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The Utilization of Artificial Intelligence for Financial Inclusion and Business Sustainability Among MSME Operators: Literature Review

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) are a business sector that plays an important role in Indonesia's economy. MSME actors often face challenges in the sustainability of their businesses, both in terms of innovation and competitiveness, especially in the current digital era, which requires MSME actors to understand rapidly evolving technology. In the current technological development, the utilization of Artificial Intelligence (AI) can assist in various aspects of daily life. MSME actors can develop their businesses with the help of AI for decision-making and to take part in the financial sector, which ultimately improves business sustainability and more broadly increases economic growth. However, AI has not been widely utilized by MSMEs in Indonesia. The research method employed in this study is a literature review, which is a review or summary of previous research findings on the utilization of AI for financial inclusion and business sustainability in the MSME sector. This study presents an overview of the benefits and challenges of AI for MSME actors, as well as its impact on improving business sustainability and increasing economic growth.

Keywords

MSMEs, Artificial Intelligence, Financial Inclusion, Business Sustainability.

1. Introduction

Micro, small, and medium enterprises (MSMEs) play an important role in driving Indonesia's economy. The presence of MSMEs in every economic sector has great potential in absorbing labour and contributing to the formation of Gross Domestic Product (GDP). MSMEs contribute a significant portion of jobs, promote innovation, support business sustainability, and enhance income and economic growth. Thus, the existence of MSMEs greatly helps reduce unemployment and poverty levels (Hidayat, 2022; Suprapti & Suparmi, 2022; Komarudin et al., 2023).

MSMEs in Indonesia have recorded 65.5 million business units, contributing 61% to GDP, and providing 97% of jobs. This reflects that MSMEs have a strategic role in providing job opportunities for the wider community, as well as supporting the government's efforts in addressing unemployment issues and improving social welfare (Wibowo, 2021). The sustainability of MSMEs is important so that this sector can continue to grow and contribute significantly to the economy. Despite the significant potential of MSMEs, their growth encounters numerous obstacles. The traits of MSMEs as informal and local enterprises catering to the regional market present particular challenges for them in expanding their operations, such as securing financing, obtaining business information, marketing, and accessing human resources (Mariyono, 2019). Particularly due to the swift progress in information and communication technology, traditional financial services have become heavily linked with digital innovations, necessitating that SMEs stay current with these changes.

In the current digital era, advancements in digital technology have opened access for MSMEs to engage in financial activities, where limitations in financial inclusion can hinder the development of MSMEs in the digital era (Sulich et al., 2023). Therefore, it is important for MSMEs to understand and address these issues to accelerate financial inclusion and utilize financial technology more effectively. This can help improve operational efficiency, enhance competitiveness in the market, and increase business sustainability in the present era (Susilawati et al., 2022; Davlyatbekovna, 2024).

Artificial Intelligence (AI) is a technology that permeates all aspects of industrial activities. AI has the ability to analyze large amounts of data quickly and accurately. AI can be used to automate routine tasks, such as answering customer questions through chatbots, which can improve operational efficiency and customer satisfaction (Kshetri, 2021). Although AI offers various significant benefits, the adoption of this technology among SMEs is still minimal. This is due to several factors, including limited knowledge about AI, lack of technical skills, and limited access to the resources needed for AI usage. Many SME players are not yet aware of the great potential offered by AI, so they still rely on conventional marketing methods that are less effective in this digital era (Sailendra & Djaddang, 2022).

The rapid development of technology creates a gap between large companies that can adopt the latest technology and SMEs that often lag behind. Large companies with abundant resources can easily integrate AI into their operations. Meanwhile, SMEs with limited resources and knowledge face various obstacles (Sulich et al., 2023). Past studies on the incorporation of AI algorithms within social networks have shown a beneficial effect on the performance of MSMEs (Herzallah et al., 2021). This demonstrates that AI has enhanced the performance of MSMEs. Nevertheless, MSMEs encounter multiple challenges, such as outdated technology, inefficiencies in supply chains, and rising global competition, which digital transformation can assist them in surmounting (Kulkarni et al., 2024). The main objective of this literature review is to discuss the utilization of AI by MSMEs in enhancing financial inclusion and the utilization of AI by MSMEs in supporting business sustainability, as well as the impact of financial inclusion on business sustainability.

2. Literature Review

The stipulations for micro, small, and medium enterprises are specified in Law Number 20 of 2008 regarding Micro, Small, and Medium Enterprises (MSMEs). Micro enterprises are defined as those with annual sales reaching 300 million IDR or net assets that do not exceed 50 million IDR. Small businesses are those that possess net assets ranging from 50 million IDR to 500 million IDR, or have annual sales between 300 million IDR and 2.5 billion IDR. Medium-sized businesses are those with net assets ranging from 500 million IDR to 10 billion IDR, or annual sales between 2.5 billion IDR and 50 billion IDR.

First introduced by John McCarthy in 1956, the word "AI." Based on the ideas of human intellect, artificial intelligence (AI) can carry out tasks without explicit programming. Using vast amounts of data, this automated system generates, evaluates, and decides (Kshetri, 2021). Big data and artificial intelligence (AI) improve productivity, control risk, offer intelligent financial products and services, streamline account opening processes, and create customer credit scores through non-traditional data sources (Ozili, 2023).

According to the Financial Services Authority Regulation Number 76/POJK.07/2016, financial inclusion refers to the accessibility of diverse financial institutions, products, and services designed to meet the needs and capacities of the community to enhance their well-being. The goals of financial inclusion consist of expanding community access to financial institutions, products, and services offered by Financial Services Business Actors; improving the availability of financial products and/or services provided by Financial Services Business Actors that cater to the needs and capacities of the community; boosting the use of financial products and/or services that align with community needs; and enhancing the quality of utilizing financial products and services that fit the community's needs and capacities (Putranti et al., 2020; Laeeq, 2021).

Financial inclusion seeks to integrate all individuals, particularly the economically disadvantaged, into the financial system via formal financial services and bank accounts, which can foster economic development and alleviate poverty (Ozili, 2018). Furthermore, Sailendra & Djaddang (2022) determined that digital financial inclusion refers to the capacity to access different services, products, and financial entities via digital platforms that align with the needs and abilities of the community, enhancing their overall well-being. As stated by Ozili (2020), the concept of financial inclusion can be analyzed from multiple angles concerning funding, recipients, and service provision. This study examines the ways in which incorporating artificial intelligence (AI) into a nation's financial framework can deliver financial services and products to every segment of society. Consequently, the theory of financial inclusion systems is applied to reinforce the understanding of this concept, which posits that financial inclusion advantages the economy in its entirety (Ramadhan et al., 2024).

Business sustainability is a resilience of a business that persists over time (Richard et al., 2024). The sustainability of businesses in MSMEs can be seen from the success of entrepreneurs in innovating, managing employees and consumers, and being able to recoup the initial capital used. Capital, human resources, production, and marketing are four important aspects that need to be considered in business. By understanding these aspects, entrepreneurs can sustain their businesses over time (Dewi & Herawati, 2023). The ability of a company to achieve business goals and optimize long-term value by improving business performance and fairly applying economic, environmental, and social benefits is called business sustainability (Prihanto & Damayanti, 2022). To what extent owners manage their businesses from financial and non-financial perspectives greatly influences the sustainability of the business. Organizational resources, government policies, business competition, and technology and its application fall into this category. The degree of a business's

success in innovation, generating benefits for employees and customers, and the return on equity can reflect the sustainability of micro, small, and medium enterprises (MSMEs) (Pamuji, 2018; Hanggiani et al., 2024).

3. Methods

This study uses a narrative review method to analyze previous research findings related to the utilization of Artificial Intelligence (AI) in supporting financial inclusion and business sustainability in the Micro, Small, and Medium Enterprises (MSME) sector. The literature used in this review was obtained from various scholarly articles using keywords such as MSME, Artificial Intelligence, financial inclusion, and business sustainability. The articles were selected based on their relevance to the topic, resulting in a collection of studies that were further analyzed. This analysis aims to identify the relationships between key variables discussed in prior studies, such as how AI contributes to improving financial access for MSMEs and its impact on the sustainability of their business operations. This method allows the researcher to gain a comprehensive overview of research trends and the practical applications of AI in supporting MSMEs, as well as identify research gaps that can be addressed by future studies. This approach provides a strong foundation for understanding the role of AI in strengthening the MSME sector.

4. Results

Based on the referenced article, various areas of AI utilization by MSME actors are known. Shan (2024) research has explored the use of AI in intelligent computing, screening, and ad targeting. The results of the research comparing advertising with and without the use of AI show that AI-based advertising has demonstrated better results and benefits in terms of ad matching accuracy, recall, and return on investment. Furthermore, this indicates that in the era of big data, AI-based advertising has become a major trend and technology in industry development. Furthermore, the research conducted by Sulich et al. (2023) with a literature review on AI and sustainable development identifies key areas of AI (such as agriculture, computer science, economics, business management, and decision-making processes) that can significantly contribute to achieving sustainability and business management.

The research conducted by Kulkarni et al. (2024) with a sample of MSME employees assesses how AI affects the social sustainability and business ethics of MSMEs. The results show that AI readiness has a direct impact on social sustainability, and business ethics significantly influence social sustainability. Next, the utilization of AI is linked to financial inclusion to achieve sustainability (Kshetri, 2021). The research used a narrative study by comparing the application process with traditional financial systems, and a comparative study of several countries and top applications selected from secondary data. The research shows several conclusions, including that the implementation of AI is important in financial inclusion, where by comparing it with traditional financial systems, it was found that traditional financial systems do not encourage community involvement in the financial sector.

Lin & Xu (2024) conducted research on financial inclusion and MSMEs, exploring how financial inclusion affects the environmental performance of MSMEs in China. The findings indicate that digital financial inclusion offers financial assistance to MSMEs and greatly enhances their environmental performance. A different study carried out by Ozili (2018) assesses how digital finance affects financial inclusion and the stability of the financial system. At the conceptual level, the study also addresses the advantages and dangers of digital finance, digital financial inclusion, and overall financial inclusion. The conclusion indicates that

financial technology providers in digital finance positively impact financial inclusion in both developing and developed nations, and the ease offered by digital finance outweighs the higher costs associated with obtaining these services from regulated traditional banks. Although digital finance offers advantages, this study has pointed out various challenges that digital finance presents to both financial inclusion and financial stability.

5. Discussion

Research related to the utilization of AI by MSME actors shows that although significant challenges still exist, the use of AI can bring progress to MSMEs. Furthermore, the advancement of MSMEs can also impact various aspects of a country. Thus, research on AI, financial inclusion, and business sustainability is still very much developing. The advancement results in various additional problems, including environmental concerns. Lin & Xu (2024) conducted research that examined the effects of financial inclusion on the environmental performance of SMEs in China, improving insights into how digital financial services can enable SMEs to shift toward greater environmental sustainability. Additionally, the study conducted by Yang et al. (2023) regarding manufacturing digitalization and associated innovation challenges indicates that corporate digitalization predominantly concentrates on emerging technologies and a variety of innovative business models. The primary emphasis of the new business models centres around aspects like reduction, collection, reuse, recovery, and recycling. Thus, the company will effectively improve sustainability and total profitability.

According to research by Kshetri (2021), financial inclusion is a key sign of a nation's economic expansion. A nation's GDP does not rise when its economic activity declines due to a lack of financial inclusion. Economic growth is facilitated by nations with greater financial inclusion. Moreover, Ozili (2018) research identifies various challenges that digital finance presents to financial inclusion and stability, and advocates for further investigation into the correlation between digital finance and economic crises to ascertain if digital finance facilitates the dissemination of financial contagion during such crises.

6. Conclusion

The benefits of Artificial Intelligence (AI) have been widely recognized, particularly in the context of enhancing financial inclusion and ensuring the sustainability of Micro, Small, and Medium Enterprises (MSMEs). However, AI is not the only solution available, and several challenges need to be addressed for it to reach its full potential. One major concern is AI's ability to process large volumes of data while maintaining security, as well as the potential for regulations that could hinder its growth and effectiveness. Additionally, the effects of AI usage must be carefully considered, including the risks of complaints and financial setbacks for users, as well as the possibility of increased unemployment within the financial sector due to automation. Financial service providers implementing AI solutions must play an active role in promoting financial literacy to ensure that users can navigate these changes effectively. Policymakers need to strike a balance between leveraging AI's benefits and managing its associated risks to maintain a stable financial ecosystem. Lastly, academics involved in AI research must focus on identifying the ethical limitations of AI, especially concerning its application in financial services. This will be crucial to ensure that AI development aligns with ethical standards while fostering trust and accessibility for all stakeholders.

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