

Implementation of Sharia-Based AI to Enhance SME Performance

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This study explores the application of Artificial Intelligence (AI) based on Islamic principles within the small and medium-sized enterprises (SMEs) sector in Indonesia. With a focus on ethical aspects aligned with Sharia values, the research identifies AI's potential to enhance operational efficiency, consumer trust, and business reputation for SMEs operating in predominantly Muslim markets. Using a qualitative literature review approach, the study analyzes previous findings related to Sharia-compliant AI applications, highlighting benefits such as increased consumer loyalty through principles of fairness, transparency, and integrity. The results reveal that Sharia-based AI can contribute to sustainable business practices, providing a competitive advantage in markets sensitive to ethical considerations. Additionally, the research emphasizes that Sharia-compliant AI design is more accessible to SMEs with limited resources, supporting smoother adoption and increased operational sustainability. Recommendations include developing supportive policies for ethical AI integration, fostering affordable AI solutions, and further encouraging empirical research to evaluate the long-term financial and social impacts of Sharia-based AI on SMEs. This study contributes to the growing body of knowledge on ethical AI in business and provides practical guidance for policymakers, technology developers, and SMEs seeking to integrate Sharia-compliant AI for enhanced competitiveness and consumer loyalty.

1. Introduction

Artificial intelligence (AI) has brought significant changes to various aspects of life, overhauling the operational order of businesses and introducing innovations that drive new efficiencies and competitiveness. In the global economy, AI is no longer just a productivity tool, it now serves as a key driver of profound business transformation. However, the Micro, Small, and Medium Enterprises (SMEs) sector, which is the backbone of the Indonesian economy, contributing more than 60% to Gross Domestic Product (GDP) and providing jobs for 97% of the national workforce (<https://ekon.go.id/publikasi/detail/5318/dorong-umkm-naik-kelas-dan-go-export-pemerintah-siapkan-ekosistem-pembiayaan-yang-terintegrasi>) faces major challenges in adopting this technology. Limited access to financing, resources, and technological literacy slow down the adaptation of AI in this sector, even though its role is crucial for the stability and sustainable growth of the national economy.

Despite their important role, SMEs in Indonesia are often hampered in implementing cutting-edge technology such as AI which can significantly help improve operational efficiency. Based on existing research, there are several results that show that Micro, Small and Medium Enterprises (SMEs) face high costs in implementing technology. Research by Tambunan (Tambunan, 2023) emphasizes the importance of government support in helping SMEs to shift to digitalization, but also shows that many SMEs still feel burdened by the costs associated with adopting new technology. This is in line with the findings of Murdianto *et al* (Murdianto *et al.*,

2020), who identified that understanding and use of appropriate technology by SMEs is still low, which can contribute to the perception that the costs of implementing technology are too high. This obstacle, coupled with ignorance about the benefits of AI technology, means that AI adoption in SMEs is still very minimal. Moreover, in countries with a majority Muslim population, the use of technology must be in harmony with sharia values so as not to cause ethical dilemmas among society.

The use of technology by consumers is an unavoidable demand because consumers choose products without deciding on purchases with the help of IT (Galib, M., *et al.* 2022), including the use of AI Integration based on Islamic principles offers an approach that combines technological efficiency and ethical compliance. Islamic concepts such as justice, transparency, and integrity can provide a moral foundation for AI applied in SMEs. The principle of justice, for example, is important to be applied in a product recommendation system that is impartial and fair to all consumers. Likewise, transparency in the management of customer data can prevent business actors from practices that violate privacy and ethical expectations. Studies conducted by Ameen *et al.* (2012) and Yusuf *et al.* (2022) show that trust acts as a mediator in the relationship between AI-supported service quality and customer experience. The results of this study indicate that when AI-supported services are implemented well, customer trust increases.

However, although ethical values are important for SMEs, the biggest challenge is designing technology that is not only efficient but also in accordance with sharia principles. Research by Firnando (2024) explains that although AI has the potential to shape the Islamic worldview in the digital economy, the implementation of ethical AI in accordance with Islamic principles is still a challenge, and this is one of the reasons for their hesitation to adopt this technology. In addition, Research by Yusuf *et al.* (2022). shows that without clear guidance on Islamic values, the use of technology can lead to behavior that is not in accordance with Islamic principles, which in turn can damage the reputation of the business and cause distrust from consumers. Therefore, an AI approach based on Islamic principles has the potential to be a solution that not only improves operational performance but also builds trust among Muslim consumers.

Research on the application of artificial intelligence (AI) based on Islamic principles in the Micro, Small, and Medium Enterprises (SMEs) sector is still limited. However, several studies such as research by (Wijaya *et al.*, 2021), (Suhartanto *et al.*, 2021) show that customer trust in Islamic banks is positively correlated with customer loyalty. This shows that the application of Islamic business ethics which includes five main principles can increase customer satisfaction and trust, so that the company becomes the main choice in purchasing similar goods. In this context, AI based on Islamic principles allows SMEs to maintain consumer trust by offering more ethical and transparent services. This is important considering that customer loyalty is one of the factors that can maintain the position of SMEs amidst increasingly fierce competition in the domestic and international markets.

However, there are still a number of obstacles that need to be overcome in implementing AI in SMEs in Indonesia. One of them is the limited costs required to purchase AI devices and software, which are generally expensive. In addition, most SMEs in Indonesia still have minimal digital literacy, so they find it difficult to understand and operate sophisticated technologies such as AI. A study conducted by Yusuf (2023) revealed that the lack of skilled human resources in AI is also a significant challenge, where only around 15% of SMEs have workers with basic technological skills.

Therefore, this study aims to assess the impact of implementing Islamic-based AI in the aspects of supply chain management and customer data analysis in SMEs. Supply chain is one area where AI can provide significant benefits in terms of efficiency, for example through better demand prediction and inventory management. However, the application of AI in this area must

take into account Islamic business ethics, for example by avoiding practices that are detrimental to small suppliers or taking into account the needs of local communities.

Furthermore, this study will also evaluate the benefits of implementing AI in SMEs marketing strategies that are in accordance with Islamic ethics. Marketing based on the principles of fairness and transparency can help SMEs build a positive image in the eyes of Muslim consumers who are very concerned about halal and ethical aspects in their consumption. With AI designed to respect consumer privacy and needs, SMEs can create deeper relationships with their customers and ensure that their marketing activities remain in accordance with sharia values.

The scope of this research covers the SMES sector in Indonesia, with a primary focus on operational aspects that can be improved through the use of AI based on Islamic principles. This study will identify and develop AI features that are in accordance with Islamic values, and evaluate their impact on the performance of SMEs in various sectors, such as retail, food and beverages, and services. Thus, the results of this study are expected to provide practical guidance for SMEs who want to adopt modern technology without ignoring the Islamic principles that are the foundation of their business ethics.

With this research, it is also expected that there will be an increase in understanding among SMEs regarding the importance of adopting AI in accordance with Islamic principles. This study also aims to open insights for technology developers in designing AI solutions that are more inclusive and accessible to SMEs with limited budgets. The contribution of this research is expected to strengthen the role of SMEs in the Indonesian economy and support the creation of a fairer, more sustainable, and ethical business ecosystem.

Therefore, this study focuses not only on the technical aspects of AI implementation but also on the social and economic impacts that may be caused by AI based on Islamic principles. This concept is expected to enrich the literature on the application of AI in Islamic business and make a significant contribution to building a more humane and culturally appropriate business model.

2. Literature Review

As artificial intelligence (AI) develops in various sectors, its application in small and medium enterprises (SMEs) is starting to get attention. A report from McKinsey states that the use of Generative AI tools can increase the productivity of a division in an organization by 35-55%. (https://dailysocial.id/post/pemanfaatan-ai-untuk-bisnis-umkm#google_vignette). Additionally, the implementation of AI in SMEs can help in the automation of routine tasks, data analysis, and personalization of customer service, all of which contribute to increased operational efficiency and competitiveness in the market. (<https://braincore.id/blog/meningkatkan-daya-saing-umkm-dengan-kecerdasan-buatan-ai>) According to a study conducted by Duan *et al.* (2019), in (Binus 2024). in the implementation of AI in SMEs can increase productivity by up to 40% and reduce operational costs by 20-30%. AI technologies such as machine learning and natural language processing enable SMEs to automate routine tasks, analyze customer data more accurately, and provide more personalized services. However, despite its great potential, there are concerns that the use of AI can create unfairness or bias in the automated decision-making process. Elmahjub, E. (2023) study shows that the application of AI that does not consider local ethics and values often ignores aspects of justice, so that it can harm certain groups.

In the context of countries with Muslim-majority populations, the adoption of Islamic-based AI has become an attractive solution to mitigate these ethical challenges. Research shows that the integration of Islamic values, such as fairness, transparency, and integrity, in the application of technology, including AI, can increase the trust of Muslim consumers, especially in the financial and retail sectors. A study by Sholihin (2024) confirmed that Muslim consumer behavior tends to be influenced by a high awareness of Islamic morals and values, which drives

loyalty to products or services that comply with these principles. In Indonesia, the need for technology that is in line with Islamic principles is increasing, especially since SMEs often serve consumers who prioritize sharia aspects in economic transactions. According to a report from the Sharia Knowledge Center (2024), sharia SMEs have an important role in driving the national sharia economy and supporting Indonesia's vision as the world's halal industry center.

Although there are many studies on the application of artificial intelligence (AI) in large industrial sectors, literature discussing the application of Islamic-based AI in Micro, Small, and Medium Enterprises (SMEs) is still very limited. Most of the existing studies focus more on sectors such as information technology and banking, without considering the relevant sharia context for SMEs in Muslim markets (Wang, 2022). This gap motivates us to explore how Islamic-based AI models can be designed to suit the characteristics and needs of SMEs. NAFA, Y., Sutomo, M., & Mashudi, M. (2022), (Citta, A. B., *et al.* . 2019), emphasize the importance of a value-based approach in AI development, but they do not provide specific guidance for SMEs in Muslim markets. Further research is needed to develop a framework that can integrate Islamic values in the application of AI, so that it can provide greater benefits for SMEs (Wahab, 2023).

The application of artificial intelligence (AI) in line with Islamic principles has the potential to strengthen the image of Micro, Small, and Medium Enterprises (SMEs) in the eyes of consumers who prioritize ethical and halal transactions. Research by Budiningrum (2024) shows that businesses that integrate Islamic values in AI operations tend to gain higher customer loyalty, because Muslim consumers are increasingly paying attention to ethics in transactions. By adopting AI that is in accordance with sharia principles, SMEs can create a positive image that is attractive to consumers who care about halal and fairness in their transactions (Budiningrum, 2024).

Furthermore, Behl *et al.* (2022) identified that the main gap between conventional AI and ethics-based AI lies in the profit-centric approach that is often taken by today's technology. This approach tends to ignore sustainability and social responsibility, which are important aspects in the context of ethical business. Thus, this study is expected to develop a more relevant AI approach for SMEs in Indonesia, which focuses not only on financial gain but also on broader social and ethical impacts (Behl *et al.*, 2022).

In this context, the implementation of AI that is ethical and in accordance with Islamic principles can help SMEs in increasing operational efficiency, optimizing marketing strategies, and improving customer experience (Budiningrum, 2024). For example, the use of AI in digital marketing management can help SMEs to reach consumers in a more effective way and in accordance with sharia values (Yeni, 2024). Thus, the implementation of AI based on Islamic principles will not only increase the competitiveness of SMEs but also strengthen their relationships with consumers who prioritize halal and ethical transactions (Budiningrum, 2024).

The existing research gap indicates a lack of artificial intelligence (AI) models designed to support Islamic values in Micro, Small, and Medium Enterprises (SMEs), as well as a lack of practical guidance that can help SMEs implement AI ethically. Research by Hartanto (2023) and Harahap *et al.* (2023) indicates that the integration of sharia aspects in AI can be a competitive advantage for SMEs in the Muslim market.

However, to date, there has been no research that has developed a concrete framework for the application of AI based on Islamic values in this sector. Therefore, this study aims to fill this gap by developing an AI model that is able to meet the ethical and practical needs of SMEs operating in the domestic market and oriented towards sharia principles. This model is expected to not only provide guidance for SMEs in implementing AI, but also ensure that the technology used is in line with Islamic values, such as fairness, transparency, and social responsibility (Harahap *et al.*, 2023; Ishak, 2023).

3. Methodology

This study uses a qualitative approach based on literature studies to analyze the application of artificial intelligence (AI) based on Islamic principles in the SMES sector. This approach is considered appropriate because it is able to provide an in-depth understanding of relevant concepts and theories from various library sources, and allows researchers to explore the theoretical basis and sharia principles in AI technology. As expressed by Boell, S. K., & Cecez-Kecmanovic, D. (2014), a qualitative approach based on literature allows for in-depth exploration of the phenomenon being studied, especially in fields that have limited empirical studies. Literature studies were chosen as the main method because they offer flexibility in examining the concept of Islamic-based AI from various perspectives that have been discussed by previous researchers, and allow for the identification of research gaps that need to be followed up.

Data collection in this study was carried out through the collection of relevant documents, including journal articles, books, research reports, and publications related to the application of AI in the context of Islamic ethics and SMEs. This technique refers to the document study method explained by Johnston, M. P. (2014), which states that literature or document studies are very effective in obtaining secondary data that is rich in theoretical information. The selected documents come from credible academic sources, and include relevant research on AI, sharia principles, and technology implementation in the SMES sector. The data obtained were then filtered and classified based on main topics, such as AI based on Islamic values, challenges in implementing AI in SMEs, and the potential impact of this technology on business performance.

To ensure the reliability of the results, this study applies validation through source triangulation and peer review techniques. The source triangulation technique is used to ensure the consistency of information from various literature sources, thereby strengthening the accuracy and credibility of the data obtained (Gibson, C. B. 2017). In addition, peer review is carried out by asking colleagues to review and provide input on the interpretation of data and conclusions generated from the literature analysis. According to Johnson, J. L., *et al.* (2020), peer review is an effective method in increasing the validity of qualitative research results, because it allows the identification of potential researcher bias. With this validation technique, the research results are expected to provide a reliable contribution in developing an Islamic-based AI model that is relevant and applicable to SMEs in Indonesia.

4. Results and Discussion

This study reveals a number of important findings from the literature related to the application of Islamic-based artificial intelligence (AI) in the SMES sector in Indonesia, which show various significant benefits from the application of AI based on Islamic ethics.

Increasing Muslim Consumer Trust and Loyalty

The application of Islamic principles in artificial intelligence (AI) plays a significant role in increasing consumer trust, especially among Muslim customers. Research by Sumiyati and Vebtasvili (2021) shows that Islamic banks in Asia develop their philosophies based on the Qur'an and As-Sunnah, which emphasize the importance of ethics in human actions and their consequences. In the context of AI, transparency and fairness are key to building trust. Yazdani (2023) emphasizes that clear and transparent presentation of information in AI interactions is essential to increasing consumer trust in this technology. In addition, research by Minton *et al.* (2022) shows that consumer religiosity is positively related to the acceptance and evaluation of AI, where more religious consumers tend to have higher trust in invisible elements in AI. This suggests that the application of Islamic principles in AI not only increases trust but also creates a stronger relationship between consumers and service providers.

Research by Frank *et al.* (2023) revealed that trust in companies offering AI services is greatly influenced by consumers' perceptions of AI autonomy. In this case, the application of Islamic ethical principles can increase positive perceptions of companies, thereby encouraging the adoption of AI services. Research by Ishak (2023) highlights the importance of harmonization between Islamic economic principles and AI technology to achieve a sustainable balance. Thus, the application of Islamic principles in AI not only creates trust among consumers but also contributes to the sustainability and success of businesses in the digital era, where consumers increasingly expect transparency and ethics in their interactions with technology..

Sustainable Operational Efficiency

Artificial intelligence (AI) not only provides benefits in terms of productivity, but also supports sustainable operational efficiency, especially when adjusted to Islamic principles. A study by (Sakapaji, 2023) shows that AI is able to streamline supply chain management and inventory management, which can reduce SMES operational costs by up to 20%. However, this efficiency will be more significant if AI is applied based on the values of fairness and honesty, as explained by (Naeeni, 2023), who emphasized that the application of ethical principles in business can increase trust and collaboration in the supply chain. For example, stock management with transparency-based AI allows SMEs to avoid practices that harm suppliers or consumers, thereby creating a more harmonious relationship in the supply chain ecosystem. Research by Gualandris *et al.* (2014) also shows that sustainable supply chain management can improve the overall sustainability performance of a company, which is in line with the application of Islamic principles in business.

The application of Islamic principles in AI can strengthen the commitment to sustainable business practices. Jungwirth and Haluza (2023) emphasize that the integration of Islamic values in technology can help SMEs not only achieve operational efficiency but also create a positive impact on society and the environment. In this context, research by Moodaley and Telukdarie (2023) shows that the increasing demand from stakeholders for accurate sustainability reports can be supported by AI technology, which allows for faster and more accurate data analysis. By implementing the principle of "good deeds" or doing good, businesses can operate in a way that is not only financially profitable but also provides wider social benefits (Adelakun, 2024). Therefore, the application of AI based on Islamic principles not only improves operational efficiency but also creates a more ethical and sustainable business model in this digital era.

Competitive Advantage in Ethically Sensitive Markets

Islamic AI provides a substantial competitive advantage for SMEs in a market that is increasingly sensitive to ethical issues. Muslim consumers are now more selective in choosing products or services that comply with sharia principles Widjajanti & Sugiyanto (2023). Consumers who prioritize halal and ethical aspects tend to switch to businesses that use AI based on Islamic ethics. This is supported by research showing that businesses that prioritize sharia ethics, especially in the use of AI technology, can experience an increase in market share among Muslim consumers (Fatikha *et al.*, 2021). This competitive advantage not only provides advantages for SMEs but also expands market coverage, especially in countries with large Muslim populations such as Indonesia. Research shows that Islamic AI is also a major driving factor for SMEs who want to enter the global market, because the ethical values they uphold are considered capable of overcoming trust issues in the international market (Dahana *et al.*, 2021).

The application of Islamic principles in AI can strengthen the position of SMEs in a competitive market. Research shows that attention to market orientation and product innovation can increase the competitive advantage of SMEs (Setiawan, 2023). In this context, companies that

have a competitive advantage will find it difficult for competitors to capture their market share, so market orientation is important to create a competitive advantage (Fatikha *et al.*, 2021). In addition, research shows that product innovation and digital marketing can improve the marketing performance and competitive advantage of SMEs (Katuuk, 2023). Thus, the application of AI based on Islamic principles not only increases operational efficiency but also creates a more ethical and sustainable business model in this digital era, which in turn can increase the competitiveness of SMEs in an increasingly competitive market.

Contribution to Sustainable Business Development

The use of sharia-based AI in SMEs supports sustainable business development, both economically and socially. According to Badghish (2024), the application of AI with the principles of fairness and integrity helps SMEs create a stable business base by maintaining a balance between profit and social responsibility. SMEs that utilize AI with Islamic values tend to gain support from consumers and local communities, who see the business as a responsible entity. Research by Drydak (2022) shows that AI can help SMEs reduce business risks and increase efficiency, which can contribute to a more positive social impact, although it does not specifically discuss Islamic values. In addition, Rakhmawati (2024) emphasizes the importance of halal certification for SMEs in improving their image and reputation in the eyes of consumers, which is in line with sharia principles. This study reveals that SMEs that implement AI can survive longer in the market due to high consumer trust, as well as a more positive social impact. This pattern shows that ethics-based AI, including that which is in accordance with Islamic principles, provides a strong foundation for SMEs to develop sustainable businesses without having to sacrifice ethical values.

Ease of AI Adoption for SMEs with a Sharia Approach

Sharia-based AI design has been shown to be more easily adopted by SMEs, especially among small business owners who often have technical and financial limitations. Research by Li *et al.* (2017) shows that digital business strategies, including the implementation of AI, can support the growth and sustainability of SMES businesses, with an approach that is in accordance with sharia values. In addition, research by Yuen (2023) emphasizes the importance of training and education on digital technology to help SMEs adopt new technologies, including AI, in a way that suits their needs. Another study by Bharadwaj *et al.* (2013) also shows that the adoption of digital technology can be a solution to overcome various obstacles faced by SMEs. Thus, the sharia approach in AI design not only facilitates the adoption of technology, but also contributes to the growth and sustainability of SMES businesses in the digital era.

Positive Impact on the Image and Reputation of SMEs

Islamic-based AI has a significant impact on the image and reputation of SMEs in the eyes of consumers, especially Muslim consumers who highly value fairness and honesty. A study by Firnando (2024) shows that SMEs that implement Islamic AI are seen as more responsible and trusted business entities. Consumers tend to have a positive perception of SMEs that maintain sharia values in every aspect of their operations, including in the application of technology. In addition, research by Baabdullah *et al.* (2021) found that the use of Islamic AI can improve the customer service experience, which has an impact on increasing the loyalty and reputation of SMEs as a whole. According to Jobin and Ienca (2019), the importance of ethics in the implementation of AI strengthens the position of SMEs that prioritize Islamic values in a competitive market, and consumers are more likely to return because ethical values are in line with

their beliefs. This study shows that Islamic AI not only supports operations but also strengthens public perception of SMEs, which is important for maintaining sustainable customer relationships.

5. Discussion

This study provides in-depth insights into the importance of implementing Islamic-based artificial intelligence (AI) in the SMES sector, and the findings show that this approach has a variety of positive impacts. In a broader context, the implementation of Islamic AI not only supports the improvement of SMES operational efficiency and performance but also offers a more ethical and sustainable business model. Islamic AI enables SMEs to operate digitally without abandoning the fundamental values that are considered important by Muslim consumers, such as fairness, transparency, and integrity. According to Rojas & Tuomi (2022), the implementation of ethical technology in the service sector can increase consumer trust and create positive social impacts. This finding has major implications for the economies of Muslim-majority countries that want to drive digital transformation while maintaining a strong local cultural identity and ethics in doing business.

The implementation of Sharia-based AI in SMEs shows the potential to build a sustainable business ecosystem. Maulana (2023) emphasized that good digital and financial literacy among Islamic SMES actors is very important for the sustainability of their business. This is in line with the finding that Muslim consumers will be more loyal to businesses that prioritize Islamic values. This is in line with the findings of this study, which show that Muslim consumers prefer businesses with Islamic ethical values. Fitria et al. (2022) also support this finding, stating that the integration of AI with the principle of fairness prevents consumers from discrimination, which is a major concern in modern society. Therefore, this study shows that Islamic AI can build deeper trust among consumers, especially in the Muslim market that is increasingly concerned about ethical issues in technology.

In the context of the global economy, Islamic AI can be a key driver in creating a fairer and more inclusive business environment, where technology is not only profit-oriented but also maintains humanitarian principles. According to Raharjo and Riyadi (2022), digitalization supported by Islamic financial institutions can help SMEs overcome the challenges they face, thereby creating greater opportunities for growth. Thus, the application of sharia-based AI not only contributes to the sustainability of SMES businesses but also strengthens their position in an increasingly competitive economy.

Furthermore, this study shows a significant increase in efficiency through the use of Islamic AI. According to Adenekan Adenekan (2024), the application of AI in supply chain management allows businesses to optimize stock management and demand prediction. This study reveals that the use of AI with sharia values can create sustainable efficiency, which has a positive impact not only on profitability but also on the image of an ethical business in the eyes of consumers. By using the principles of fairness, such as fair pricing and transparent stock management, SMEs can build mutually beneficial relationships with suppliers and consumers, creating a supply chain that is not only efficient but also ethical. This is in accordance with the findings of Pournader et al. (Pournader et al., 2021), which shows that the application of AI in supply chain management can increase stakeholder trust through transparency. However, this study also shows slight differences from previous studies that emphasize the profitability of AI in the context of conventional businesses. Triyawan et al. (2023), for example, focused on the impact of AI profits on increasing profit margins, but did not take into account the impact of ethics or social values in the implementation of AI. This study actually reveals that the use of AI that only focuses on profit has the potential to reduce the loyalty of Muslim consumers, who tend to value businesses that uphold Islamic values more. Thus, this study underlines that the Islamic AI approach can be a differentiating factor for SMEs in an increasingly competitive business environment. This is

important in the context of a developing market such as Indonesia, where ethical values are increasingly important to consumers and can influence purchasing decisions.

From a global perspective, the application of Islamic value-based AI also shows the potential to be an alternative model for an ethics-oriented economy. While most businesses and AI technologies in developed countries focus on efficiency and profit, Wang's (2022) findings support the importance of an AI approach that prioritizes a balance between ethical values and business efficiency. Islamic AI can be applied not only in the SMES sector but also in various industries that want to maintain ethics in the use of technology. In this regard, the findings of this study are consistent with the theory that emphasizes the importance of ethics in sustainable business, where technology is not only used to achieve short-term efficiency, but also considers the long-term impact on society and the environment.

This study also shows that Islamic AI provides a competitive advantage for SMEs in a market that is increasingly sensitive to ethical issues. Suastini & Mandala's (2018) study supports this finding, showing that Muslim consumers who prioritize halal and ethical aspects prefer businesses that use Islamic AI. This study reveals that the integration of sharia values in AI is not just a trend, but a growing need in domestic and international markets. In a global market that is increasingly critical of sustainability issues, Islamic AI allows SMEs to stand out in the face of global competition, creating greater added value compared to conventional competitors that are solely profit-oriented. Overall, these findings not only strengthen the existing literature but also provide new perspectives on the importance of Islamic AI as an alternative model in business and technology. However, this study has limitations because it only uses a literature study as the main data source. Ideally, further research can involve empirical data from SMES actors to test these findings in real practice. In this way, the validity and generalization of the results can be further improved, as well as providing more applicable guidance for SMEs interested in adopting Islamic value-based AI technology.

6. Conclusion

This study explores the application of Islamic-based artificial intelligence (AI) in the SMES sector in Indonesia, focusing on the impact of sharia values on consumer trust, operational efficiency, and business image and reputation. The main problem identified in this study is the need to develop AI technology that is not only oriented towards profitability but also considers ethical and sharia values valued by Muslim consumers. The methodology used in this study is a qualitative literature study, which allows for the search and analysis of relevant literature to understand Islamic AI concepts in the context of SMEs.

The results of the study indicate that Sharia-based AI can provide extensive benefits for SMEs. Key findings include increasing Muslim consumer trust and loyalty through the application of fairness and transparency principles, increasing sustainable operational efficiency through ethical supply chain management and demand forecasting, and substantial competitive advantage in markets that are increasingly sensitive to ethical issues. In addition, Islamic AI also has the potential to support sustainable business development, where ethical values play an important role in maintaining stable relationships with consumers and other stakeholders. The study also highlights that Islamic AI provides ease of adoption for Muslim SMEs that may have technical and financial limitations, as well as a positive impact on the image and reputation of SMEs in the eyes of consumers who value Islamic values.

The main contribution of this study is an in-depth understanding of the role of Islamic AI in supporting the sustainability and competitiveness of SMEs in Muslim-majority countries. This study extends the existing literature by emphasizing the importance of an AI approach that prioritizes a balance between ethical values and business efficiency, a perspective that is increasingly relevant amidst increasing consumer awareness of sustainability and social

responsibility issues. By highlighting the opportunities and challenges faced in implementing Islamic AI, this study is expected to be an important reference for SMEs, policy makers, and technology developers in designing AI solutions that are more inclusive, sustainable, and in line with the needs of Muslim communities.

7. Recommendation

Based on the findings and conclusions of this study, there are several recommendations that can be given to encourage the implementation of Islamic-based artificial intelligence (AI) in the SMES sector in Indonesia and other Muslim-majority countries.

First, SMEs who want to adopt AI are advised to consider sharia principles such as fairness, transparency, and integrity in the selection and use of technology. The findings of this study indicate that an AI approach based on Islamic ethics not only improves operational efficiency but also strengthens consumer trust and loyalty, which are essential for business sustainability. Therefore, SMEs should choose AI solutions that can be tailored to Islamic values, to ensure that the implementation of technology remains consistent with the expectations of Muslim consumers.

Second, policy support is needed from the government and related organizations to facilitate SMES access to ethical and affordable AI technology. The government and related institutions can help by providing training or mentoring programs in the use of sharia-based AI. Policies that encourage the adoption of ethical AI in SMEs, for example through incentives or subsidies, will help accelerate the implementation of technology that is in line with Islamic culture and values.

Third, technology developers are advised to design AI solutions that are more inclusive and accessible to SMEs with limited resources. Simple, adaptive, and Islamic-based AI designs will facilitate the adoption process in SMEs that may have technical and financial limitations. Technology developers are also expected to create AI solutions that not only maximize profits but also consider ethical aspects, in order to meet market demand that is increasingly sensitive to social and cultural values.

Fourth, further research is recommended to explore the long-term impact of implementing Islamic AI on financial and social aspects in SMEs. Empirical studies involving direct data from SMEs will enrich the understanding of how Islamic AI can be implemented effectively and provide sustainable positive impacts. Additional research can also focus on developing Islamic AI models or frameworks that can be applied across various business sectors and industries, thereby providing practical contributions to SMEs worldwide.

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