

Article

Examining the Impact of Knowledge Management Use and Innovation on Business Performance of MSMEs in the Digital Age. Case Study MSMEs in Indonesia

Christian Wiradendi Wolor ^{1,*}, Faerozh Madli ², Mahmoud Ali Rababah ³,
Hasan Mukhibad ⁴, Wong Chee Hoo ⁵

¹ Faculty of Economics, State University of Jakarta, Jakarta 13220, Indonesia

² Faculty of Business, Economics and Accountancy, University of Malaysia Sabah, Kota Kinabalu 88400, Malaysia

³ Jadara Research Center, Jadara University, Irbid 21110, Jordan

⁴ Faculty of Economics and Business, Semarang State University, Central Java 50229, Indonesia

⁵ Faculty of Business and Communication, INTI International University, Nilai 71800, Malaysia

* Correspondence: Christian Wiradendi Wolor,
Email: christianwiradendi@unj.ac.id.

ABSTRACT

Micro, small, and medium enterprises (MSMEs) play a crucial part in augmenting a nation's gross domestic product (GDP). Nevertheless, MSMEs continue to encounter obstacles, particularly in utilizing knowledge management to enhance their business performance. Hence, this study aims to investigate the correlation between the utilization of knowledge management for innovation and its influence on the performance of MSMEs, addressing an unexplored area of research. Data was collected through a field survey with a sample of 371 respondents from MSME business actors in Indonesia. The results of this research showed that the implementation of knowledge management does not directly affect the performance of small and medium-sized enterprises (SMEs). However, knowledge management positively influences innovation, which in turn positively affects the performance of these enterprises. The study makes a theoretical addition to the field of science and practice for MSMEs. The theoretical importance of this research lies in understanding that knowledge management alone does not lead to improved performance of SMEs without innovation. This underscores the importance of knowledge management in fostering innovation, which is essential for enhancing business performance amid rapid technological advancements. Practically, the findings suggest that SMEs should begin by identifying critical types of knowledge necessary for their operations and innovations, storing this knowledge systematically in accessible databases.

KEYWORDS: knowledge management use; innovation; business performance; MSME

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INTRODUCTION

The Indonesian government has implemented the MSMEs initiative as a means to address poverty and unemployment. Micro, small, and medium enterprises (MSMEs) play a crucial role in augmenting a nation's gross domestic product (GDP). According to the Ministry of Cooperatives and Small and Medium Enterprises, the number of MSMEs in Indonesia is projected to reach 64.2 million in 2021. These MSMEs are expected to contribute 61.07 percent to the country's GDP, amounting to IDR 8573.89 trillion. MSMEs can employ 97 percent of the current workforce and attract up to 60.42 percent of the total investment in Indonesia [1].

Even though MSMEs are needed to increase Indonesia's GDP, there are still problems and challenges faced by Indonesian MSMEs, according to the head of the MSME development and consumer protection department of Bank Indonesia (BI). The first challenge is maintaining MSMEs in the digital ecosystem. The second is increasing the capacity, quality, and productivity of MSMEs so they can contribute more to the global economy and trade. The third is expanding financial access for current MSMEs. The fourth is raising environmental awareness of global threats [2] to support the digitalization process for MSMEs and strengthen their business performance.

Several studies have highlighted the importance of knowledge to support MSMEs in sharing knowledge, which can improve business performance. Retnoningsih et al.'s [3] research found that knowledge impacts innovation and MSME performance. Managing existing knowledge within an organization necessitates some form of knowledge management. Knowledge management involves applying a systematic approach to capturing, structuring, managing, and disseminating knowledge throughout an organization. This process aims to ensure that the organization's knowledge can be utilized to work more efficiently, reuse "best practices", and reduce high costs from project to project [1]. Knowledge and expertise are resources that can be maintained over time and offer a competitive advantage compared to mainstream items and technology. Thus, knowledge management (KM) is necessary to make use of this information [4].

Human resources are given significant weight from a knowledge-based perspective. Human resources include the abilities, knowledge, competencies, attitudes, and motivation of individuals employed by an organization, as well as how they apply these abilities for the firm's benefit. It is impossible to "capture and codify" human intelligence because it is implicit, inherent, and at least partially individual. This makes managing human intelligence a highly challenging endeavor [5]. Therefore, businesses need a system to manage their knowledge collection. A knowledge management system (KMS) helps businesses create, capture, store, manage, and share knowledge. With an emphasis on building AI-based knowledge management systems (KMS), it is envisaged that micro, small, and medium-sized enterprises (MSMEs) would be able to employ AI

technology to manage their information more effectively, raise their innovation, and eventually improve their performance dramatically. Previous studies have also highlighted that sharing information and expertise among employees substantially influences business success in both the public and private sectors. Due to the nature of tacit knowledge, which is difficult to transmit, and because knowledge sharing is generally voluntary, this research acknowledges that organizations typically face difficulties with information sharing [6]. Additionally, Rizea [7] noted that individualized knowledge management strategies are needed because MSMEs do not manage their knowledge in the same manner as large organizations.

Apart from the importance of knowledge management, innovation factors also play a crucial role in improving MSME business performance. When combined with a good strategy, a culture of innovation can enhance MSME performance. MSMEs must be able to adapt quickly to market and technological changes and develop products and innovations that are better than their competitors. The present study demonstrates that innovation capability can act as a mediator between entrepreneurial orientation and business performance. Therefore, it is crucial for MSMEs to cultivate their innovation capabilities [8]. The research findings indicate that creativity and product innovation exert a favorable and substantial impact on enhancing the operational performance of MSMEs. Additionally, innovation significantly impacts corporate performance. Therefore, implementing strategic planning for innovation would ultimately enhance MSME performance. Hence, innovation plays a crucial role in enhancing the performance of MSMEs, encompassing product development, operational efficiency, and overall business success [9].

This study focuses on the significance of employing knowledge management and innovation to enhance MSME performance. It holds significance due to the anticipated intensification of competition between MSMEs and large corporations in the future. Hence, it is imperative for MSMEs to expand and gain a competitive edge. An organization can attain a competitive advantage by effectively managing its knowledge and fostering innovation. Previous research conducted by Kianto [5] explored the influence of methods related to knowledge management on the level of job satisfaction experienced by professionals. Additionally, Abubakar et al.'s [10] research emphasizes the significance of understanding decision-making styles within the framework of knowledge management. Meanwhile, Noruzy's [4] research looked into factors influencing transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance in Iranian manufacturing companies.

Several prior studies have suggested that knowledge management has a favourable impact on enhancing the business performance of MSMEs. This research aims to fill the gap in previous research by addressing this issue [3,11,12]. Nevertheless, contrary findings have been found in other

studies. It is possible that MSMEs engage in knowledge management methods, although they might not be aware of them. For this reason, it is generally accepted that the implementation of a knowledge management strategy does not have any impact on performance [13]. Knowledge management has a negligible impact on performance. Prior research has indicated that the impact of knowledge management is not significant. It suggests that organizations should implement training programs in knowledge management to assist management personnel and inform them about the importance of knowledge management in enhancing organizational performance and competitiveness [14].

Hence, our objective is to investigate the correlation between the utilization of knowledge management for innovation and its influence on the performance of MSMEs. The study addresses an unexplored area, thereby making a theoretical contribution to both the scientific and practical understanding of MSMEs.

The following research questions are:

1. Does knowledge management use affect business performance?
2. Does knowledge management use affect innovation?
3. Does innovation affect business performance?

LITERATURE REVIEW

Knowledge Management Use

The combination of contextual information, framed experience, expert experience, and values is what constitutes knowledge. This combination is what results in actual innovation and experience. Knowledge is also believed to include corporate culture, skills, reputation, intuition, and formalized theories that have an impact on human behavior and thought [10]. A significant factor that contributes to the long-term viability of an organization is its information. Experience and instruction are the sources of this information, which manifests itself in the form of abilities, practices, habits, and so on. Explicit and tacit knowledge are the two categories into which knowledge may be divided. Contrary to explicit knowledge, which is formal knowledge that may be given in the form of data, standards, or manuals, tacit knowledge, on the other hand, is more individualised. Experience, understanding, insight, and intuition are all crucial [3]. Knowledge management is therefore required to guarantee that the organization's knowledge can positively impact the success of the organisation. Information management is the act of formalising and making experience, knowledge, and skills available in order to create new skills that improve productivity, encourage creativity, and increase a company's worth [15]. A specially designed system called a knowledge management system (KMS) is used within a company or organisation to efficiently handle knowledge and information. KMS aims to improve understanding of human resource management, systematise current knowledge, facilitate more effective knowledge searches, strengthen the

ability to share knowledge, and boost MSME firms' performance [16]. By using KMS, MSMEs can improve their capacity for knowledge exchange, foster innovation, and perform better [3]. By efficiently gathering, sharing, conserving, and applying organisational information to create a flourishing business ecosystem, institutions or organisations can increase their efficiency [4].

In the context of studies regarding MSMEs especially genetically modified foods, knowledge management can play an important role in educating consumers about GMOs, overcoming their fears, and increasing their understanding, which can influence their purchasing decisions. KMS can also be developed using artificial intelligence (AI) technology to provide deeper insights, process automation, and smarter recommendations [17].

Apart from the benefits obtained from KMS, there are obstacles to implementing knowledge management: (i) lack of trust in other people within the company; (ii) the existence of technology that does not support the concept of knowledge management; (iii) inadequate understanding from human resources about knowledge management and resources, less skilled staff; and (iv) cultures here refer to activities or processes that are usually carried out by employees on a daily basis [1].

There are three elements in a knowledge management system, namely:

1. **Knowledge Creation:** It refers to the process of generating new knowledge. Knowledge production plays a crucial role in facilitating sustained performance in a volatile environment. Knowledge is generated through the process of organizational learning and innovation. Knowledge-creating organizations facilitate the growth of prospective knowledge and actively promote the generation of groundbreaking insights, fostering creativity and idea generation throughout the whole organization [5,18]. Recommended activities to increase the effectiveness of MSMEs include attending workshops, training, and consulting with consultants.
2. **Knowledge Utilization:** Recommended activities to improve the performance of MSMEs include applying knowledge appropriately and thoroughly to business and converting this applied knowledge into documentation or document format to be used as review or evaluation material [19].
3. **Knowledge Sharing:** Recommended activities to improve MSME performance include joining communities to gain new business knowledge, and participating in online discussion forums to share experiences with other business people. Effective dissemination of information is crucial for the management of tacit knowledge. Hence, it is imperative for businesses to promote regular in-person communication and foster the development of collective learning opportunities, while also cultivating a culture that prioritizes the exchange of knowledge [5,20].

One of the most often assessed categories when assessing the effectiveness of knowledge management is consumption. Usage is a useful indicator for assessing performance and is crucial to understanding the effectiveness of knowledge management. This study aims to consider the kind, quantity, and suitability of utilisation in knowledge management. Consequently, the study emphasises the unique aspects of use. Knowledge management is not restricted to any one system; rather, it is utilised as a means of measuring behaviours associated with knowledge management generally [21].

Innovation

Innovation is the methodical process of creating, developing, and implementing new ideas that yield increased value or advantage. To gain a competitive edge, boost productivity, address issues, or satisfy current or potential customers, it entails making major adjustments to current goods, services, company procedures, or business models [22]. Product innovation, process innovation, technology innovation, organisational innovation, and marketing innovation are just a few of the ways that innovation might appear. Product innovation is the process of developing and introducing new products to the market or significant improvements to existing ones [23].

Process innovation is centred on creating novel approaches or modifications to operational or manufacturing processes that lead to increased effectiveness, better quality, or lower expenses. Implementing new technology or creating technology that can alter how a firm runs are examples of technological innovation. Organisational innovation pertains to modifying an organization's procedures, culture, or structure to enhance flexibility and performance. Creating and executing fresh marketing plans that help a business expand its target market or draw in new clients is known as marketing innovation [24].

Within an organisation, individual and team creativity and collaborative efforts frequently lead to innovation. Since it may provide competitive advantages, handle competition, adjust to changing market demands, and improve operational efficiency, innovation is widely seen as being important in the business world [25]. Companies may foster an environment that supports innovation by providing chances for knowledge and experience sharing, freedom of thinking, respect for experimentation, and openness to new ideas. Businesses can also employ a structured approach to innovation management, which entails using relevant metrics to track and measure the advancement of innovation, allocating resources appropriately, and implementing a methodical innovation process [26,27].

In an era of globalization and rapid technological development, innovation is becoming increasingly important for organizations to remain relevant and sustainable. Companies that are able to produce impactful innovations can create added value, differentiate themselves

from competitors, and better meet customer needs [28]. Hence, innovation plays a crucial role in attaining sustained success for firms across diverse industrial sectors.

Business Performance

Business performance is literally defined as a measure of how well a company executes its strategy and achieves its goals [29]. Business performance pertains to the capacity of an organization or firm to accomplish objectives and attain desired outcomes. It covers various aspects, including financial metrics, operational efficiency, customer satisfaction, market share, and overall organizational effectiveness. Business performance is usually measured through key performance indicators (KPIs) that are specific to organizational and industry goals [30]. The notion of business performance is crucial as it enables firms to evaluate their achievements, pinpoint areas for enhancement, and make well-informed decisions to enhance their overall performance [31].

High levels of business performance are often associated with profitability, growth, competitive advantage, and sustainability. By focusing on continuous improvement and aligning strategy with goals, organizations can improve their business performance and position themselves for long-term success [32]. MSME business performance is greatly influenced by the quality of human resources, management practices, and adaptation to technological developments and the business environment. Understanding and adopting these elements can enhance the growth and development of MSMEs in an economic and business setting, hence improving their performance [21].

MSME Business Performance, Innovation, and Knowledge Management

The performance of MSME organizations is greatly influenced by the quality of human resources, management practices, adaptation to technological developments, and the business environment. Understanding and adopting these elements can enhance the performance of MSME organizations, thereby promoting the growth and development of MSMEs in an economic and business context [9]. Prior research elucidates that knowledge management exerts a favorable impact on corporate innovation, subsequently enhancing business performance [33]. Suroso et al. [12] emphasized the importance of information-oriented leadership in enhancing innovation performance by leveraging knowledge management capabilities [12].

Knowledge sharing in organizational learning can be a unique asset in enhancing organizational innovation, especially in supplier-customer relationships [11]. Prior research indicates a strong and significant correlation between entrepreneurial orientation, which encompasses innovation, and the business performance of small and medium firms [30]. An entrepreneur must possess the ability to maintain composure even in

the face of challenging circumstances. An entrepreneur with the ability to innovate remains composed in the face of difficulties, persistently generating new ideas. Since its inception, innovation has transformed something of lower productivity into a productive asset capable of yielding benefits, economic worth, and crucial advantages for entrepreneurs and others [34].

Organizational members engage in the sharing and exchanging of knowledge, which promotes a rise in their level of engagement and fosters the advancement of novel concepts. The company's performance will be enhanced through the implementation of inventive concepts manifested as product or service innovation or business procedures [35]. Effective knowledge management practices can stimulate innovation by providing employees with access to relevant information, expertise, and resources to generate new ideas and solutions. This innovation, in turn, can lead to improved business performance through enhanced products, services, processes, and competitive advantage [36]. Therefore, the researchers created a research model depicted in Figure 1.

Hypothesis:

H1: Knowledge management use affects business performance.

H2: Knowledge management use affects innovation.

H3: Innovation affects business performance.

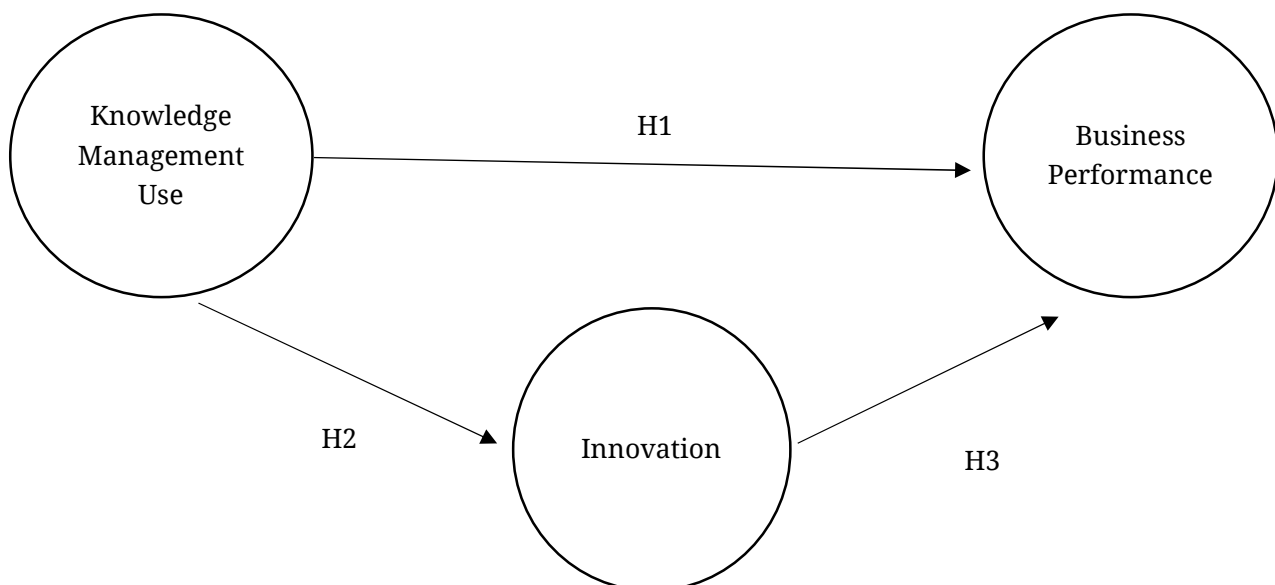


Figure 1. Research model.

METHODS

The research used a quantitative descriptive approach and structural equation modeling-PLS (SEM-PLS). The quantitative descriptive approach helps describe, show, or summarize data in a clear and structured way, while SEM-PLS can provide more reliable results when the relationship between variables and supporting theory is not strong [37,38]. These approaches were chosen for their suitability in assessing the influence of

knowledge and innovation on the performance of micro, small, and medium enterprises (MSMEs) in the digital age. The focus on Indonesia was due to the significant contribution of MSMEs to the country's GDP growth. These enterprises are part of the Indonesian Government's initiatives to address poverty and unemployment [1].

Sample of the Study

Data was collected through field surveys using the purposive sampling method. To reduce potential bias, the researchers carefully focused on respondents who were MSME business actors in Indonesia, aligning with the research topic. The sample comprised 371 respondents from MSME business actors in Indonesia. To represent MSME business actors across Indonesia, the authors divided the 371 respondents into 10 regions with the largest number of MSME business actors: West Java, Central Java, East Java, DKI Jakarta, North Sumatra, Banten, South Sumatra, West Sumatra, Nusa Tenggara Barat, and Lampung [39]. The distribution of the respondents is presented in Table 1.

Table 1. Distribution of the respondents concerning their social status.

Profile		Frequency	Percent
Sex	Male	248	67
	Female	123	33
Length of business	1–3 Years	230	62
	4–6 Years	93	25
	7–10 Years	40	11
	11–15 Years	4	1
	≥16 Years	4	1
Level of Education Has Been Completed	Senior High School	166	45
	Diploma	49	13
	Undergraduate	138	37
	Graduate	17	4
	Post-Graduate	1	1

In Table 1, it is explained that of the total 371 MSME entrepreneurs in Indonesia, 248 respondents were male (67%) and 123 respondents (33%) were female. Meanwhile, in terms of the length of business of these MSMEs, 230 respondents (62%) had been in business for 1–3 years, 93 respondents (25%) for 4–6 years, 40 respondents (11%) for 7–10 years, 4 respondents (1%) for 11–15 years, and 4 respondents (1%) for ≥16 years. Regarding the distribution of respondents based on education level, 166 respondents (45%) had completed education up to high school level, 49 respondents (13%) up to diploma level, 138 respondents (37%) up to undergraduate degree level, 17 respondents (4%) up to graduate degree level, and 1 respondent (1%) up to postgraduate degree level.

Data Analysis

In measuring variables, a questionnaire was adapted from previous research. To measure knowledge management use, questions from Wang and Yang's [21] study were adopted. To assess innovation, a questionnaire from Alyahyaei [30] and Calik [26] was adopted. To assess business performance, a questionnaire from Alyahyaei [30] and Garg [31] was adopted. The questionnaire items were subsequently assessed using a Likert scale consisting of five points, where one point indicated strong disagreement and five points indicated strong agreement [38]. The data was then processed using the SEM-PLS application. The SEM-PLS steps include designing a structural and measurement model, data collection, model estimation, model evaluation, hypothesis testing, and interpretation of results [37,38].

Validity and reliability

Table 2. The results of the measurement model.

Construct	Items	Loading factors	Cronbach's Alpha	Composite reliability	AVE	Adapted from
Knowledge Management Use	I fully understand the core knowledge required to do my assignment. (KMU1)	0.907	0.987	0.988	0.873	[21]
	We refer to the company database before processing the tasks that must be done. (KMU2)	0.919				
	We are able to manage the necessary knowledge and store it for further use. (KMU3)	0.936				
	We document the knowledge necessary to make our work easier. (KMU4)	0.940				
	We summarize the educational results obtained from seminars, training, and workshops and store them. (KMU5)	0.936				
	We share the information and knowledge needed to support the success of our work. (KMU6)	0.938				
	We increase task efficiency by sharing information and knowledge. (KMU7)	0.936				
	We encourage the exchange of information and knowledge with other workers/team members. (KMU8)	0.929				
	We design and create information systems, such as intranets and electronic bulletin boards, with the purpose of facilitating the sharing of information and knowledge. (KMU9)	0.931				
	There is a culture that encourages knowledge exchange within the company. (KMU10)	0.947				
	There is an incentive and benefit policy for proposing new ideas to utilize existing knowledge. (KMU11)	0.948				

Table 2. *Cont.*

Construct	Items	Loading factors	Cronbach's Alpha	Composite reliability	AVE	Adapted from
Knowledge Management Use	There are employee development programs such as participation in training, workshops, and seminars. (KMU12)	0.943				
Innovation	We continuously make improvements to our products and processes. (IN1)	0.962	0.980	0.984	0.924	[26,30]
	We explore non-traditional and creative ways of doing business. (IN2)	0.945				
	We actively make observations and brainstorm about better methods of running our business. (IN3)	0.965				
	We look for ways to add value to our existing products/services to differentiate our business from competitors. (IN4)	0.968				
	We are open to partnering with other businesses to develop new products and services. (IN5)	0.967				
Business Performance	Our company shows profitability as evidenced by increased revenue and net profit. (BP1)	0.962	0.985	0.987	0.916	[30,31]
	Our company always achieves the goal of making it as cost effective as possible. (BP2)	0.961				
	Our market share is growing as shown by the increasing number of new customers. (BP3)	0.963				
	We rarely experience lost orders or reduced orders. (BP4)	0.935				
	Our staff turnover rate is low. (BP5)	0.944				
	Our employees' morale is high. (BP6)	0.964				
	We maintain mutually beneficial and productive relationships with our business partners. (BP7)	0.970				

Table 3. Discriminant validity of constructs.

Construct	Business Performance	Innovation	Knowledge Management Use
Business Performance	0.957		
Innovation	0.933	0.961	
Knowledge Management Use	0.881	0.934	0.934

Table 2 demonstrates that the model is sufficient, as indicated by all the appropriate reliability values. This is shown by the factor loading, composite reliability (CR), and average variance extracted (AVE), all of which are above 0.7 as recommended by Hair [40]. The discriminant validity of the investigation is demonstrated in Table 3, where the square

root of the average variance extracted (AVE) is found to be higher than the correlation values in both the rows and columns. Hence, the measurement model is deemed satisfactory since it fulfills all criteria for convergent and discriminant validity [37,40].

Hypothesis testing

Table 4. Path coefficients among latent variables.

No.	Path	β	T Statistics	P-Value	Significance
1	Knowledge Management Use → Business Performance	0.078	1.277	0.202	Not Significance
2	Knowledge Management Use → Innovation	0.934	77.920	0.000	Significance
3	Innovation → Business Performance	0.860	14.092	0.000	Significance

The results of the analysis, as shown in Table 4, provide support for hypothesis 1. They indicate that the adoption of knowledge management does not have a significant impact on business performance ($p = 0.202$). Hypothesis 2 posits that the utilization of knowledge management has a substantial influence on innovation ($p = 0.000$). Hypothesis 3 establishes that innovation has a substantial influence on business performance ($p = 0.000$).

Ethical considerations

To ensure ethics and reduce potential bias, formal permission from the university study ethics office was obtained for this research on February 1, 2024, following the fulfillment of relevant ethical prerequisites for obtaining permission. This permission is required to ensure the confidentiality of data providers by distributing questionnaires anonymously. The authors submitted this permission letter to the university and reviewed it; after ensuring there were no problems, an ethical clearance was issued.

RESULTS AND DISCUSSION

The empirical findings of Hypothesis 1 reveal a counterintuitive outcome, indicating that the utilization of knowledge management does not have a significant impact on corporate performance. The findings of this study diverge from prior research, which demonstrated that knowledge management has a favourable influence on enhancing the performance of micro, small, and medium enterprises (MSMEs) [3,11,12,41]. Prior studies elucidate that in order to maintain competitiveness, organizations must allocate greater resources towards the management of their intellectual assets, which are essential for augmenting earnings, fostering sales growth, and expanding market share [21]. In order for an organization to attain and sustain high levels of

performance, it must have effective systems for generating, disseminating, and assimilating knowledge [35].

However, there is previous research that supports the results of the current research, where MSMEs may carry out knowledge management practices, but may not realise it. Thus, the possibility of a knowledge management strategy is considered to have no effect on performance [13]. Organisations must conduct knowledge management-focused training programmes, which explains the limited influence of knowledge management on MSME business performance. By providing management professionals with understanding about how knowledge management can improve organisational performance, these programmes hope to support those [14]. The study's conclusions show that these micro, small, and medium-sized businesses' (MSMEs) business performance does not always improve immediately once knowledge management is implemented. Offering comprehensive employee training and possessing a deep understanding of knowledge management are critical to optimising organisational performance.

According to the results of the hypothesis test, knowledge management use significantly influences innovation, which in turn has a significant impact on corporate performance. The results of this study are consistent with other research (e.g., Chaurasia et al. [22]; Susanti et al. [33]; Yasir & Majid [32]), which shows that knowledge management positively affects innovation.

MSME members can exchange knowledge with each other, where they will be able to produce new ideas for developing organizational innovation and, at the same time, increase the speed and quality of innovation so that organizational innovation will improve the performance of MSMEs [41,42]. Knowledge, ideas, and innovation are the lifeblood of SMEs operating in the digital creative sector [27].

Without innovation, organizational performance is very difficult to improve, whereas to create innovation, it is necessary to apply knowledge management so that ideas can be generated. The innovations that are carried out will ultimately improve organizational performance [28,30]. In the future, competition between MSMEs and large companies will be increasingly fierce, thus, MSMEs should grow and have a competitive advantage. Competitive advantage can be achieved, one of which is through innovation and the organization's ability to manage its knowledge [21,26].

Hence, it is imperative for MSMEs to create favorable circumstances for enhancing knowledge development. The implementation of knowledge management entails more than simply adopting a suite of IT tools; rather, it necessitates modifications in organizational structure, processes, and culture, as well as training employees. These changes also mark the initial strides towards departing from conventional systems. A corporation achieves a high level of expertise by prioritizing intangible assets, such as intellectual capital.

CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

The findings of this research reveal that the implementation of knowledge management does not directly affect the performance of MSMEs. However, the application of knowledge management positively influences innovation, and in turn, innovation positively impacts the performance of MSMEs. The theoretical significance of this research lies in the understanding that knowledge management alone cannot directly enhance MSME business performance without fostering innovation. This relationship underscores the critical role of knowledge management in driving innovation, without which efforts to improve business performance may prove futile amidst ongoing technological advancements.

Practically, these results suggest that MSMEs should begin by identifying essential types of knowledge crucial to their operations and innovation, including product knowledge, market insights, internal processes, and customer understanding. This knowledge should then be systematically stored in easily accessible databases. Secondly, it is imperative to cultivate an environment where workers feel motivated to impart their expertise. The sharing of ideas and experiences can be facilitated by initiatives like online collaborative platforms, knowledge sharing workshops, and discussion forums. Third, educating staff members on the value of knowledge management and how to utilise KM tools effectively can spread awareness of these practices throughout the entire company. Fourth, in order to stay relevant and competitive over time, MSMEs need to be nimble and adaptable in their ability to adjust their business plans to shifting market dynamics or economic conditions. Innovation is a critical component of this approach. Finally, innovation ought to be viewed as a continuous process that is included into the broader business plan rather than as a one-time endeavour.

It is important to acknowledge a few limitations in spite of these noteworthy results. This study only looked at three variables and had a tiny sample size, all of which were MSMEs in Indonesia. To improve generalizability, future study might take a qualitative approach and include more nations with greater sample numbers. Furthermore, cross-national application of quantitative approaches may help corroborate these results. Including extra knowledge management and innovation-related variables may also offer fresh viewpoints and insights into improving MSME performance.

DATA AVAILABILITY

The dataset of the study is available from the authors upon reasonable request.

AUTHORS' CONTRIBUTIONS

Conceptualization, CWW; Supervision, CWW; Project Administration, CWW; Formal Analysis, FM; Writing—Original Draft Preparation, FM; Visualization, MAR; Writing—Review and Editing, MAR; Investigation, HM; Validation, HM; Resources, HM; Methodology, WCH; Software, WCH; Funding Acquisition, WCH.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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