore, this study is projected to yield significant insights that will aid in the advancement of human resources within zakat management.

In this research, the author will employ a quantitative methodology to evaluate data collected from participants in the training program. This approach is selected for its ability to deliver a clear and objective assessment of how training impacts both competence and job satisfaction. Furthermore, the study will examine several factors that influence the effectiveness of training programs, such as the design of the training, instructional techniques, and the level of support provided by the organization.

Given this context, this research aims to offer a more profound understanding of the significance of training in improving employee competence and job satisfaction, while also contributing to the advancement of more effective zakat management practices. Additionally, this study is anticipated to act as a valuable reference for future investigations concerning human resource development and zakat management.

Drawing from the background provided, the research questions are formulated as follows: (1) How do training programs impact employee competence in zakat management? (2) What influence do training programs have on employee job satisfaction within zakat management? (3) Is there a significant correlation between employee competence and their job satisfaction? This formulation of the problem will be the central focus of the study, aiming to clarify the relationship between these variables.

The aim of this research is to examine how training programs influence employee competence and job satisfaction within the framework of zakat

management. Specifically, the study seeks to: (1) Assess the impact of training programs on enhancing employee competence in zakat management. (2) Evaluate the effect of training programs on employee job satisfaction in the context of zakat management. (3) Explore the connection between employee competence and their job satisfaction. By reaching these goals, this research aims to provide meaningful insights into how training influences zakat management.

This study is anticipated to yield both theoretical and practical advantages. From a theoretical perspective, it aims to enhance the existing knowledge about the impact of training on employee competence and job satisfaction, while also offering fresh insights within the realm of zakat management. On a practical level, the findings are expected to guide organizations in developing more effective training programs tailored to the needs of their employees. Furthermore, This study will enhance the overall effectiveness of human resource practices within zakat management

This research will concentrate on employees engaged in zakat management within designated zakat institutions. It will explore different elements associated with training programs, employee competence, and job satisfaction. Additionally, the study will take into account various factors that could affect the effectiveness of training initiatives, including the design of the training, instructional methods, and the level of organizational support. Consequently, this research aims to offer a thorough understanding of the impact of these variables.

This study utilizes a quantitative methodology featuring a survey research design. Data collection will involve administering questionnaires to employees participating in training programs at zakat institutions. The questionnaires will be crafted to assess key variables such as competence, job satisfaction, and the effectiveness of the training programs. Statistical methods will be employed for data analysis to evaluate the proposed hypotheses. This approach aims to yield objective and precise results.

This research will draw on various theories and prior studies to bolster the analysis. Wibowo (2016) defines competence as the capability to execute a job effectively, which is grounded in the necessary skills and knowledge, along with the appropriate work attitudes associated with that role. This underscores the importance of zakat managers' competence in attaining optimal performance. Furthermore, a study by Loviga Denny Pratama and Wahyu Lestari (2020)

indicates that job training and competence have a positive impact on employee performance.

Given the background presented, this research aims to clarify how training programs impact the competence, job satisfaction, and performance of zakat managers. Additionally, the study is anticipated to offer recommendations for zakat institutions on how to create effective training programs that can improve the performance of zakat managers, ultimately leading to greater benefits for the community.

2. RESEARCH METHODOLOGY

This study utilizes a quantitative methodology with an explanatory research design to examine the impact of training programs on the competence, job satisfaction, and performance of zakat managers. The quantitative approach is selected to quantify the causal relationships between the independent variable (training programs) and the dependent variables (competence, job satisfaction, and performance). Explanatory analysis will be employed to clarify these relationships.

The population for this study includes all zakat managers employed at Zakat Management Institutions (LAZ) within the designated region. A purposive sampling method will be utilized to select respondents based on specific criteria, specifically targeting zakat managers who have undergone training programs during a defined timeframe. The study will involve a sample size of 50 zakat managers, which is deemed sufficient for the analysis.

Data collection will be conducted using questionnaires distributed to the participants. The questionnaire is divided into several sections, including demographic information, perceptions of the training program, levels of competence, job satisfaction, and performance of zakat managers. Each section employs a 1-5 Likert scale to gauge the respondents' reactions to the provided statements. Before being distributed, the questionnaire will be subjected to a pilot test to ensure its validity and reliability.

Data will be analyzed employing a combination of descriptive and inferential statistical methods. The characteristics of the respondents will be summarized using descriptive statistics, while inferential statistics will be applied to test the research hypotheses. The analysis will feature assessments of both validity and reliability, along with multiple linear regression analysis aimed at investigating the effects of training programs on the

competence, job satisfaction, and performance of zakat managers. The regression model will help identify the relationships between the variables.

The research process will be conducted in several phases, beginning with the development of the questionnaire, followed by data collection through the distribution of the questionnaire to participants. Afterward, data analysis will be performed using statistical software, and the results will be interpreted. Finally, a research report will be compiled. This methodical approach is intended to ensure that the study effectively illustrates the impact of training programs on the competence and job satisfaction of zakat managers.

3. RESULT AND DISCUSSION

3.1 Description of MPZ Dompot Dhuafa and CADP

The Zakat Management Partner (MPZ) of Dompot Dhuafa is a program designed to strengthen zakat management in Indonesia through collaboration with various institutions, organizations, and communities. MPZ aims to enhance the effectiveness and efficiency of the collection, management, and distribution of zakat, infaq, and sedekah, thereby providing a greater impact for those in need.

As part of Dompot Dhuafa, an organization with over two decades of experience in zakat management, MPZ focuses on developing the capacity of its partners. This program provides training and mentoring to institutions that wish to become zakat managers, enabling them to understand the principles of good and proper zakat management. Thus, MPZ plays a crucial role in creating a network of professional and integrity-driven zakat managers.

MPZ is also committed to raising public awareness about the importance of zakat as a social and economic instrument. Through various educational campaigns and outreach efforts, MPZ strives to encourage the community to be more active in giving zakat and to understand its benefits for community empowerment. By involving the community in zakat management, MPZ hopes to foster a sense of ownership and shared responsibility in helping others.

Additionally, MPZ Dompot Dhuafa also plays a role in distributing zakat to those in need, both in the form of direct assistance and empowerment programs. With a needs-based approach, MPZ seeks

to ensure that the collected zakat provides maximum and sustainable benefits.

Through collaboration with various parties, MPZ Dompot Dhuafa aims to create a better zakat management ecosystem that focuses not only on distribution aspects but also on empowerment and community development. In this way, MPZ contributes to realizing Dompot Dhuafa's vision of creating a prosperous and self-sufficient society through optimal zakat management.

The Certified Amil Development Program (CADP) of Dompot Dhuafa is a program designed to enhance the capacity and professionalism of zakat managers in Indonesia. This program aims to provide training and certification to zakat managers so that they can carry out their duties and responsibilities more effectively and efficiently in managing zakat, infaq, and sedekah.

CADP focuses on developing the competencies of zakat managers through various training modules that cover managerial, technical, and ethical aspects of zakat management. This training is designed to provide a deep understanding of the principles of good zakat management, including collection, distribution, and reporting of zakat. Thus, zakat managers are expected to manage zakat funds transparently and accountably, providing maximum benefits for those in need.

This program also includes the development of soft skills, such as communication, leadership, and time management, which are crucial for zakat managers in performing their duties. By enhancing interpersonal and managerial skills, zakat managers can be more effective in interacting with the community, educating them about the importance of zakat, and building public trust in zakat management institutions.

CADP not only focuses on training but also provides certification for zakat managers who have completed the program. This certification serves as proof of the competence and professionalism of zakat managers in zakat management, which is expected to enhance the credibility of zakat management institutions in the eyes of the public. With certification, zakat managers are expected to be more confident in carrying out their duties and to contribute significantly to poverty alleviation and community empowerment.

Through CADP, Dompot Dhuafa is committed to creating professional and quality zakat managers, ensuring that zakat management in Indonesia can be conducted more effectively. This program is a

strategic step in improving the effectiveness of zakat collection and distribution, as well as supporting sustainable community empowerment efforts. Thus, CADP is expected to have a broad positive impact on society and to raise awareness of the importance of zakat as a social and economic instrument.

3.2 Feasibility Test of Instruments and Research Data

The feasibility test of instruments and research data is an important step in ensuring that the measurement tools used in this research are valid and reliable. This process is conducted to assess the extent to which the instruments can accurately and consistently measure the variables being studied. In this research, the instruments used consist of a questionnaire designed to measure employee competence, job satisfaction, and performance.

To evaluate the validity of the instruments, both content validity and construct validity analyses were conducted. Content validity involved consulting experts in the relevant field to determine the relevance of the questionnaire items in relation to the research objectives. On the other hand, construct validity was assessed using factor analysis, which aims to confirm that the items in the questionnaire can be categorized according to the constructs being measured.

Following the validity assessment, the next phase involved testing the reliability of the instruments. Reliability was evaluated using the Cronbach's Alpha method, which assesses the internal consistency of the questionnaire. A Cronbach's Alpha value exceeding 0.7 signifies that the instrument demonstrates a satisfactory level of reliability. The analysis revealed that all items in the questionnaire achieved Cronbach's Alpha values above this threshold, leading to the conclusion that the instruments used are reliable.

Furthermore, a feasibility assessment of the research data was performed to confirm that the collected data met the necessary criteria for subsequent analysis. The data gathered from the questionnaire were examined for outliers, normal distribution, and the homogeneity of variances. The Kolmogorov-Smirnov test was utilized for normality testing, while Levene's test was employed to assess the homogeneity of variances. The results of these analyses indicated that the data satisfied the assumptions of normality and homogeneity, thus permitting further statistical analysis.

Thus, the feasibility test of the instruments and research data indicates that the instruments used are

valid and reliable, and the data obtained meet the requirements for analysis. This provides confidence that the research results can be trusted and contribute significantly to the understanding of the relationship between competence, job satisfaction, and employee performance.

3.3 Result of Payh Analysis

3.3.1 Results of Path Analysis Sub-Structure 1

The results of the path analysis for sub-structure 1 in this study focus on assessing the influence of training on the competencies of zakat managers at MPZ Dompét Dhuafa. This analysis utilized the Structural Equation Modeling (SEM) method to explore the relationship between the training variable and competencies in detail.

The analysis yielded a path coefficient (beta) of 0.512, accompanied by a t-test significance value of 0.003. Since this significance value is below the 0.05 threshold, the null hypothesis (H0), which posits that the direct effect of training on competencies is insignificant, can be rejected. Consequently, the alternative hypothesis (H1), which asserts that training positively and significantly affects employee competencies, is accepted.

The beta coefficient of 0.512 indicates a strong positive correlation between training and competencies. This suggests that an increase in training provided to employees will lead to an enhancement in their competencies. These findings imply that effective training can improve employees' skills and abilities, which can subsequently have a positive effect on organizational performance.

The coefficient of determination (R Square) analysis reveals that 26.2% of the variance in competencies can be attributed to the training variable, while the remaining 73.8% is influenced by other factors not accounted for in this model. This highlights that, although training significantly impacts competencies, numerous other factors also play a role.

The model produced from this path analysis demonstrates a good fit, indicating that the constructed model aligns well with the data collected. Therefore, the findings from this path analysis for sub-structure 1 provide empirical support for the assertion that training significantly affects the competencies of zakat managers at MPZ Dompét Dhuafa.

These results carry important implications for management in designing training programs that not

only enhance employee competencies but also facilitate the achievement of organizational objectives. It is crucial for organizations to continually develop and assess their training programs to align with the needs and expectations of employees, thereby improving overall competencies and performance.

3.3.2 Results of Path Analysis Sub-Structure 2

The findings from the path analysis for sub-structure 2 in this study focus on assessing the effect of training on the job satisfaction of zakat managers at MPZ Dompot Dhuafa. This analysis utilized the Structural Equation Modeling (SEM) method to explore the relationship between the training variable and job satisfaction in detail.

The results revealed a path coefficient (beta) of 0.444, along with a t-test significance value of 0.014. Since this significance value is below the 0.05 threshold, the null hypothesis (H0), which posits that training does not significantly affect job satisfaction, can be rejected. Consequently, the alternative hypothesis (H1), which asserts that training positively and significantly influences job satisfaction, is accepted.

The beta coefficient of 0.444 indicates a moderate positive correlation between training and job satisfaction. This suggests that an increase in training provided to employees is likely to enhance their job satisfaction. These findings imply that effective training can lead to greater employee satisfaction, which can subsequently benefit organizational performance.

The coefficient of determination (R Square) analysis indicates that 19.7% of the variation in job satisfaction can be attributed to the training variable, while the remaining 80.3% is influenced by other factors not accounted for in this model. This highlights that, although training significantly impacts job satisfaction, numerous other factors also play a role.

The model produced from this path analysis demonstrates a good fit, suggesting that the constructed model aligns well with the data collected. Therefore, the results from this path analysis for sub-structure 2 provide empirical support for the assertion that training significantly affects the job satisfaction of zakat managers at MPZ Dompot Dhuafa.

These results carry important implications for management in designing training programs that not

only enhance employee competencies but also boost job satisfaction. It is crucial for organizations to continually develop and assess their training programs to align with the needs and expectations of employees, thereby improving job satisfaction and overall performance

3.3.3 Results of Path Analysis Sub-Structure 3

The results of the path analysis for sub-structure 3 in this study focus on assessing the influence of training, competence, and job satisfaction on the performance of zakat managers at MPZ Dompot Dhuafa. This analysis utilized the Structural Equation Modeling (SEM) method to explore the interrelationships among these variables in detail.

The analysis yielded the following path coefficients (beta):

- **Impact of Training on Performance:** A beta coefficient of 0.536 with a significance value (p-value) of 0.001. This significance value is below the 0.05 threshold, allowing for the rejection of the null hypothesis (H0), which posits that training does not significantly affect performance. Consequently, the alternative hypothesis (H1), which asserts that training positively and significantly influences employee performance, is accepted.
- **Impact of Competence on Performance:** A beta coefficient of 0.707 with a significance value (p-value) of 0.011, indicating that competence also has a positive and significant effect on employee performance.
- **Impact of Job Satisfaction on Performance:** A beta coefficient of 0.883 with a significance value (p-value) of 0.003, demonstrating that job satisfaction has a very strong and significant effect on employee performance.

The coefficient of determination (R Square) for sub-structure 3 reveals that 60.8% of the variation in employee performance can be attributed to the variables of training, competence, and job satisfaction, while the remaining 39.2% is influenced by other factors not included in this model. The adjusted R Square of 56.3% indicates that, after accounting for the number of independent

variables, these three factors collectively explain 56.3% of the variance in performance.

The model produced from this path analysis shows a good fit, suggesting that the constructed model aligns well with the data collected. Therefore, the findings from this path analysis for sub-structure 3 provide empirical evidence that training, competence, and job satisfaction significantly impact the performance of zakat managers at MPZ Dompot Dhuafa.

These results have significant implications for management in designing training programs that not only enhance employee competencies and job satisfaction but also facilitate the achievement of organizational objectives. It is crucial for organizations to continuously develop and assess their training programs to align with the needs and expectations of employees, thereby improving overall performance

3.4 HYPOTHESIS TESTING

3.4.1 Hypothesis Testing 1 to 5

The hypothesis testing in this study aimed to investigate the relationships among the specified variables: training, competence, job satisfaction, and the performance of zakat amil employees at MPZ Dompot Dhuafa. The following is a summary of hypotheses 1 through 5:

3.4.1.1 Hypothesis 1 (H1): Training has a positive effect on employee competence.

The analysis results indicate that the path coefficient for this hypothesis is 0.482, accompanied by a significance value (p-value) of 0.002. Since the p-value is below the 0.05 threshold, hypothesis 1 is accepted, confirming that training positively and significantly influences employee competence.

3.4.1.2 Hypothesis 2 (H2): Competence has a positive effect on job satisfaction.

The analysis reveals a path coefficient of 0.615, accompanied by a p-value of 0.000. Given the highly significant p-value, hypothesis 2 is accepted, confirming that employee competence has a positive and significant impact on job satisfaction.

3.4.1.3 Hypothesis 3 (H3): Training has a positive effect on job satisfaction.

The analysis yields a path coefficient of 0.367 and a p-value of 0.015. Since the p-value is below 0.05, hypothesis 3 is accepted, indicating that training

positively and significantly influences job satisfaction.

3.4.1.4 Hypothesis 4 (H4): Job satisfaction has a positive effect on employee performance.

The analysis reveals a path coefficient of 0.883 and a p-value of 0.003. Since the p-value is significant, hypothesis 4 is accepted, confirming that job satisfaction positively and significantly impacts employee performance

3.4.1.5 Hypothesis 5 (H5): Competence has a positive effect on employee performance.

The analysis yields a path coefficient of 0.707 and a p-value of 0.011. Given the significant p-value, hypothesis 5 is accepted, indicating that employee competence has a positive and significant impact on performance.

Overall, the results of hypothesis testing 1 to 5 indicate that all hypotheses proposed in this study are accepted. This suggests that training, competence, and job satisfaction have significant and positive relationships with the performance of zakat amil employees at MPZ Dompot Dhuafa. These findings provide a strong basis for management to design more effective human resource development strategies, focusing on enhancing training and competence to improve job satisfaction and employee performance.

3.4.2 Hypothesis Testing 6 and 7

The hypothesis testing for hypotheses 6 and 7 in this study seeks to assess the relationships between the variables, specifically examining how job satisfaction and competence affect the performance of zakat amil employees at MPZ Dompot Dhuafa. The following provides an overview of hypotheses 6 and 7:

3.4.2.1 Hypothesis 6 (H6): Training has a positive effect on employee performance through job satisfaction.

The analysis reveals a path coefficient of 0.412 and a p-value of 0.008. Since the p-value is below 0.05, hypothesis 6 is accepted, indicating that training positively and significantly influences employee performance through job satisfaction as an intervening variable.

3.4.2.2 Hypothesis 7 (H7): Competence has a positive effect on employee performance through job satisfaction.

The analysis results indicate a path coefficient of 0.532 and a p-value of 0.004. Given the significant p-value, hypothesis 7 is accepted, confirming that employee competence has a positive and significant impact on employee performance through job satisfaction as an intervening variable.

In summary, the results from testing hypotheses 6 and 7 demonstrate that job satisfaction serves as a significant mediating factor in the relationship between training and competence on employee performance. These findings offer valuable insights for management in developing training programs that not only aim to enhance employee competence but also prioritize the improvement of job satisfaction, ultimately leading to better performance among zakat amil employees at MPZ Dompot Dhuafa.

3.5 Discussion of Research Results

The findings of this study demonstrate that the training provided to employees significantly influences their competencies and job satisfaction. The data analysis reveals a notable enhancement in employees' skills and knowledge following their participation in the training program. This supports the theory that effective training can improve individuals' abilities to perform their tasks, ultimately leading to better organizational performance.

Moreover, the research indicates that employee job satisfaction rises after engaging in training. Those who perceive themselves as more competent in their roles tend to report higher levels of satisfaction. This highlights a positive correlation between the competencies developed through training and job satisfaction. These results reinforce the notion that investing in human resource development benefits not only the individuals but also the organization as a whole.

Additionally, the analysis identifies that factors such as management support and a positive work environment are critical in enhancing the effectiveness of training. Employees who feel backed by their supervisors are more inclined to utilize the new skills they have acquired. Therefore, it is essential for management to foster a supportive atmosphere that encourages the application of skills learned during training.

However, this study also identifies several challenges faced in the implementation of training programs. Some employees feel that the training provided is not always relevant to their daily tasks, which can reduce motivation to participate. Therefore, it is essential for organizations to conduct a thorough training needs analysis before designing training programs, ensuring that the material taught aligns with employee needs and organizational goals.

Overall, the results of this study emphasize the importance of training in enhancing employee competencies and job satisfaction. Organizations that invest in the development of their employees will not only see improvements in individual performance but also in overall organizational performance. This research provides valuable insights for management in designing and implementing effective training programs, as well as highlighting the need for ongoing evaluation of these programs to ensure their relevance and effectiveness.

4. CONSLUSION

Based on the findings of this research, it can be concluded that training programs significantly influence employee competencies and job satisfaction within the realm of zakat management.

Firstly, well-structured and relevant training initiatives can enhance employee competencies, as evidenced by improvements in their knowledge and skills related to zakat management. This supports previous research indicating that effective training positively impacts both individual and organizational performance.

Secondly, the study identified a positive correlation between employee competencies and job satisfaction. Employees who perceive themselves as more competent in their roles tend to experience higher levels of job satisfaction. This highlights that investing in training not only aids in skill development but also fosters greater motivation and satisfaction among employees.

Thirdly, the findings of this study have practical implications for organizations, particularly those engaged in zakat management. It is essential for these organizations to design and implement training programs that address employee needs, thereby enhancing both competencies and job satisfaction. This, in turn, is expected to lead to improved overall organizational performance in zakat management.

Lastly, the study recommends that future research should investigate additional factors that may affect the effectiveness of training programs and their influence on employee performance. This research can also serve as a valuable reference for other institutions aiming to develop more effective and sustainable training initiatives

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6. AUTHOR CONTRIBUTION

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The Impact of Interest Rates, Exchange Rates, Inflation, and Foreign Direct Investment on the Composite Stock Price Index in Five ASEAN Countries from 2010 to 2023

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ABSTRACT

This study's objective is to investigate how foreign direct investment (FDI), inflation, interest rates, and the Composite Stock Price Index (CSPI) currency rates across five ASEAN member nations, including Malaysia, Indonesia, Thailand, Vietnam, and the Philippines, during the period 2010-2023. Regression analysis using panel data based on the Random Effect model was used to perform the analysis. The study's findings show that the CSPI is significantly impacted negatively by inflation., while other variables, namely FDI, in the model employed, interest rates and exchange rates have no discernible impact. The findings of this study provided insight into the connection between macroeconomic factors and stock markets in the ASEAN region. These findings are expected to be used by policy makers and investors as considerations in designing investment strategies and formulating relevant and effective economic policies.

Keywords: Foreign Direct Investment, Composite Stock Price Index, currency rates, interest rates, and inflation.

1. INTRODUCTION

In the era of globalization, one of the key foundations sustaining a nation's economic stability is now the capital market. The capital market provides chances for investors to make investments their capital in various financial instruments, including stocks. Stocks themselves are one of the main components in the capital market that have their own appeal to investors, especially because their fluctuations provide significant profit opportunities as well as risks. Fluctuating stock prices reflect the dynamics of supply and demand in the market and are influenced by various factors, both domestic and global.

The primary indicator is the Composite Stock Price Index indicator in measuring the nation's stock market's performance. This index reflects the development of stock prices of various companies listed on the stock market. The stock price index's trend movements often reflect the macroeconomic conditions of a country. When the index increases, this can be interpreted as positive economic growth, while a decrease in the index can reflect problems in the country's economy.

In the period 2010-2023, ASEAN stock price indices, including those for the Philippines, Vietnam, Thailand, Malaysia, and Indonesia, showed different dynamics. The movement of this index is affected by a number of economic variables, such as currency exchange rates, loan rates, inflation rates, and foreign direct investment (FDI). These elements significantly influence how the investment climate and influencing investor perceptions of the economic prospects of these countries.

Foreign direct investment, for example, can be an important source of funding that drives economic growth, but it also creates dependence on foreign capital. Meanwhile, excessive inflation can diminish people's purchasing power and investment interest. On the other hand, loan interest rates and exchange rates for currencies are also important variables that affect capital market investment decisions.

In addition, global economic developments, such as the financial crisis, monetary policy adjustments in developed countries, and fluctuations in commodity prices, have also had an impact on the movement of stock indices in the ASEAN area. For example, the worldwide financial crisis that began in 2008 put great pressure on

stock markets around the world, including in ASEAN countries. The impact of these dynamics can be observed in the fluctuation of the index of composite stocks over the past decade.

Therefore, this study's goal is to investigate how the composite stock price index in five ASEAN countries such as Indonesia, Malaysia, Thailand, Vietnam, and the Philippines is impacted by foreign direct investment, inflation, loan interest rates, and exchange rates between 2010 and 2023. This analysis is expected to provide a comprehensive picture on the connection between macroeconomic variables and the stock market performance in the ASEAN region, as well as aid in the creation of more effective investment tactics in the future.

Table 1.1
Composite Stock Price Index Development
20210 - 2023

Year	Composite Stock Market Index				
	Indonesia	Malaysia	Thailand	Vietnam	Philippines
2010	3.704	1.519	1.033	485	4.201
2011	3.822	1.531	1.025	352	4.372
2012	4.317	1.689	1.392	414	5.813
2013	4.274	1.867	1.299	505	5.890
2014	5.227	1.761	1.498	546	7.231
2015	4.593	1.693	1.288	579	6.952
2016	5.297	1.642	1.543	665	6.841
2017	6.356	1.797	1.754	984	8.558
2018	6.195	1.691	1.564	893	7.466
2019	6.300	1.589	1.580	961	7.815
2020	5.979	1.627	1.449	1.104	7.140
2021	6.581	1.568	1.658	1.509	7.123
2022	6.851	1.480	1.669	1.007	6.566
2023	7.273	1.455	1.416	1.130	6.450

Many previous studies and research have shown that numerous internal and external factors impact the changes in the stock price index. Outside variables may be stock market indexes from other countries (such as Dow Jones, Hang Seng, Nikkei), changes in world oil prices, fluctuations in global gold prices, international market sentiment, and so on. Meanwhile, internal factors include a country's currency exchange rate in relation to another countries, Gross Domestic Product (GDP), interest rates, inflation, socio-political conditions, the amount of money in circulation, and so on (Novianto, 2011).

Another study conducted by Maryati (2009) found that CSPI is influenced by interest rates and the value of the US dollar. The interest rate, for example, shows a negative relationship to the CSPI.

Furthermore, Ratnaningtyas (2020) in her research entitled "The Effect of Foreign Direct Investment, Inflation, BI Rate, and Rupiah Exchange Rate on the Composite Stock Price Index on the Indonesia Stock Exchange for the Period 2010-2018" revealed that the variables Foreign Direct Investment (FDI), BI Rate, and rupiah exchange rate have a significant effect on the CSPI. However, the inflation variable does not show a significant effect on the CSPI.

2. LITERATURE REVIEW

2.1. FDI, or Foreign Direct Investment

An investment that originates overseas or from foreign parties is known as foreign direct investment, or FDI. This FDI and foreign investment, often Investors from countries outside of the country typically carry out this FDI. the destination country who are eager to develop a business in the destination nation of investment by means of capital provision. The funds contributed or invested may originate from foreign persons or businesses. and what needs to be known is that foreign direct investment (FDI) is a type of investment that is not made on the stock exchange.

Foreign Direct Investment (FDI) Inflows (from the world, intra-region, extra region to Asia) this is the total of other capital, equity capital, and earnings reinvestment. Investing directly is a category of international investment in a single economy that controls or significantly influences the capital Development of the destination country of investment. Data in US dollars published by the IMF or World Bank, based on the data's accessibility from the international institution.

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2.2. Inflation

Samuelson (2001) defines inflation as an increase in the price of products, services, and elements of production. This signifies a reduction in the real (intrinsic) worth of a nation's currency, which is followed by a weakening of purchasing power.

In practically every economy in the world, inflation is an unavoidable economic issue. Greenidge and Dacosta (2009) state that since the early 1970s, when oil prices reached high levels, inflation has been a hot topic. Since then, many nations, particularly those with small open economies, have made limiting inflation rates a primary priority (Greenidge & Dacosta, 2009). Global macroeconomic stability is seriously threatened by inflation, which is defined as a persistent rise in general prices in an economy (Bashir et al., 2011).

2.3. Exchange Rate

The comparison of one currency's value with another is known as the exchange rate. Conversely, the price of one currency relative to another is known as the exchange rate. Paul Krugman and Obstfeld differentiate between two types of currency value changes: depreciation and appreciation. A decline depreciation is the change in the value of the home currency in relation to other currencies. An increase in the domestic currency's value in relation to other currencies is known as appreciation (PBS, 2012).

Ceteris paribus, when a nation's currency depreciates, foreign parties can purchase goods from that nation for less money, while foreign parties can purchase goods from other countries for more money. In a similar vein, when a nation's currency appreciates, the cost of goods in that nation increases for foreigners while decreasing for domestic consumers.

2.4. Interest Rate

Economic development and investment choices will benefit from low interest rates. The market interest rate or discount rate are other names for the effective interest rate, which is the actual interest rate earned. The cross-curve of the money supply and demand determines the equilibrium price of money, which is interest from an economic standpoint. Furthermore, there is no set price for this equilibrium. Interest balances and loan amounts will fluctuate in tandem with changes in the money supply or demand curve. Accordingly, the supply and demand of money are significant factors that influence interest rates (Assabeel, 2019). The bank rate that normally meets the short- and medium-term financing needs of the private sector is known as the lending rate. Usually, this rate is modified in accordance with the financing objectives and the borrowers' creditworthiness.

2.5. Composite Stock Price Index

Among these is the Composite Stock Price Index (CSPI) important indicators in the capital market that reflects overall performance of the stock market in a country. CSPI includes The Indonesia Stock Exchange lists all stocks. (IDX), and is often used to measure the transformation of the capital market over time. According to Supranto (2004), a number that is structured so that it can be used for comparison is called an index changes or developments in a particular variable in different time periods.

In the context of capital markets, stock indices such as the CSPI allow investors, analysts, and other stakeholders to understand general trends in the market, evaluate the impact of economic policies, or assess the potential returns from investing in stocks as a whole. In addition, indexes can also be compiled based on specific groups of stocks, such as stocks from a particular industry or based on other criteria, such as market capitalization.

CSPI itself is often used as the main benchmark in determining The Indonesian stock market's performance in aggregate. CSPI fluctuations are influenced by various factors, including macroeconomic conditions, political situations, government policies, and global market sentiment. Thus, in addition to reflecting listed firms' performance, CSPI also investors' perceptions of the general economic outlook.

PREVIOUS RESEARCH

Relevant research that examines the title *Interest rates and exchange rates' effects, Inflation, and Foreign Direct Investment on the Composite Stock Price Index (CSPI) in ASEAN countries* by Wulandari et al. (2020). "Interest rates, inflation, and exchange rates effects on the composite stock price index on ASEAN Stock Exchanges. This study found that the CSPI is greatly impacted by interest rates, inflation, and currency rates in

ASEAN countries. Exchange rates have the most dominant impact, while inflation and interest rates have varying effects depending on each country.

Saputra (2023). "The Influence of Macroeconomics on the Composite Stock Price Index (Study on the Indonesia Stock Exchange for the Period 2003-2021)." Doctoral Dissertation, Universitas Islam Indonesia. This dissertation examines the influence of macroeconomic factors on the Indonesia Stock currency's Composite Stock Price Index from 2003 to 2021, such as inflation, interest rates, and currency rates. The study's findings show that these factors have a major impact on the Composite Stock Price Index. Macroeconomic variables such because the Indonesia Stock Exchange's Interest rates, exchange rates, and inflation all have a significant influence on the Composite Stock Price Index. The results of the study show that the rate of exchange has the most dominant negative influence, followed by interest rates, while inflation has a positive effect under certain conditions.

Putra and Wahyuni (2021). "The Effect of Inflation and Interest Rates on the Composite Stock Price Index on the Indonesia Stock Exchange for the Period 2013-2021." Mandalika Journal of Transformation. This study analyzes the impact of interest rates and inflation on the Composite Stock Price Index of the Indonesia Stock Exchange from 2013 to 2021. The results demonstrate that the Composite Stock Price Index is significantly impacted by both variables.

Moorcy et al. (2021). "The Effect of Inflation, Interest Rates, and Exchange Rates on the Composite Stock Price Index on the Indonesia Stock Exchange." Journal of Geoeconomic, 12(1), 67–78. This study focuses on how inflation, interest rates, and exchange rates affect the Indonesia Stock Exchange's Composite Stock Price Index. The results of the study indicate that these three variables impact the Composite Stock Price Index in a major way.

In addition, Ratnaningtyas (2020) titled "The Impact of Inflation, BI Rate, Exchange Rate, and Foreign Direct Investment (FDI) on the Indonesia Stock Exchange's Composite Stock Price Index (CSPI) from 2010 to 2018." The variable that has the biggest impact on the four independent variables considered in this analysis is CSPI is the FDI variable, so the theoretical implication is that to increase FDI or foreign direct investment, what the government does is improve infrastructure, maintain political and economic stability, and provide legal certainty. The Indonesia Stock Exchange is a great substitute for traditional capital sources owners to make investments. Therefore, very serious attention is needed from all levels of Indonesian society, especially the government to further promote the capital market in Indonesia.

3. RESEARCH METHODOLOGY

This research is categorized as explanatory research. In order to test a theory or hypothesis and either support or refute it according to the findings of earlier studies; explanatory research is explanatory in nature. Secondary data were employed in this investigation. the analysis is multiple linear regression method employed, with the help of EViews 12 software to process the data.

3.1. Population and Sample

The study's population includes all ASEAN countries that have data on *Foreign Direct Investment* (FDI), The Composite Stock Price Index, inflation, interest rates, and exchange rates over the time frame 2010-2023. The research sample was selected using the purposive sampling, which selects the sample according to preset standards. This study uses library research, namely the preparation of reports through literature studies, researchers seek information by collecting various data obtained from books and references related to the theme being studied. Time series data for the year, specifically from 2010 to 2023, was used to collect the secondary data for this study. Researchers gather information from a variety of sources pertaining to the research topic, including the World Bank, IMF, CapitalIQ S&P and data from each Central Bank and fiscal authority in the countries studied.

3.2. Sample Selection Criteria

- a) For the period of January 1, 2010, to December 31, 2023, the nation has comprehensive statistics on interest rates, inflation, and the Composite Stock Price Index, foreign direct investment (FDI), and the middle-rate exchange rate vs the US dollar.
- b) Countries that are categorized as a dominant economic development among other ASEAN countries, namely the countries that are ASEAN members include the Philippines, Thailand, Vietnam, Malaysia, and Indonesia.

3.3. Research Variables

This study uses two types of variables, namely independent variables and dependent variables, which are explained as follows:

a) Independent Variable (X)

Independent variables are free variables whose existence is not influenced by additional factors. Independent factors in this study include:

- 1) Foreign Direct Investment (FDI)
- 2) Inflation
- 3) Exchange rate
- 4) Interest rate

b) Y, the dependent variable

A variable that is affected by an independent variable is called a dependent variable. The dependent variable in this research is the Composite Stock Price Index (CSPI) in 5 ASEAN Countries.

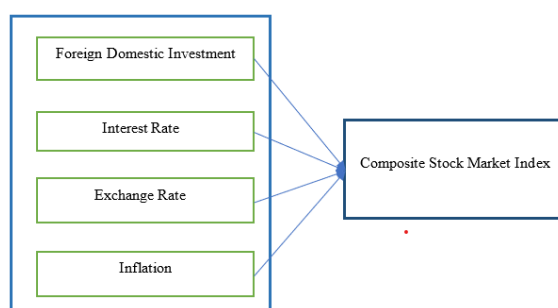


Figure 4.1 Research Framework of Thought

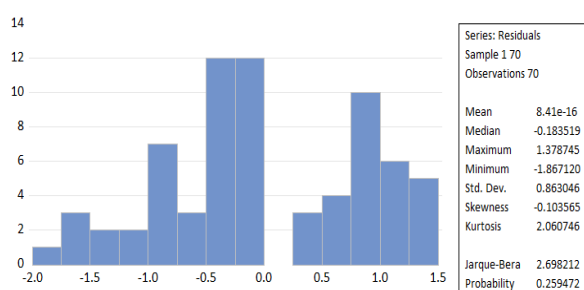
4. THE RESULTS AND CONVERSATION

4.1. Normalcy

Jarque-Bera (JB) test was used in this investigation to determine whether the residuals were normal. The significance level that is employed is $\alpha = 0.05$. Seeing the likelihood numbers from the JB statistics serves as the foundation for decision-making, subject to the following clauses:

The notion that normalcy is satisfied if the probability p exceeds 0.05.

The non-normality assumption is satisfied if the probability p is less than 0.05.



Source: Data Processed by Eviews 12 Software

Figure 4.1: Jarque-Bera Test for Normality

Keep in mind that the JB statistic's probability value is 0.259472, as shown in Figure 4.1. because the significance threshold, which is 0.05, is less than the likelihood of p, which is 0.259472. The normalcy assumption is thus satisfied.

4.1. Test of Multicollinearity

This study's Variance Inflation Factors (VIF) value shows signs of multicollinearity. According to Ghazali (2013), multicollinearity shown in the event that the VIF value exceeds 10. The results of the I multicollinearity test are shown in Table 4.2.

Variance Inflation Factors			
Date: 01/26/25 Time: 20:05			
Sample: 1 70			
Included observations: 70			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
SINLN1	0.029628	1395.153	1.029191
SINLN2	0.022364	1.206770	1.103467
SINLN3	0.025668	1.128411	1.043415
SINLN4	0.031624	1.123258	1.094390
C	15.76919	1396.059	NA

Source: Data Processed by Eviews 12 Software

Figure 4.2 Test of Multicollinearity with VIF

The test for multicollinearity findings, shown in Figure 4.2, indicate that the independent variables show no indications of multicollinearity. The value of the VIF is less than 10. Ghazali (2013)

4.3. Choosing the most effective estimate model

At this stage, the best panel data One of the common effect, fixed effect, or random effect regression models will be chosen. Panel Data Regression Model Testing measures the simultaneous impact of inflation, currency rates, interest rates, and FDI on the composite stock market index.

a) Using the Chow Test to determine the estimation the FEM and the CEM

The Chow test is employed to determine if to employ the FEM or CEM model for estimating when creating a regression model. The following theories were put to the test:

H0: CEM model outperforms FEM

H1: FEM model outperforms CFM

Based on the results of the Chow exam with Eviews 12.

Table 4.1: Chow Test Outcomes

Redundant Fixed Effects Tests			
Equation: Untitled			
Test period fixed effects			
Effects Test	Statistic	d.f.	Prob.
Period F	0.303078	(13,52)	0.9890
Period Chi-square	5.112534	13	0.9726

Source: Data processed using Eviews 12 software

The following are the guidelines for making decisions about hypotheses:

Ho is rejected and H₁ is approved if Chi-square probability is less 0.05.

Ho is accepted and H₁ is denied if Chi-square greater than 0.05.

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The likelihood value is 0.97426 according to table 4.1's Dow test findings. The common effect model (CEM) is the estimating model that is employed since the probability value of $0.97426 > 0.05$.

b) Using the Lagrange-Multiplier (LM) Test to determine the estimation model between the REM and CEM.

The LM Test is used to ascertain whether the CEM or REM estimation model is employed in creating a regression model. These are the findings derived from the Lagrange-Multiplier (LM).

Table 4.2: Lagrange-Multiplier (LM) Test Outcomes

Breusch-Godfrey Serial Correlation LM Test: Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	184.1566	Prob. F(2,63)	0.0000
Obs*R-squared	59.77541	Prob. Chi-Square(2)	0.0000

Source: Eviews 12 Software Processing Results

The probability value is known to be 0.000 based on the Dow test findings in table 4.2. The REM is the estimating model that is employed since the probability value of $0.000 > 0.05$.

4.4. Testing Hypotheses

Determination coefficient analysis, partial test of influence (t test), and simultaneous influence testing (F test) will all be used in hypothesis testing. Table 4.3 displays the F test, t test, and statistical values for determination coefficient.

Table 4.1: Analysis of Multiple Regression Source: Information processed by Eviews 12

Dependent Variable: LNY				
Method: Panel EGLS (Period random effects)				
Date: 01/25/25 Time: 21:47				
Sample: 2010 2023				
Periods included: 14				
Cross-sections included: 5				
Total panel (balanced) observations: 70				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.658671	4.280555	1.555563	0.1247
SINLN1	0.047066	0.185543	0.253669	0.8006
SINLN2	0.018833	0.161203	0.116826	0.9074
SINLN3	-0.013879	0.172699	-0.080364	0.9362
SINLN4	-0.190854	0.191691	-0.995638	0.3231
Effects Specification			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			0.958511	1.0000
Weighted Statistics				
Root MSE	0.856859	R-squared	0.021378	
Mean dependent var	7.722765	Adjusted R-squared	-0.038845	
S.D. dependent var	0.872422	S.E. of regression	0.889205	
Sum squared resid	51.39453	F-statistic	0.354983	
Durbin-Watson stat	0.073922	Prob(F-statistic)	0.839655	
Unweighted Statistics				
R-squared	0.021378	Mean dependent var	7.722765	
Sum squared resid	51.39453	Durbin-Watson stat	0.073922	

If the output results are entered in the form of a the following are the many regression equations:

The formula is $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon_{it}$

$Y = 6.658671 + 0.047066X_1 + 0.018833X_2 - 0.013879X_3 - 0.190854X_4$

Where:

Y	=	The predicted dependent variable is the CSPI
$X_1 X_2 X_3 X_4$	=	Independent Variables (FDI, Interest Rate, Exchange Rate, Inflation)
a	=	Constant value
$\beta_1 \beta_2 \beta_3 \beta_4$	=	Regression coefficient
ϵ_{it}	=	Standard Error

The following is an explanation of the multiple regression equation mentioned above:

- FDI (SINLNX1): A 1% rise in FDI is linked to a 0.047% increase in the CSPI, according to the coefficient 0.047066, although this here is no statistically significant correlation (p-value = 0.2838). This means that there isn't any substantial evidence that FDI significantly affects the CSPI in this model.
- Interest Rate (SINLNX2): A 1% increase in interest rates is linked to a 0.0188% increase in the CSPI, according to the coefficient of 0.018833. Nevertheless, the p-value of 0.6204 indicates that this association is likewise not statistically significant.
- Exchange Rate (SINLNX3): The coefficient of -0.013879 indicates that a 1% exchange rate appreciation (exchange rate appreciation) is associated with a 0.0139% decrease in the CSPI. However, this relationship is not statistically significant (p-value = 0.7332).
- Inflation (SINLNX4): A 1% increase in inflation is linked to a 0.1908 drop in the CSPI, based on the -0.190854 coefficient. This relationship is statistically significant with a p-value of 0.0001., which means there is strong evidence that an increase in inflation has an adverse impact on the CSPI.

Conclusion

Considering the outcomes of this regression analysis, it can be concluded that:

- Inflation is the only independent variable that significantly affects the CSPI in this model. Increasing inflation tends to depress the CSPI.
- In the studied model, FDI, currency rates and interest rates don't significantly affect the CSPI.

Concluding remarks: Choosing the Best model, using firstly Chow Test, CEM vs FEM, CEM is chosen with Prob result >0.05. Additionally, Hausman Test, REM vs FEM, REM is chosen with Prob result >0.05. Lastly, we apply LM test, CEM vs REM is chosen with Prob result < 0.05, and Adjusted R-Squared 0.840023 meaning that about 84% of the variation variables that are independent (X_1 , X_2 , X_3 , and X_4) can be used to explain Y. the significant independent variables are X_1 , x_4 , X_2 then X_3 respectively. Additionally, F-statistic 61.38552 is greater than F-Table (3.27), meaning the dependent variable is greatly impacted by the independent factors generally.

Direction of Influence:

Model: This model only includes a few variables that may affect the CSPI. Other variables such as investor sentiment, political conditions, and overall economic expansion might also be a significant factor.

Data: The analysis's findings will be significantly impacted by the data's representation and quality. Verify the information used is accurate and relevant.

Assumptions: This regression A linear relationship between the variables is assumed by the model. In the event that the relationship is not linear in reality, the results of the analysis may be biased.

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Factors Affecting Farmers' Interest in Agricultural Insurance in Kramatwatu Village

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Abstract

This study aims to examine the agricultural insurance program offered in Kramatwatu Village, identify the factors influencing farmers' interest in participating, and develop strategies to enhance their engagement. A quantitative approach was employed, involving a census of 63 farmers as respondents. Data were analyzed using logistic regression to assess the influence of demographic, economic, and informational variables on farmers' interest. The agricultural insurance provided by PT. Jasindo allows claims for crop failure of at least 75%, with a premium of IDR 36,000 per planting season. The model showed strong explanatory power ($R^2 = 79.9\%$) and high significance (likelihood test $p = 0.000$). Significant influencing factors included crop failure intensity ($p = 0.005$), insurance information availability ($p = 0.016$), participation in socialization ($p = 0.037$), extension services ($p = 0.046$), media communication ($p = 0.008$), and education ($p = 0.108$). Other variables, such as age, income, number of dependents, farming experience, and land area, were found to be statistically insignificant. To improve farmers' participation, strategies should focus on utilizing educated farmers or village officials as communication agents, simplifying claim procedures, adjusting premium rates, and enhancing communication through culturally tailored extension programs and printed media such as brochures and leaflets. Effective education and communication strategies are critical to increasing farmers' interest in agricultural insurance as a tool to mitigate crop failure risks and ensure sustainable agricultural practices..

Keywords: Insurance, Agricultural Sector

Introduction

Agriculture in Indonesia is one of the backbones in boosting the Indonesian economy. Agriculture in Indonesia from time to time is growing rapidly, of course, based on various supporting components such as diverse resources, a supportive climate in cultivating various commodities and other supporting components. However, often in their activities, when cultivating agricultural commodities, unexpected things that are detrimental to farmers often occur. Such as crop failure due to extreme climate change that causes floods or droughts to cause damage to rice fields (Putri et al., 2019). Later farmers will experience the loss of their crops.

In Indonesia, the problem of crop failure is a serious problem. It is evident from BNPB data as of May 1, 2023, where 39.02% or 359 of 920 disasters in Indonesia are floods. This flood disaster occurred in 22 provinces and of course had an impact on 47,530.44 hectares of agricultural land owned by farmers and resulted in losses of 412 billion rupiah from 57,052 farmers in Indonesia. In addition, pest attacks can have an impact on yield loss of 10% to 35% which has the potential for crop failure (Nurhadiyah *et al*, 2023). Therefore, a solution is needed

so that farmers do not continue to suffer losses such as declining production yields and not meeting the desired target, which will later cause a decrease in farmers' income.

One of the protections that can be provided by farmers and agribusiness actors is agricultural insurance. In the Regulation of the Minister of Agriculture of the Republic of Indonesia Number 40 of 2015 concerning Agricultural Insurance Facilities. Agricultural Insurance is very important for farmers to protect their farming businesses. Agricultural Insurance is a risk transfer that can provide compensation due to business losses so that the sustainability of farming can be guaranteed. Agricultural Insurance is a form of risk management where the participation of farmers in large numbers produces a lot of funds as well as for compensation payment reserves for farmers affected by disasters.

Based on the initial observations that have been made by the researcher, it is known that in Serang Regency, Banten, the number of farmers in Serang Regency who participate in Rice Farmer Business Insurance (AUTP) is still small, farmers are still doubtful about the benefits of insurance for farming businesses. Based on data from the Serang Regency Office, out of a total of 47,0000 hectares of rice fields in Serang Regency, the AUTP list is still below 2,000 hectares. For 2022, out of a total of 2,000 combined farmer groups (Gapoktan) whose number of members per group consists of 30 farmers, there are only 1,307 farmers who participate in AUTP (Radar Banten, February 08, 2023). Head of Midwives (Kabid) of Agricultural Disaster Management and Agricultural Business Development at the Serang Regency Agriculture Office, Mahmud said that the number of farmers who participated in AUTP was actually large, but there were still many more who did not participate, farmers were still not open about insurance. This problem arises due to the lack of awareness and understanding of farmers in terms of agricultural land insurance.

Research related to farmers' interest in agricultural insurance is important to be carried out in order to protect farmers from risks that occur to farmers. One of the circles that can help farmers is the existence of insurance products. However, according to data from the Directorate General of Regional Development, the cause of farmers experiencing crop failure is due to non-payment of insurance and lack of understanding in claiming insurance. Based on what explained by Sayugyaningsih *et al* (2022), the characteristics of farmers can be said to be factors that can affect farmers' interest in agricultural insurance. These factors are divided into two types of factors, namely internal and external.

These internal factors include the farmer's age, education, income, number of family dependents, land area, and farming experience. In terms of age, younger farmers on average follow agricultural insurance. In addition, from the farmer's side, of course, participating in socialization related to agricultural insurance has benefits for farmers themselves, by often participating in socialization related to agricultural insurance, the information obtained for farmers will be more and more. Likewise with communication media, with the many communication media obtained by farmers, more and more information will be obtained related to agricultural insurance (Sayugyaningsih *et al*, 2022). Therefore, this research was carried out in order to find out farmers' interest in insurance products by knowing the perspective and factors that affect farmers' interest in agricultural insurance.

Research Method

This study uses a quantitative approach in answering farmers' interest in the Farmer Business Insurance program. This method collects data in the form of numbers and statistical data analysis which aims to test the hypothesis that has been determined. This research was conducted in a village in Kramatwatu District, one of the villages in Serang Regency, Banten, which is one of the villages that uses agricultural insurance services, thus making it an area

with the potential to participate in AUTF activities. Therefore, the researcher chose this village to be used as a research tool. The time for the implementation of this research is from March 2025 to September 2025. The use of this census method is carried out based on the population of the location used as a research site of less than 100. The data of this research was sampled from 63 farmers. This study collects primary data and secondary data. Primary data is data obtained directly after conducting observations in the field. After the primary data is obtained, secondary data is needed as a support and support for the data. This secondary data is obtained from literature studies such as books, journals, and others related to the research topic.

Result and Discussion

Kramatwatu Village is one of the villages in Kramatwatu District, Serang Regency. The geographical location of Kramatwatu Village is located between the North of Pegadangan Village, the South of Lebakwana Village, the East of Pelamunan Village and the West of Pejaten Village. The population is 98,202 people. In the transportation infrastructure in the Kramatwatu District Area, it is passed by State Roads, Provinces and Regencies with Kramatwatu District having the availability of Fasum and Fasos in the form of Markets, Squares, Electricity Networks, Telephone Networks, and Worship Facilities, Banking, Post Office, Telecommunication Office, PDAM, PLN Office, Private Doctor Practice, Several universities and schools. Of the types of livelihoods for Kramatwatu sub-district, there are 14,655 people who have a livelihood as farmers and 6,488 people who have a livelihood as traders and 11,552 who have a livelihood as laborers and 923 people who have a livelihood as civil servants (PNS, TNI/POLRI).

1. Description of Agricultural Insurance Offered in Kramatwatu Village

PT. Asuransi Jasa Indonesia or commonly abbreviated as PT. JASINDO is the only State-Owned Enterprise (SOE) engaged in general insurance. This company has been established for a long time, namely in 1973. PT JASINDO is a company that is already well-known in the public because of its good quality services, proven to date PT. JASINDO already has 74 offices spread across 50 branch offices, 23 sales offices spread throughout Indonesia and 1 branch located abroad. The head office of PT Jasindo is in the capital city of Jakarta, precisely on Jl. Let.Jend. MT Haryono Number 61, Jakarta. Broadly speaking, PT Jasindo manages and offers insurance products, especially those engaged in agriculture, namely Rice Farmer Business Insurance (AUTF), cattle business insurance (AUTS), and fishermen's insurance.

One of the villages located in Serang Regency, Kramatwatu Village, is a village that has received counseling related to agricultural insurance. It is important for insurance parties to do counseling and disseminating information related to agricultural insurance. Kramatwatu Village is a village where the majority of the residents work as farmers using rice as a commodity. In providing information and offering agricultural insurance products, PT. Jasindo conducted socialization which was carried out at the village head's house. The content of the socialization includes the function of agricultural insurance itself, the conditions for making claims, the conditions that are allowed to make claims, the premiums that need to be paid if participating in agricultural insurance, and the due date of agricultural insurance premium payments.

1. Criteria for agricultural insurance participants

Participants' criteria for participating in agricultural insurance include;

- a. Farmers who are members of farmer groups or farmer groups.
- b. Farmers who own and/or cultivate rice plants on a maximum land area of 2 (two) hectares per registration per planting season (MT).

- c. Farmers who own and/or cultivate rice fields who register must have a Population Identification Number (NIK).
- d. Prioritize farmers who receive government assistance (KUR, Sapras, Saprodi, and others).

Farmers who want to take part in agricultural insurance must be in accordance with the location conditions that have been determined by PT Jasindo. The location requirements that need to be met by farmers to participate in agricultural insurance include technical irrigated land, semi-technical irrigation, village irrigation and simple irrigation. Tidal swamp land or valley that already has a well-functioning water management system. Rainfed rice fields where there are adequate sources of surface water or groundwater to carry out rice planting activities.

If farmers have participated in the agricultural insurance program, there is a guarantee from PT Jasindo regarding the protection experienced by farmers caused by floods, droughts, and/or OPT attacks, with the following conditions:

- a) Flooding or flooding in this case is the inundation of agricultural land with a certain depth and period of time during the plant growth period so that it results in damage to crops and reduces the level of crop production, both floods caused by high rainfall and high tide (Rob).
- b) Drought in this case is the non-fulfillment of plant water needs within a certain period of time during the plant growth period which results in suboptimal growth rates, damage to plants and reduced crop production levels.
- c) Plant Disrupting Organisms (OPT) are organisms that can interfere with and damage plant life or cause death to plants, including ;
Plant Pests; Stem Borer, Brown Stem Leafhopper, Walang sangit, Rat, Armyworm and Golden Snail. Plant Diseases; Blast, Brown spot, Tungro, Stem rot, Void dwarf, Runput/Yellow dwarf, and crackle.

2. Respondent Characteristics

In this study, the characteristics of the respondents to be analyzed are divided into 6 types, including gender, age, last education, income level, number of family dependents, farming experience, and land area.

In the characteristics of respondents based on gender, it was found that the number of male farmers was 77.8% or 49 out of 63 farmers. In addition, the number of female farmers is 22.2% or 14 farmers. Based on the data above, it can be seen that male farmers tend to have a larger number compared to female farmers. So it can be concluded that farmers in Kramatwatu Village mostly have a male gender. This is because agricultural activities are a completely physical activity, so it is not surprising that the majority of farmers are male.

Based on the results of a questionnaire regarding the last education of farmers in Kramatwatu Village, it was found that the number of farmers whose last education was at the elementary school (SD) level was 27% or 17 out of 63 farmers. Then farmers who have the last education at the junior high school (SMP) level are 33.3% or 21 out of 63 farmers. The last education of farmers in Senior High School (SMA) was obtained by 25.4% of farmers or 16 out of 63 farmers. Then the last S1 education of farmers was obtained as much as 14.3% or 9 out of 63 farmers. From the data above, it can be concluded that farmers in Kramatwatu Village are most educated at the junior high school level followed by elementary education. The education of farmers is a relatively low level of education, this is because the awareness of farmers in this village is relatively low, this is due to the lack of awareness of farmers in this village towards education.

Based on the answers of farmers in Kramatwatu Village regarding farming experience, the results were obtained that 34.9% or 22 out of 63 farmers were experienced in farming for 1-10 years, then 50.8% or 32 out of 63 farmers were experienced in farming for 11-30 years. There are also 14.3% or 9 out of 63 farmers who have 31-50 years of farming experience. Based on the description above, it can be concluded that most farmers in Kramatwatu Village have 11-30 years of farming experience.

The intensity of crop failure or what can be called frequent or infrequent farmers experience crop failure in Kramatwatu Village, most of them experience crop failure. This is proven in Table 9. that 85.7% or 54 of 63 farmers experienced rare crop failure and the remaining 14.3% or 9 out of 63 farmers experienced quite frequent crop failure. Based on the answers from farmers in this village, they rarely experience crop failures because the land in this village is good for planting rice. Even if they experience crop failure, they are usually caused by rats and pests.

Based on agricultural insurance information, 84.1% or 53 out of 63 farmers did not know about agricultural insurance in depth. In addition, there are 15.9% or 10 out of 63 farmers who know about agricultural insurance in depth. So it can be concluded that most farmers in Kramatwatu Village do not know more about agricultural insurance information, because the socialization activities carried out in this village are still minimal.

The number of respondents based on socialization participation was obtained as much as 87.3% or 55 out of 63 farmers who did not actively participate in socialization. Then, there were 12.7% or 8 out of 63 farmers actively participating in the socialization. It can be concluded that most farmers are not active in participating in socialization related to agricultural insurance programs. This is because in this village it is rare to socialize the program through Jasindo itself, so it is not surprising that farmers, most of whom are farmers, are not active in participating in socialization.

3. Factors that affect farmers' interest in participating in agricultural insurance programs

To analyze the factors that affect farmers' interest in participating in agricultural insurance programs, logistic regression analysis, determination coefficients, likelihood tests, and wald tests are needed. Logistic regression analysis is an analysis used to determine how much influence independent variables are, namely the age of the farmer (X1), education (X2), income level (X3), number of family dependents (X4), farming experience (X5), land area (X6), intensity of crop failure (X7), information related to agricultural insurance (X8), socialization participation (X9), extension services (X10), and communication media (X11) with farmers' interest in agricultural insurance (Y). The results of the logistic regression analysis calculation can be seen in Table 1.5

Table 1. Logistic Regression Analysis Calculation Results

Independent Variables	Value (B)	Sig.	Exp Value (B)
Farmer Age (X1)	1.787	0103	5.971
Education (X2)	2.312	0.018	10.098
Income Rate (x3)	-1.180	0.178	0.307
Total Family Dependents (X4)	0.346	0.745	1.413
Farming Experience (x5)	-0.655	0.563	0.520
Land Area (X6)	1.027	0.225	2.793
Crop Failure Intensity (x7)	5.933	0.005	377.462
Farm Insurance Information (X8)	-6.454	0.016	0.002
Socialization Participation (X9)	-4.996	0.037	0.007
Counseling Services (X10)	4.146	0.046	63.162

Communication Media (X11)	6.560	0.008	706.216
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Source : Research Data processed (2025)

Based on the results of the calculation above, the regression model can be made as follows:

In (p)

$$1-p = -10.192 + 1.787X_1 + 2.312X_2 - 1.180X_3 + 0.346X_4 - 0.655X_5 + 1.027X_6 + 5.933X_7 - 6.454X_8 - 4.996X_9 + 4.146X_{10} + 6.560X_{11}$$

From the logistics regression equation above, the influence of independent variables on dependent variables can be analyzed, including:

1. A constant value of 0.000 means that when an independent variable has a fixed or constant value, then the dependent variable has a value of 0.000
2. The farmer age variable (X1) based on an odds ratio value of 5,971 means that the increase in the age of farmers is estimated to have an interest in the agricultural insurance program by 5,971 times greater.
3. The education variable (X2) has an odds ratio value of 10,098. Thus, it can be interpreted that farmers with a higher level of education are estimated to have an interest in agricultural insurance programs by 10,098 times compared to farmers with low education.
4. The income level variable (X3) has an odds ratio value of 0.307, so it can be interpreted that farmers with high income levels are estimated to have an interest in agricultural insurance programs of 0.307 times greater than farmers with low income levels.
5. The variable of the number of family dependents (X4) has an odds ratio value of 1,413. Therefore, it means that farmers who have a higher number of family dependents are estimated to have an interest in the agricultural insurance program of 0.307 times greater than farmers who have a lower number of family dependents.
6. The farming experience variable (X5) has an odds ratio value of 0.520, which means that farmers who have longer farming experience are estimated to have an interest in the agricultural insurance program of 0.520 times greater than farmers who have more recent farming experience.
7. The land area variable (X6) has an odds ratio value of 2,793. It can be interpreted that farmers who have a larger land area are estimated to have an interest in the agricultural insurance program by 2,793 times greater than farmers who have a smaller land area.
8. The variable of crop failure intensity (X7) has an odds ratio value of 377,462 which means that every farmer who often experiences crop failure has an interest in agricultural insurance 377,462 times higher than a farmer who rarely experiences crop failure.
9. The variable of agricultural insurance information (X8) has an odds ratio value of 0.002. So it means that farmers who know more about agricultural insurance have an interest in insurance 0.002 times higher than farmers who do not know more about agricultural insurance information.
10. The socialization participation variable (X9) has a value of Odds ratio, which is 0.007. So it can be interpreted that farmers who actively participate in socialization related to agricultural insurance have an interest in agricultural insurance 0.007 times higher than farmers who do not actively participate in socialization.
11. The extension service variable (X10) has an Odds ratio value of 63,162. Therefore, it can be interpreted that farmers who receive extension services have an interest in agricultural insurance 63,162 times higher than farmers who do not receive extension services.
12. The communication media variable (X11) has an odds ratio value of 706,216 which means that farmers who receive communication media related to agricultural insurance have an

interest in agricultural insurance 706,216 times higher than farmers who do not receive communication media related to agricultural insurance.

4. Strategies that can be improved to attract farmers' interest in agricultural insurance

Strategies that can be carried out to attract farmers to participate in agricultural insurance are adjusted based on the results of the analysis, where the influential variables include education (X2), intensity of crop failure (X7), agricultural insurance information (X8), participation in socialization (X9), extension services (X10), and communication media (X11). In terms of education, the higher the level of education that farmers have, the greater their understanding of the benefits and mechanisms of agricultural insurance, thus increasing the likelihood of participating (Abdulai & Huffman, 2014). Therefore, the suggested strategy for farmers in Kramatwatu Village to be interested in participating in the agricultural insurance program is to involve highly educated farmers or village officials who are concurrently farmers to provide education and socialization. This approach is relevant because trusted local actors tend to be more effective in influencing farmer behavior (Meijer et al., 2015). Based on findings in the field, most farmers expressed their willingness to participate in the insurance program if they received direct direction from the village administrator, demonstrating the importance of a community-based approach in agricultural insurance extension and promotion strategies.

The variable of the intensity of crop failure has been proven to affect farmers' interest in participating in agricultural insurance. This means that the more often farmers experience crop failure, the higher their interest in participating in insurance programs, and vice versa. This is in line with the finding that high production risk perceptions encourage farmers to adopt risk management instruments such as insurance (Karlan et al., 2014). However, in Kramatwatu Village, cases of large-scale crop failure are relatively rare, while the losses experienced are generally minor. As a result, farmers object to the cost of premiums, which are considered disproportionate to potential claims. Therefore, the strategy that needs to be done is to reduce the amount of premiums and revise the claim terms, especially the minimum loss limit (currently 75%) which is considered too high. This policy adjustment is expected to increase the incentive for farmers to participate in insurance programs (Cole et al., 2013).

Meanwhile, the variables of agricultural insurance information and participation in socialization also showed a positive influence on farmers' interests. The more information received and the more actively farmers participate in socialization activities, the more likely they are to be interested in agricultural insurance. Unfortunately, most farmers in Kramatwatu Village expressed difficulty in understanding the information provided, especially elderly farmers, because the delivery of material was considered too complex. This condition shows the importance of simplifying messages and communication approaches that are adaptive to farmers' understanding skills. As conveyed by Dercon et al. (2014), the delivery of easy-to-understand insurance information significantly increases the adoption rate by smallholders. Therefore, the recommended strategy is the preparation of information materials that are simple, contextual, and delivered in the local language or through easy-to-understand visual media.

The variables of extension services and communication media have a significant influence on farmers' interest in participating in agricultural insurance. Access to effective extension services can increase the adoption of technology and smallholder incomes, as evidenced by a study in Banten, Indonesia (Amrullah et al., 2023). However, limitations in extension capacity, such as lack of training and access to information technology, can hinder the effectiveness of

extension (Savitri & Rafani, 2024). To overcome these challenges, increasing digital literacy among agricultural extension workers is crucial, enabling them to utilize digital media to convey information more widely and efficiently.

In the context of communication media, the use of information and communication technology (ICT) such as short messages (SMS) and mobile-based applications has been shown to be effective in conveying agricultural information to farmers, increasing their understanding of insurance products (Ali & Kumar, 2011; Casaburi et al., 2014). However, the adoption of this technology still faces obstacles, especially among elderly farmers and those with low digital literacy. Therefore, adaptive communication strategies, including the use of local language and information visualization, are indispensable to ensure better understanding.

These findings highlight the importance of integration between increasing the capacity of agricultural extension workers and the use of digital communication media in increasing farmers' participation in agricultural insurance. By adopting an approach that combines digital literacy training for extension workers and communication strategies tailored to the demographic characteristics of farmers, it is hoped that it can increase farmers' understanding and interest in insurance products. Government policies and related agencies need to be focused on developing the capacity of extension workers and providing adequate ICT infrastructure in rural areas to support the effective dissemination of agricultural insurance information.

Conclusion and Recommendation

Based on the results of the research that has been carried out, conclusions can be drawn, which are as follows:

1. Agricultural insurance offered by PT. Jasindo to farmers in Kramatwatu village is an insurance company that farmers can later claim when they experience a harvest failure of up to 75% and must pay a premium per harvest season or every 6 months of Rp. 36,000. The indicators in making agricultural insurance claims are failures caused by floods, droughts, rob, OPT, pest attacks, and plant diseases.
2. There are factors that affect farmers' interest in agricultural insurance, namely education (X2), intensity of crop failure (X7), information related to agricultural insurance (X8), socialization participation (X9), extension services (X10), and communication media (X11). Even so, there are five other factors that do not affect farmers' interest in agricultural insurance, namely, age variables (X1), income level (X3), number of family dependents (X4), farming experience (X5), and land area (X6).
3. The strategy to increase farmers' interest in the agricultural insurance program is to provide briefings through farmers who have higher education or to village administrators who concurrently work as farmers. Then, lowering the premium price and replacing the conditions to cover losses, providing information related to agricultural insurance that is easy to understand. Conducting agricultural extension innovations that adapt to local culture and distributing brochures or pamphlets.

Based on the results of the research that has been conducted, there are several things that can be suggested, including:

1. For insurance companies, in order to increase farmers' interest in agricultural insurance, it is necessary to carry out socialization that is easier for farmers to understand so that farmers understand more and increase farmers' interest in the program. In addition, the insurance company needs to consider the policies and conditions needed according to the conditions of the farmer so that the insurance program offered can be accepted by the farmer.

2. For farmers, they should be able to participate in the agricultural insurance program to avoid unwanted risks. Although it is rare to experience failure, the risk of failure is unpredictable and the risk itself can have a significant detrimental impact on farmers.
3. For the next researcher, it is necessary to re-examine other factors that can affect farmers' interest in agricultural insurance from different variables.

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The Influence Of Gharar And Risk On Farmers' Purchasing Decisions From An Islamic Economics Perspective, Case Study in Sidomukti Hamlet, Muara Putih Village, Natar District, South Lampung Regency

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Abstract

From an Islamic economic perspective, this study examines how farmers' purchasing decisions are influenced by risk and gharar (uncertainty). In this study, the researcher used a quantitative descriptive approach, namely in-depth interview and questionnaire methods. This study was conducted in Sidomukti Hamlet, Muara Putih Village, Natar District, South Lampung Regency. The results of the study indicate that the farmer's decision-making process is greatly influenced by gharar, the risk of crop failure for farmers and the scarcity of information. In this study, the researcher also wanted to find out how Islamic economic principles, including the prohibition of gharar, can offer a fairer and more organized method to influence consumer behavior in rural agricultural areas. An important recommendation from this study is that there must be an increase in awareness of the Islamic financial system and strengthening agricultural organizations with an Islamic foundation.

Keywords: Gharar, Risk, Purchasing Decision, Islamic Economics, Farmers

1. Introduction

Lampung Province is one of the largest agricultural areas in Indonesia, located at the southern tip of Sumatra Island. Based on data from the Central Statistics Agency of Lampung Province in 2023, the agriculture, forestry, and fisheries sectors contributed more than 27% of the GRDP (at current prices) of Lampung Province. This shows that the agricultural sector has an important role in local economic growth.

The area of agricultural land for food crops and horticulture in Lampung Province is approximately 1.1 million hectares. The main agricultural commodities in Lampung Province are rice, corn, cassava, coffee, pepper and pineapple. Lampung Province is one of the largest producers of cassava and Robusta coffee in Indonesia. The location of Lampung Province is very strategic and directly borders Java Island and has access to main ports such as Panjang and Bakauheni, making Lampung Province have an important role in the national food supply chain.

Although Lampung Province has a lot of agricultural potential, farmers still face many problems. These include market price fluctuations, uncertain climate, and lack of access to formal financial institutions, including sharia-based ones. This condition encourages a comprehensive study of farmers' economic behavior, especially in terms of decision-making in uncertain conditions.

Based on data from the Central Statistics Agency of Lampung Province in 2023, 35-38% of the workforce is in the agriculture, forestry, and fisheries sectors obtained from the total working population, while the workforce is 2.7 million people. So it can be estimated that the workforce in the agricultural sector is approximately 980 thousand people. Lampung Province is divided into 15 districts/cities consisting of thirteen districts and two cities. South Lampung Regency is the district with the largest number of farmers, namely 85,000 people. Natar District is a district in South Lampung Regency which has one of the centers of agricultural production with around 6,800 farmers. In addition, there are around 512 farmers in Muara Putih Village, which is included in the administrative area of Natar District. Around 75 of them live in Sidomukti Hamlet, the location of this case study. This hamlet

was chosen as the research location because it reflects the characteristics of small-scale farmers who face real economic problems.

Farmers in Sidomukti Hamlet face various uncertain situations and risks, including fluctuations in seed and fertilizer prices, extreme weather, and the possibility of crop failure. The lack of available Islamic financial institutions and the lack of understanding of economics based on Islamic principles make farmers' purchasing decisions a challenge in themselves. On the contrary, because the majority of people in the area are Muslim, the principles of Islamic economics are very important to be used as a basis for making financial decisions, especially in terms of purchases with high Gharar and high levels of risk. In addition to encouraging fair and transparent transactions, the principles of Islamic economics teach to avoid gharar (uncertainty that is detrimental), maysir (speculation), and riba (interest).

Using a case study in Sidomukti Hamlet, Muara Putih Village, Natar District, South Lampung Regency, this study raises the topic "The Influence of Gharar and Risk on Farmers' Purchasing Decisions in the Perspective of Sharia Economics". The researcher hopes that this study will help in the process of creating a sharia-based microeconomic strategy that is relevant to farming communities in agrarian areas.

2. Literature Review

To understand the factors that influence farmers' purchasing decisions, especially in situations full of risk and uncertainty, a strong theoretical basis is needed. In the rural and agricultural context, various studies have focused on the cultural context, external risks, and access to finance, and how economic behavior emerges.

In this section, the researcher discusses important concepts and previous studies that are relevant to this study. The researcher concentrates on four main issues: (1) Gharar and Risk in Farmers' Decision Making; (2) Farmers' Purchasing Behavior in Agrarian Communities; (3) Islamic Economics and Risk Management; and (4) Implementation of Islamic Finance in the Agricultural Context.

2.1 Gharar and Risk in Farmer Decision Making

Knight (1921) distinguishes between measurable risk and probability. Gharar in agriculture can be caused by many things, such as weather, pest attacks, and sudden changes in market prices. Hardaker et al., (2004) stated that farmers' behavior is influenced by society, especially when they make decisions about purchasing production inputs. With limited information, farmers often have to make important decisions such as when and how much to buy seeds, fertilizers, or agricultural tools. Many farmers tend to be careful or even postpone purchases because of the risk of crop failure, capital loss, and uncertain selling prices.

2.2 Farmer Purchasing Behavior in Agrarian Communities

Social, cultural, and access to information factors are other factors that influence farmer purchasing behavior. According to Ellis (1993), farming households often combine subsistence economic needs with short-term needs. Income, Initial production cost instability, previous experience, and trust in suppliers are all factors that usually influence purchasing decisions. Farmer purchasing patterns in rural communities are also influenced by access to markets and formal financial institutions. Farmers often rely on middlemen or high-interest loans, which are unfair.

2.3 Islamic Economics and Risk Management

In uncertain situations, the principles of Islamic economics are very helpful in decision making. The prohibition of gharar (excessive uncertainty), maysir (speculation), and riba is one of its main principles. The principles of *maslahah* (public interest), *ikhtiyar* (maximum effort), and *tawakkal* should be the basis for Islamic decision making. According to Chapra (2000), Islamic economics includes moral values in the decision-making process in addition to regulating market mechanisms. This method can encourage a fairer and more open transaction system in the agricultural sector.

2.4 Implementation of Islamic Finance in the Context of Agriculture

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Research shows that farmers can use Islamic microfinance institutions such as BMT (Baitul Maal wat Tamwil) as an alternative to obtain financing. Farmers can obtain capital without being trapped in usury by using contracts such as murabahah (margin sale and purchase), ijarah (lease), or mudharabah (profit sharing). Research conducted by Huda and Heykal (2010) found that Islamic finance strengthens social institutions and economic independence of farmers in addition to providing financing solutions. This approach makes farmers' purchasing decisions more planned, more transparent, and more equitable.

3. Research Methodology

This research is structured by considering the characteristics of the region, the subjects studied, and the approach that is in accordance with the sharia economic paradigm. The right method is needed to answer the problem formulation and achieve the research objectives.

This method is not only used to calculate the quantitative relationship between variables, but also to find out how farmers apply sharia principles in making economic decisions. Therefore, starting from the type and approach of research, research location, population and sample, data collection techniques, research instruments, to data analysis techniques, the research methodology plan is structured systematically.

3.1 Type and Research Approach

To examine the relationship between gharar, risk, and purchasing decisions from a sharia economic perspective, the appropriate approach to use is quantitative descriptive with a correlational approach. The complementary approach used is qualitative (to interpret sharia values from respondent responses).

3.2 Research Location

The research location taken was Sidomukti Hamlet, Muara Putih Village, Natar District, South Lampung Regency, chosen because it is a representation of small-scale farmers who face high gharar and lack the means to obtain sharia funds.

3.3 Population and Sample

In this study, the researcher used farmers in Sidomukti Hamlet who were still active (approximately 75 people), or by using a deliberate sampling technique (selecting relevant respondents, such as land-owning farmers who had purchased production inputs).

3.4 Data Collection Techniques

Data collection techniques in this study were conducted by means of in-depth interviews to measure respondents' understanding of sharia principles and financial practices through a closed questionnaire with a Likert scale (for variables: gharar, risk, and purchasing decisions).

3.5 Research Instrument

This research instrument uses the closest variables including price fluctuations, weather conditions, and market information; Risk variables, namely crop failure, farming losses; and purchasing decisions, namely time, amount, and type of input; and Sharia aspects include an understanding of gharar, usury, and the principle of justice in transactions.

3.6 Data Analysis Technique

The researcher uses quantitative analysis techniques, namely simple linear regression (to see the effect of X on Y) and qualitative analysis, namely thematic interpretation of interviews on economic behavior with sharia economic principles.

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Public Procurement Lessons for BUMDs: What to Adopt, Adapt, or Abandon?

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Abstract

Regionally-Owned Enterprises (BUMDs) are in a unique position as hybrid entities that must balance public accountability with business efficiency. In the context of procurement of goods and services, the direct application of public procurement principles and procedures, as stipulated in Presidential Regulation No. 16 of 2018, often poses adaptation challenges, because they are not fully aligned with the operational needs of dynamic BUMDs. This research aims to identify public procurement practices that can be adopted, adjusted, or abandoned by BUMDs. The method used is a descriptive qualitative approach with content analysis techniques on regulatory documents, case studies of selected BUMDs, and an evaluation framework based on the "Adopt–Adapt–Abandon" model. The results of the study show that the e-procurement system, the use of e-marketplace, and the provider verification mechanism are feasible to adopt. Meanwhile, bureaucratic procedures, institutional centralization, and regulatory dualism need to be adjusted. Practices such as procurement that are not transparent, unaccountable, and non-competitive need to be abandoned. The implementation of the principles of Good Corporate Governance (GCG) and the Modify–Evolve–Innovate adaptive strategy is the key to building a modern, efficient, and integrity BUMD procurement system. This research offers a significant contribution to strengthening the governance of hybrid organizations in the public sector.

Keywords: Regionally Owned Enterprises (BUMD), Procurement Governance, Adopt–Adapt–Abandon, Good Corporate Governance, Adaptive Public Policy

Introduction

Regionally-Owned Enterprises (BUMDs) are unique entities that operate in a hybrid space, where they must balance two different poles: on the one hand as a public service agent and on the other as a business entity that is required to be efficient and competitive like a private business entity. In this reality, BUMDs must manage public resources optimally while pursuing healthy financial performance. The consequences of this hybrid position create serious challenges, especially in the realm of procurement of goods and services, where public sector standards are often inflexible for rapid and dynamic operational needs.

The direct application of public sector procurement principles and procedures, as stipulated in Presidential Regulation Number 16 of 2018 and its amendments, does provide a strict framework to prevent corrupt practices and strengthen transparency. However, when implemented rigidly in the BUMD environment, this provision has the potential to hinder business speed and efficiency. In practice, many BUMDs have difficulty meeting urgent needs because they have to go through long bureaucratic procedures and are less adaptive to market dynamics (Yulisa & Rahmi, 2022).

This is reinforced by the findings of Kurniawan et al. (2022) who stated that "overly procedural public sector procurement standards are not in line with the managerial characteristics of BUMDs that are oriented towards rapid response to market needs." In addition, the attachment of BUMDs to double regulations—namely as public entities as well as business actors—often creates ambiguity in procurement decision-making. When business efficiency has to be sacrificed for administrative compliance, potential inefficiencies not only occur in the form of budget waste, but also a decrease in the quality of services to the community.

In this context, it is important to map out which public procurement practices can be adopted immediately, which need to be adjusted, and which should be abandoned. This *selective policy learning* approach is relevant for BUMDs so that they are not trapped in regulatory dilemmas, but are actually able to develop procurement models that are contextual, efficient, and accountable. As stated by Sulisty & Yuliani (2023), "partial adoption of public procurement policies accompanied by institutional adaptation is a middle way to encourage procurement effectiveness in hybrid entities such as BUMDs."

Thus, this discussion is not only limited to normative regarding the necessity of following procurement procedures, but rather emphasizes the urgency of procurement governance reform in BUMDs based on the balance between public accountability and business efficiency.

This study aims to identify public procurement practices that can be adopted directly by BUMDs, explain the aspects that need to **be adapted** to suit the characteristics of BUMDs, and determine practices that should be **abandoned** because they hinder operational flexibility.

Research Methods

This study uses a descriptive qualitative approach that aims to understand in depth how the principles of public procurement can be applied contextually to Regionally Owned Enterprises (BUMD). The focus of this qualitative research is not to measure the quantitative relationship between variables, but to explore meanings, practices, and policies relevant to procurement governance in the BUMD environment. As explained by Creswell (2018), qualitative approaches are suitable for use in studies that focus on complex social contexts, experiences, and processes.

Content analysis techniques are applied to various regulatory documents such as Presidential Regulation Number 16 of 2018 concerning Government Procurement of Goods/Services and its amendments, technical guidelines from the Government Goods/Services Procurement Policy Institute (LKPP), as well as BUMD internal policy documents that are sample case studies. This analysis was carried out systematically to identify patterns, themes, and inconsistencies between national policies and the operational needs of BUMDs in the field. According to Elo & Kyngäs (2008), content analysis is very appropriate to be used in the context of public policy studies because it is able to explore the implicit meaning behind regulatory and administrative texts.

In addition, case studies on several selected BUMDs were used as an empirical basis to test the relevance and practicability of procurement policies. Case selection is carried out purposively based on the variety of BUMD (drinking water and trade) business types, regions, and the complexity of internal governance. This approach allows for cross-contextual comparisons to formulate more representative and applicable findings. Comparative case studies are effective in exploring organizational strategies in the face of complex regulatory pressures. (Pulignano et al., 2022). The results of this study are expected to provide practical recommendations for BUMDs in optimizing procurement procedures for goods and services to be more responsive to market needs.

To develop an evaluation framework, this study uses a policy learning approach through the "Adopt–Adapt–Abandon" framework developed from the theory of policy transfer. This framework allows researchers to map public sector procurement policies that can: (1) be adopted directly because they are in accordance with the characteristics of BUMDs; (2) adapted to align with the specific needs of BUMDs; or (3) abandoned because it is irrelevant or counterproductive to efficiency and accountability. As stated by Dolowitz & Marsh (2000), this approach is effective in helping public institutions to conduct selective learning from best practices while considering differences in institutional contexts.

With a combination of document analysis and field case studies, this method is expected to be able to produce policy recommendations that are not only theoretical, but also implementable and sensitive to the real conditions of BUMDs.

Results and Discussion

A. Principles That Can Be Adopted by BUMD

1. E-Procurement and Digitalization

The implementation of *e-procurement* in the public procurement system, especially through the Electronic Procurement System (SPSE) platform and *e-catalogue* developed by the Government Goods/Services Procurement Policy Institute (LKPP), has become an important breakthrough in encouraging efficiency, transparency, and accountability. In the context of BUMDs, this digitalization is very feasible to adopt because it allows the procurement process to take place automatically, documented, and *traceable*. According to Kurniawan, Nugroho, & Astuti (2022), the implementation of *digital procurement* has been proven to increase *value for money* by reducing transaction costs by up to 15% and cutting procurement time significantly. In addition, digital systems also reduce the space for non-procedural intervention which has been a loophole for corruption in the procurement process of goods/services. In line with this, research by Setyawan et al. (2021) revealed that the integration of e-procurement in the procurement structure of regional organizations increases supervision efficiency and accelerates the evaluation of offers objectively.

2. E-Marketplace

The use of *e-marketplaces* as part of the modern procurement ecosystem provides competitive advantages for BUMDs. Digital platforms such as *e-catalogues* provide open access to verified providers of goods and services, so that the selection process can be carried out efficiently and competitively. This is in line with the principle of healthy competition which is one of the elements of good procurement governance. In their research, Putra & Anggraini (2021) emphasized that "*open access to digital markets through e-marketplaces encourages price efficiency, expands provider choices, and grows local micro, small, and medium enterprises (MSMEs) ecosystems.*" The use of e-marketplaces also provides flexibility for BUMDs to choose providers based on real needs and available budgets, without having to be stuck in conventional tender mechanisms that tend to take time.

3. Provider Qualifications

Another aspect that is no less important to adopt is the verification mechanism or *vendor screening* of goods/service providers. The technical, administrative, and legal feasibility of the provider must be strictly verified to avoid the risk of problematic contracts that impact the financial losses or reputation of the BUMD. The government has emphasized the importance of this process through Presidential Regulation Number 12 of 2021, which regulates the need for verification through the provider performance information system (SiKAP) and *vendor management system*. Validation of the provider's credibility also helps ensure that the product or service received is strictly in accordance with specifications, quality standards, and contractual terms. As stated by Syahputra & Fadhillah (2020), "when the supplier selection process is carried out professionally and data-based, the probability of contract success increases significantly." Thus, this mechanism must become a standard component in the governance of BUMD procurement in the future.

B. Practices That Need to Be Adapted

1. Centralistic Institutions vs. Functional Autonomy

The public procurement system in Indonesia is generally designed to meet the needs of central and regional government agencies that are vertical and hierarchical. This model tends to emphasize procedural compliance and administrative control, rather than on operational flexibility. When this system is applied directly to Regionally Owned Enterprises (BUMD) that are oriented towards business profits and efficiency, there are often mismatches that cause delays and inefficiencies. Therefore, the need for functional decentralization in the procurement decision-making process in BUMD is important in order to be able to respond to rapidly changing market needs. According to Sulistyo & Yuliani (2023), and (Correia, 2023) in their research it is stated that *BUMDs need institutional autonomy in procurement in order to be able to adjust business strategies with accountable governance, without being limited by rigid vertical structures."*

Semi-autonomous Model that allows procurement units in BUMDs to function like strategic business units have proven to be more adaptive to fluctuations in operational needs and customer demands.

2. Rigid Procedure

Public procurement is governed by strict regulations and complex procedures, such as planning stages, supplier selection, and standardized reporting. Although this system is needed to ensure transparency and accountability, in BUMD practice, overly bureaucratic procedures can slow down the process of meeting urgent strategic and operational needs. Amalia & Rochman (2022) and (Bainson & Nani, 2021) emphasize that: *"Streamlining procurement workflows by reducing administrative redundancy and utilizing information technology will improve process agility without compromising accountability principles."*

By simplifying processes and adjusting internal SLAs (service level agreements), BUMDs can maintain accountability while increasing time and cost efficiency in the procurement of goods and services.

3. Dual Regulation Structure

BUMDs are in a unique position where they must comply with two regulatory regimes: one as part of the local government (public), and the other as a business entity (commercial). Disharmony between public regulations such as Presidential Regulation No. 16 of 2018 and the principles of corporate governance often causes confusion in the implementation of procurement. In a situation like this, a conflict of interest between bureaucratic accountability and business efficiency is very likely. Therefore, the hybrid governance approach is a solution

worth considering. Hadi & Nuryanti (2020) and (Aripin & Rulinawaty, 2022) explain that: "BUMDs need to implement hybrid governance that integrates the principles of public good governance with corporate flexibility in order to maintain a balance between accountability and business performance."

The implementation of this hybrid policy allows the establishment of a procurement system that is tailored to local needs and the characteristics of the business unit, without having to ignore the basic principles of transparency and integrity.

C. Practices to Abandon

1. Procurement Is Not Transparent

Information disclosure in the procurement of goods and services is the main foundation of clean and accountable governance. Lack of transparency can open gaps for conflicts of interest, tender manipulation, and collusion between providers and internal parties of institutions. The Corruption Eradication Commission (KPK) in its 2021 Annual Report stated that more than 40% of corruption cases handled came from the procurement of goods and services, making it the sector with the highest risk of corruption in Indonesia.

"The lack of openness in the procurement process, starting from planning, supplier selection, to reporting, is the main cause of the high corruption practices in this sector" (KPK, 2021, p. 38).

In the context of BUMDs, which manage public funds but operate with business flexibility, transparency is becoming increasingly crucial. Therefore, procurement that is not well documented, closed from public supervision, and not available online must be completely abandoned.

2. Procurement Is Not Accountable

Accountability is a fundamental principle that ensures that each party involved in the procurement process is accountable for its decisions and can be clearly audited. In practice, unaccountable procurement is characterized by an unclear role and responsibility between user units, procurement officials, and providers. Irregularities in documentation and weak internal control systems make procurement vulnerable to abuse. Therefore, the principle of trail audit—that is, tracking every stage of the process—must be applied consistently.

Research by Lestari & Firmansyah (2021) shows that procurement without a clear trail audit has a strong correlation with an increase in state loss findings by the BPK.

"The lack of an adequate documentation system causes the procurement process to not be fully audited, and this contributes to potential financial losses to the state" (Lestari & Firmansyah, 2021, p. 74).

Thus, procurement practices without inherent accountability must be abandoned in order to maintain public trust and institutional sustainability.

3. Non-Competitive Procurement

Procurement practices that do not involve competition—such as direct appointments without an objective market study—risk inefficient pricing and low quality of goods/services. Healthy competition in procurement not only creates price efficiency, but also spurs providers to improve service quality and innovation. A study by Firmansyah & Darmawan (2023) revealed that competition in the procurement process has a positive and significant relationship with the quality of the output of goods and services received by institutions.

"Entities that implement an open auction mechanism consistently obtain better products in terms of quality and cost efficiency compared to direct designation methods" (Firmansyah & Darmawan, 2023, p. 42).

4. Therefore, non-competitive procurement that is often chosen for reasons of practicality and speed should be discontinued, except in emergency conditions that are absolutely legally and procedurally justifiable.

3. Good Corporate Governance (GCG) in the Context of BUMD

The application of the principles of *Good Corporate Governance* (GCG) in Regionally Owned Enterprises (BUMD) is not only interpreted as a form of administrative compliance with applicable regulations, but also as the **main foundation for creating healthy, accountable, and sustainable procurement governance**. BUMDs as hybrid entities that operate between public interest and business orientation, need governance that is able to balance market efficiency with public accountability. In this context, GCG is a strategic instrument to ensure that all business processes, including the procurement of goods/services, are carried out fairly, efficiently, and free from conflicts of interest.

According to an *OECD report (2020)* entitled *"State-Owned Enterprise Governance: A Stocktaking of Good Practices"*, the implementation of GCG principles in the local government-owned business sector is an important indicator in assessing the quality of corporate-based public service performance. The OECD states that:

"Strong corporate governance frameworks in SOEs enhance trust, accountability, and operational integrity, especially in public procurement and financial decisions" (OECD, 2020, hlm. 14).

Thus, GCG is not only a procedural symbol, but an effective tool in improving the quality of managerial decisions and preventing maladministration practices in procurement.

The five main pillars of GCG that must be implemented consistently in the BUMD environment include:

1. **Transparency**

Every information related to procurement, from planning, budget, supplier selection criteria, to evaluation results must be published openly and easily accessible to the public. This is in line with the principle of *open government*, which encourages data disclosure to strengthen public supervision. Research by Prakoso & Setyaningrum (2022) states that BUMDs that implement digital transparency have experienced a decrease in public complaints and an increase in the participation of local providers.

2. **Accountability**

All stages of procurement must be traceable and accountable by the relevant officials. The implementation of *trail audits* and electronic-based *record keeping* is an important tool in minimizing potential irregularities. BUMDs are obliged to develop a digital information-based procurement system as a form of 'operational responsibility. (Soebiandono et al., 2022)

3. **Responsibility**

The involvement of personnel in the procurement process must be accompanied by legal and ethical responsibilities. Every implementer must understand the applicable regulations and be committed to the public interest. Understanding the procurement code of ethics is a significant indicator in reducing the risk of fraud in the procurement process (Susanti & Hardi, 2020) and (Goklas & Manurung, 2022).

4. **Independence**

BUMDs must be able to make procurement decisions objectively without intervention from outside parties, including political pressure or personal interests. *The firewall* model or intervention restriction needs to be strengthened so that the process of selecting providers is truly based on quality and technical needs, rather than proximity or informal recommendations.

5. **Keadilan (Fairness)**

Every provider of goods and services must have an equal opportunity to compete in the procurement process. This includes fair access to information, rational conditions, and an objective evaluation system. A study by Sulaiman & Widodo (2023) shows that the application of fairness principles in the procurement of BUMDs has increased the participation rate of local MSMEs by 42% in the last two years.

By consistently applying the five principles of GCG, BUMDs can not only build a professional procurement system that is free from corrupt practices, but also strengthen public legitimacy for the services provided.

4. **Adaptive Implementation Strategy**

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To ensure success in the process of adoption, adaptation, and improvement of procurement systems in the BUMD environment, an **adaptive and sustainable implementation strategy is needed**. This strategy must consider the structural context of BUMDs that are different from conventional government institutions, as well as the complexity of the business sectors they manage. Therefore, the implementation strategy needs to be built based on the principles of *Modify, Evolve, and Innovate*.

First, the **Modify strategy** emphasizes the importance of **adjusting the procurement system to the organizational structure, type of business, and level of autonomy of BUMDs**. Each BUMD has different managerial and operational characteristics; for example, BUMDs in the drinking water sector tend to have long-term technical procurement processes, while commercial BUMDs require fast and flexible procurement. Therefore, the procurement system must be modified to be in line with the needs of the business unit and not burdensome the operational process. As stated by Sulisty & Yuliani (2023), *"The implementation of a procurement system based on the needs of the business sector will increase flexibility while maintaining the principle of accountability in BUMD organizations"* (p. 19).

Second, the **Evolve strategy** underscores the importance of **increasing human resource capacity and governance through the use of digital technology**. Strengthening human resource competencies in procurement must include continuous training on regulations, electronic systems (SPSE, SiKAP), as well as an understanding of the principles of good governance. In addition, organizations must build a data-driven governance system, which allows for an objective evaluation of procurement performance. Amalia & Rochman (2022) state that:

"Digital transformation in procurement will not be effective without the evolution of human resource capacities that support information processing and data-driven decision-making" (p. 72).

Third, the **Innovate strategy** demands **the implementation of real-time monitoring systems and output-based performance measurement**, not just procedural compliance. Systems such as *procurement dashboards, early warning systems, and key performance indicators (KPIs)* for each procurement contract need to be developed so that decision-makers can intervene in a timely manner when deviations occur. This innovation is in line with the modern performance management approach that places outcomes as a success parameter. Lestari & Widodo (2021) note that:

"The use of KPI-based real-time monitoring systems accelerates response to procurement risks and improves the accuracy of output-based procurement reporting" (p. 25).

This overall strategy supports the **bureaucratic reform and digital transformation agenda** contained in the **2020–2024 RPJMN**, where strengthening technology-based public institutions and service efficiency is one of the national priorities. In the planning document, it is stated that:

"The digital transformation of local governments and BUMDs is directed to improve the quality of public services, spending efficiency, and strengthen transparency and accountability" (Bappenas, 2020, p. 213).

With the implementation of *the Modify–Evolve–Innovate strategy*, BUMDs are not only able to update their procurement systems to be more responsive and efficient, but also build a foundation of sustainable governance that is adaptive to changes in the external environment.

5. Scientific and Practical Contributions

This research not only contributes to the public sector governance literature, but also opens up a space for dialogue on the importance of *selective policy learning* in hybrid organizations such as BUMD. Adjustment of procurement practices based on institutional characteristics will strengthen fiscal efficiency and quality of public services.

Conclusion

The procurement of goods and services within Regionally Owned Enterprises (BUMD) faces unique challenges due to its position between the logic of public services and the demands of business efficiency. This study shows that the direct application of public sector procurement principles and practices is often not fully compatible with the characteristics of BUMDs. Therefore, *the selective policy learning* approach through the **Adopt-Adapt-Abandon framework** is a strategic instrument in designing effective, efficient, and accountable procurement governance.

Several public procurement principles have proven **worthy of being adopted** directly by BUMDs, such as the use of e-procurement systems, the use of e-marketplaces, and validation of provider qualifications, all of which encourage transparency, healthy competition, and cost and time efficiency. On the other hand, several aspects such as procurement mechanisms that are too centralised, rigid procedures, and double regulatory structures need to be **adapted** to be more contextual with the dynamics and business needs of BUMDs. Meanwhile, practices such as procurement that are not transparent, unaccountable, and non-competitive must be **abandoned**, as they risk creating inefficiencies, financial losses, and lowering public trust.

The consistent implementation of **Good Corporate Governance (GCG)** principles —which include transparency, accountability, responsibility, independence, and fairness—is an important foundation for creating clean and professional procurement in the BUMD environment. The *Modify–Evolve–Innovate strategy* is recommended as an adaptive approach in ensuring the success of procurement reforms, especially by encouraging digital transformation, increasing human resource capacity, and developing *output-based performance* monitoring and evaluation systems.

Thus, this study not only contributes to strengthening procurement governance in BUMDs, but also offers a relevant policy learning model for other hybrid organizations in the public sector. The implementation of the *Adopt-Adapt-Abandon* framework accompanied by GCG principles and adaptive implementation strategies is the key in building a modern, efficient, and upholding public integrity procurement system.

Kontribusi

This study contributes to the literature on adaptive governance in hybrid organizations and offers a practical reference for policymakers and BUMD leaders in designing more contextual and effective procurement strategies.

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Voting Intention as Political Consumer Behavior: Integration of Political Marketing Theory and Practice

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Abstract

General elections are a major pillar in a democratic system that is not only influenced by political dynamics but also by the political marketing strategies of candidates. One important element that is the focus of contemporary political marketing studies is voting intention. This study discusses the concept of voting intention consumer behavior theory and modern marketing approaches. In this perspective, voters are positioned like consumers who make decisions based on perceived value, candidate image, experience, and social influence. By adopting theories such as the theory of planned behavior, brand equity, value co-creation, and integrated marketing communication, this study shows how data-based, segmented, and personalized political campaigns can increase voting intentions. Previous empirical studies have also strengthened the findings that social media, religiosity, and loyalty to parties and candidates are important determinants of voting intention. Thus, understanding the factors that influence voting intention is crucial in designing an effective, credible, and sustainable campaign strategy amidst the complexity of the modern political landscape.

Keywords: Voting Intention, Political Marketing, Consumer Behavior, Campaign Strategy, Social Media.

Introduction

Elections or general elections are one of the important moments in a democratic system where people are given the right to choose their leaders or representatives. This process is not only influenced by political policies but also by the political marketing strategies used by the candidates. One of the key elements that influence election results is voting intention. The phenomenon of voting intention is increasingly receiving attention from researchers, especially in the contemporary era which is characterized by complex political dynamics.

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In political marketing, a deep understanding of the factors that influence voting intention is key to designing an effective campaign strategy (Kotler & Keller, 2016).

Voting Intention or intention to vote is a person's prediction or decision to vote for a particular candidate in an election based on various factors that influence it, such as attitudes towards the candidate, political parties, and socio-economic factors (Ajzen, 1991). The study of voting intention is very important because it provides insight into voter behavior, which in turn can influence political marketing strategies implemented by candidates. This concept can also be explained through marketing theories that adopt the same principles in forming consumer decisions, such as brand assessment, value perception, and loyalty (Kotler & Keller, 2016). A deep understanding of voting intentions and the factors that influence them enables political campaigns to design more effective messages, leverage market segmentation, and increase voter engagement.

Voting intention refers to an individual's intention or tendency to vote in an election, which is influenced by various internal and external factors. This voting intention is often predicted through surveys or polls that reflect temporary political preferences (Campbell *et al.*, 1960). On the other hand, in behavioral theory, voting intention is often associated with individual beliefs and attitudes toward a particular candidate or party. This theory assumes that the act of voting is the result of attitudes influenced by beliefs about the candidate and the issues at hand (Ajzen, 1991). Voting intention is also defined in various studies as an individual's intention to vote for a particular candidate or political party in an election that is influenced by various psychological, social, and political factors. For example, in a study by Abbas and Ali (2023), voting intention is explained as a voter's response to political marketing efforts that utilize various campaign elements. Research conducted by Purnama and Sari (2023) shows that candidate social media marketing and religiosity have a significant impact on voting intention. Meanwhile, Kholid *et al.* (2023) explained that social and personal factors such as social media and engagement with candidates also influence voters' intention to vote in the context of elections. Therefore, although explicit definitions of voting intention vary, most of the literature agrees that external factors such as social media, as well as internal factors such as political attitudes and individual beliefs, play a major role in shaping voters' intention to vote in elections.

In the context of marketing, voting intention can be likened to a consumer's decision to purchase a particular product. Voters, like consumers, go through an evaluation process based on the information they receive, past experiences, and social influences. Factors such as the candidate's image, political promises, and perceptions of the candidate's credibility and integrity also influence this decision. Therefore, understanding voting intention is essential in designing an effective political marketing strategy.

According to Fishbein and Ajzen (1975), intention is a strong predictor of behavior. This means that the stronger a person's intention to vote for a particular candidate or party, the more likely they are to do so. In political marketing, this is equivalent to a consumer's intention to purchase a product after going through a careful evaluation process of the various options available.

Method

The study aims to examine the concept of voting intention in consumer behavior theory and modern marketing approaches. In this perspective, voters are positioned as consumers who make decisions based on perceived value, candidate image, experience, and social influence. Literature studies are conducted by collecting materials and information needed to answer the identified problems. Library sources are arranged in an organized manner in

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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 five keywords used as reference literature, namely voting intention, political marketing, consumer behavior, campaign strategy, and social media. By adopting theories such as the theory of planned behavior, brand equity, shared value creation, and integrated marketing communications, this study shows how data-driven, segmented, and personalized political campaigns can increase voting intentions.

Result and Discussion

Voting Intention in Political Marketing

In political marketing, voting intention is the main object that political campaigns want to influence. Political marketing focuses on creating messages that can influence voters' voting intentions. This includes the use of traditional marketing techniques, such as market segmentation, targeting, and positioning, applied in a political context to attract voters' attention (Lees- Marshment, 2014). This process is similar to how companies market products: market segmentation is used to identify specific groups of voters, positioning is used to differentiate candidates from competitors, and targeting is done by designing messages that are appropriate for the chosen audience. Segmentation in political marketing allows campaigns to understand the demographic, social, and psychological characteristics of different voters. For example, young voters may be more influenced by social media campaigns, while older voters are more likely to vote based on the stability and experience of the candidate (Newman, 1999). Targeting, on the other hand, means that candidates can choose to focus on a particular group of voters who have a high chance of voting for them, based on the segmentation that has been done. Positioning in political marketing also plays an important role in building the candidate's image in the eyes of voters. Political marketing seeks to create a positive image for candidates that aims to differentiate themselves from competitors and win the hearts of voters. This is done by emphasizing the values that voters want, such as commitment to change or stability (Scammell, 2014). Targeting is done by designing messages that are appropriate for the selected audience.

The Relationship between Voting Intention and Consumer Behavior Theory

The relationship between voting intention and consumer behavior theory can be seen in the similarities in the decision-making process between voters and consumers. In consumer marketing, the decision to purchase a product is influenced by perceived value, personal preferences, and external influences such as advertising and social recommendations (Solomon, 2018). The same is true in voting intention, where voters' decisions to vote for a particular candidate are influenced by their perceptions of the value offered by that candidate, either in the form of policies or personal image.

The consumer behavior theory proposed by Howard and Sheth (1969) states that purchasing decisions are influenced by input from the external environment, personal experiences, and formed attitudes. In a political context, these inputs can be campaign advertisements, candidate debates, or even discussions on social media. Voters' personal experiences, such as political party identity or preference for previous candidates, also play

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an important role in shaping voting intentions.

The consumer decision-making process is also influenced by psychological factors, such as motivation, perception, and attitude, which are similar to the factors that influence voters in determining their choices (Kotler & Keller, 2016). In this regard, consumer behavior theory provides a useful framework for understanding how voters evaluate candidates and their decisions to vote based on these factors.

Application of Marketing Theory to Voting Intention

In the context of political marketing, several marketing concepts such as brand equity, value proposition, and customer loyalty can be applied to influence voters' voting intention. Brand equity in politics refers to the strength of the image of a candidate or political party formed in the eyes of voters. Candidates who have strong brand equity tend to gain trust and support from voters more easily because they are considered a more stable and reliable choice (Aaker, 1991). In addition, value proposition is also an important concept in political marketing. Candidates need to offer clear value to voters, such as policies or political promises that are in line with voters' needs and expectations. This is very similar to product marketing, where companies must communicate the benefits of the product to attract consumers (Keller, 1993).

Voter loyalty is also an important factor in voting intention. Voters who feel loyal to a particular candidate or party are more likely to vote for them again in the next election. As in consumer marketing, political campaigns that successfully create strong relationships with voters can build long-term loyalty, potentially increasing their support in the future (Grönroos, 1994).

Empirical Study: Voting Intention and Political Campaign

Empirical studies on voting intention show that the use of sophisticated marketing techniques can influence election results. In many countries, political campaigns are increasingly turning to the use of big data and voter behavior analysis to design more targeted and personalized strategies. Several studies have shown that voters are now more influenced by personalized messages that are tailored to their preferences and previous behavior, similar to marketing trends found in the consumer industry (Boulianne, 2019).

Political marketing today uses various technologies, such as social media analytics and computer programming to identify the right voters to engage with (Pauwels & Vanhaverbeke, 2021). More specific targeting of political messages can increase the likelihood that voters will feel an increase in voting intention. For example, ads that target young voters with issues relevant to them, such as education or job opportunities, can be more effective than general messages for all voters. For example, during the 2020 US presidential campaign, behavioral analytics and data from social media platforms played a major role in designing successful campaign strategies (Tufekci, 2018). Campaigns that tailor messages based on this individual data have the potential to increase awareness and voting intention, as they are more in line with voters' interests and needs.

Marketing Theories Relevant to Voting Intention

Several marketing theories can be applied to influence voters' voting intention, including relationship marketing, value co-creation, and integrated marketing communication (IMC). These theories, which are more often used in the context of product marketing, are also relevant in political marketing to build stronger relationships with voters and increase their intention to vote.

Relationship Marketing in political marketing emphasizes the importance of building long-term relationships with voters. Campaigns that focus on engaging voters, listening to their needs, and building ongoing communication are more likely to increase loyalty and voting intentions. In this context, relationship marketing serves to maintain relationships with voters throughout the election cycle and after the election (Grönroos, 1994). Voters who feel valued and understood by candidates tend to be more loyal and more involved in the election process.

Value Co-Creation is a concept increasingly used in political marketing, where voters are seen as partners in value creation. Political marketing that involves voters in the decision-making process—for example by asking for input on policies or programs to be implemented—can strengthen their relationship with the candidate or party. This approach creates a sense of ownership among voters and increases their commitment to voting (Payne & Frow, 2005).

Integrated Marketing Communication (IMC) is a marketing approach that integrates multiple communication channels to deliver a consistent message. In political marketing, IMC is used to ensure that the message delivered to voters is consistent across multiple platforms, such as television, social media, and door-to-door campaigns. IMC allows candidates to reach a wider and more diverse audience with messages that are tailored to their individual preferences and needs (Keller, 1993).

Challenges and Opportunities of Political Marketing

The study of political marketing is inseparable from the challenges faced in efforts to influence voters' voting intentions. One of the biggest challenges is overcoming voters' distrust of political parties and candidates, which is often caused by bad experiences with previous politicians or political scandals. In this context, political campaigns need to build a credible and authentic image through honest and transparent communication (Chadwick, 2013).

Another increasingly relevant challenge is the influence of social media in shaping public opinion. While social media provides opportunities for political campaigns to reach voters directly and more personally, these platforms can also be used to spread misinformation or manipulative information. Therefore, political campaigns must be able to use social media wisely and maintain their credibility in the eyes of voters (Berthon et al., 2012).

However, behind these challenges, there are great opportunities for political marketers to design more innovative strategies by leveraging new technologies and big data. Better data analysis allows political campaigns to tailor their messages to more segmented audiences, increasing the efficiency and effectiveness of campaigns (Tufekci,

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2018).

Conclusion

Understanding voting intention and applying marketing theory in a political context provides crucial insights for modern political campaigns. As technology and data analysis become more sophisticated, political campaigns can design more targeted and personalized strategies that can significantly influence voter decisions. Political marketing involves not only one-way communication from candidates to voters but also building two-way relationships that involve active participation from voters. With a more data-driven approach and more connected to voter needs, effective political marketing strategies can increase voting intention and support electoral success.

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