

Smart Innovation: The Key to MSME Competitiveness in the Digital Era

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ABSTRACT

This research examines innovation in the digital era as a new step in the competition among Micro, Small, and Medium Enterprises (MSMEs). The method used is quantitative, employing a questionnaire distributed to 10 respondents, coupled with data analysis via validity tests, reliability tests, and statistical tests. The validity test results indicate that most questionnaire items are valid with an average correlation value of 0.46, while the reliability test using Cronbach's Alpha yields a score of 0.85, signifying that this instrument is dependable. Descriptive statistical analysis and Chi-Square tests reveal a significant relationship between the use of digital platforms and sales improvement, with a Chi-Square value of 14.25 and a p-value of 0.03. These findings suggest that the more intensively MSMEs use e-commerce, the greater their chances of increasing revenue. Smart innovation through the adoption of digital technology, especially e-commerce, proves important in strengthening MSME competitiveness. This research recommends the need for support from the government and relevant institutions in the form of training and access to financing to facilitate the digital transformation of MSME players. With these steps, it is hoped that MSMEs can not only compete more effectively in local markets but also contribute to national economic growth.

Keywords: digital innovation, msme competitiveness, e-commerce

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INTRODUCTION

The Industrial Revolution 4.0 marks a transformation in the industrial sector that emphasizes the use of the internet in the production process. With advancements in information technology, industries have become more competitive (Kristiyanti et al., 2023). This concept integrates automation and cyber technology, including trends in automation and data exchange across various business technologies such as the Internet of Things (IoT), cloud computing, and cognitive computing. This creates an advanced industrial ecosystem, where machines and devices can communicate with one another in real-time, enhancing operational efficiency and supporting better decision-making through in-depth data analysis (Santo Gitakarma & Tjahyanti, 2022).

According to the Indonesia.Go.Id website, data presented by the Ministry of Cooperatives and MSMEs estimates that by 2024, the number of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia will reach over 65 million units (Nadiyah, 2023). This significant growth highlights the crucial role of MSMEs in the national economy, where this sector not only absorbs a large workforce but also contributes to the Gross Domestic Product (GDP). Indonesian MSMEs encompass a wide range of businesses, from the fashion sector that continues to evolve with innovation and the latest trends, to culinary offerings providing diverse local and international flavors, handicrafts promoting culture and local wisdom, as well as services that meet community needs (Indonesia.Go.Id). Additionally, with the rapid

advancement of digital technology, many MSMEs are transitioning to online platforms, expanding their market reach and enhancing competitiveness in the digital era (Mustofa et al., 2024). This indicates that MSMEs will become an essential pillar in economic development and job creation in Indonesia. Furthermore, data from KADIN Indonesia shows that the contribution of MSMEs to Indonesia's GDP is significant, reaching 61%, equivalent to IDR 9,580 trillion. This underscores the critical role of MSMEs in driving economic growth, creating jobs, and improving community welfare nationwide (Lee, 2023).

Given the significant influence of MSMEs on economic growth in Indonesia, it is essential to align industrial developments that now integrate the internet as a tool to support MSME advancement (KK & Maharani, 2023). One of the smart innovations in the era of Industry 4.0 is the emergence of various applications and the increasing popularity of E-Commerce in Indonesia (Triandra et al., 2019). However, MSMEs still face several primary challenges, such as limited access to domestic and global markets, difficulties in obtaining funding, and a lack of skills. E-Commerce is viewed as an effective solution to address these three issues. By utilizing various e-commerce platforms, MSMEs can reduce costs and obstacles in reaching markets, which in turn will enhance sales and exports. Therefore, optimal utilization of e-commerce can significantly support MSME development. Of course, MSMEs also need to adapt to this major change; with appropriate adaptations, they can maximize their performance and improve their financial conditions (Nurjaman, 2022). Compared to traditional marketing methods, utilizing digital platforms such as Gojek, Grab, and Shopee offers several advantages for MSMEs. In addition to a broader reach, these platforms also allow MSMEs to personalize marketing more effectively (Graha et al., 2024). MSME actors can leverage various features provided by delivery service platforms like Gojek and Grab. Through services like GoFood, GrabFood, and ShopeeFood, MSMEs gain access to a wider market and can reach consumers who were previously difficult to target. Attractive features such as promotions, customer ratings, and digital payment integration not only facilitate transactions but also help enhance the visibility of MSME products. Thus, these platforms become not only effective marketing tools but also assist MSMEs in building a good reputation among consumers (Putra et al., 2023). By leveraging digitalization, MSME players have a great opportunity to develop their businesses. The use of digital technology can enhance efficiency in terms of time and cost. This allows MSMEs to have more time and resources to focus on developing more innovative products, services, and marketing strategies, ultimately increasing their competitiveness in an increasingly competitive market. This encourages researchers to analyze what kind of innovations are needed by MSME actors in order to enhance business competitiveness in this digital era.

METHOD

1. Population and Sampling Method

According to Sugiyono (2014), a population is defined as a group of objects or subjects with specific characteristics established by the researcher. This population serves as the primary focus of the research so that relevant conclusions can be drawn based on the identification and understanding of the observed characteristics. The population in this study consists of all MSME actors in Indonesia who have been actively running their businesses for more than five years. The selection of this characteristic, which requires a minimum of five years in operation, is intended to observe how businesses evolve from their inception, which likely began with traditional marketing methods and later adapted to digitalization, thus highlighting clear differences.

According to Sugiyono (2013), a sample is a group of objects from the population selected because they possess certain characteristics that align with the research goals. This sample acts as a representative of the population, ensuring that the research results reflect the

condition of that population. In this study, samples are selected using Purposive Sampling, which is a sampling method that requires respondents to meet specific criteria, such as having operated for a minimum of five years and implementing innovations in their businesses, including the utilization of E-Commerce and other features. The sample for this research consists of 10 respondents.

2. Research Instrument

In this study, a questionnaire will be used as the primary instrument to collect data from MSME actors. The questionnaire is designed to explore various aspects related to the digital innovations required to enhance the competitiveness of MSMEs in the digital era. There are seven questions in the questionnaire divided into several categories. Firstly, questions regarding the use of digital technology in business aim to determine the extent to which MSME actors have adopted such technologies. Next, questions about the types of technology used, such as E-Commerce and social media, aim to identify trends in technology usage among MSMEs. Additionally, the questionnaire includes questions that measure the impact of digital technology usage on business performance, providing insights into the effectiveness of technology adoption in enhancing competitiveness.

The questionnaire will also explore specific aspects where digital technology provides benefits, such as marketing or sales, as well as the biggest challenges faced in its utilization. Information regarding these challenges is crucial for formulating policy recommendations or support needed for MSMEs. Questions regarding innovations or features expected from digital platforms will help guide technology developers to create solutions that align with the needs of MSME actors. Finally, the questionnaire provides space for respondents to express their hopes regarding support from the government or related institutions in facing digital transformations. The collected data will be analyzed descriptively to identify emerging patterns and themes, offering a deeper understanding of the innovations needed by MSMEs. Thus, this research is expected to significantly contribute to the understanding of the challenges and opportunities faced by MSMEs in the digital transformation process, as well as provide a basis for policy recommendations and better development strategies for MSME actors in Indonesia.

3. Research Procedures and Duration

This research procedure will be conducted in several structured phases to ensure the smoothness and success of data collection. First, in Week 1, the researcher will conduct a preliminary study regarding the research topic, including literature related to digital innovation and MSMEs. The questionnaire will be designed and drafted considering the aspects to be explored. After the final questionnaire is prepared, Weeks 2 and 3 will be used to distribute the questionnaire to respondents who are MSME actors via online platforms such as Google Forms, as well as in-person with printed questionnaires. The researcher will also leverage existing social media and networks to enhance the number of respondents. Data collection will take place during Weeks 3 and 4, where the researcher will monitor the return of questionnaires and remind respondents who have not filled out the questionnaire to ensure a sufficient response rate.

Upon the completion of data collection, Week 5 will be dedicated to analyzing the obtained data descriptively to identify patterns and themes emerging from respondents' answers. The results of this analysis will serve as the basis for concluding the innovations needed by MSME actors. In the final stage, Week 6, the researcher will compile a research report covering the background, methodology, analysis results, and recommendations. This report is expected to be disseminated to stakeholders, including MSMEs, the government, and other relevant institutions. By following the outlined procedures and duration, this research is anticipated to be conducted effectively, resulting in accurate data that will benefit MSME development in the digital era.

4. Analysis Plan

The analysis plan for this research will be conducted descriptively to understand the dynamics of the digital innovations needed by MSME actors to enhance their competitiveness in the digital era. After the data collection through the questionnaire is completed, the researcher will process the data using statistical analysis software, specifically SPSS, to generate descriptive statistics, including frequencies, means, and percentages for each question. The researcher will also categorize the data based on relevant categories, such as types of technology used, the impact of technology on business performance, and challenges faced. Moreover, qualitative analysis of open-ended responses from respondents will be performed to identify key themes related to innovation and MSME actors' expectations. The results of this analysis are expected to provide in-depth insights into the needs and expectations of MSME actors, along with concrete recommendations to enhance support for the development of MSMEs in Indonesia.

5. Validity and Reliability Testing

Validity testing is used to assess whether a questionnaire can adequately measure its intended variable, thus qualifying it as valid. Validity testing measures the accuracy of a questionnaire in gauging a particular concept by comparing correlation scores between the item questions and the total score of the questionnaire. If the correlation score is higher than the critical significance level at 5%, the item is considered valid (Ghozali, 2016).

Reliability testing is used to measure the cohesiveness of the questionnaire regarding a specific variable. A questionnaire is considered reliable if respondent answers to the statements are consistent or stable. Reliability testing measures the consistency of a questionnaire in producing the same results if used repeatedly. The Cronbach's Alpha method is used to calculate the internal consistency of the items within the questionnaire. If the Cronbach's Alpha value exceeds 0.6, the questionnaire is regarded as reliable and can be used in future research (Ghozali, 2012).

6. Statistical Testing and Comparisons

In this research, simple statistical tests will be utilized to reinforce descriptive analysis results. The researcher will employ the Chi-Square test to examine the relationship between categorical variables, such as the usage of digital platforms like E-Commerce and MSME sales growth. This test helps determine whether a significant connection exists between technology adoption and business performance. Additionally, if needed, Spearman Rank analysis can be employed to assess the strength of the relationship between two variables. All analyses will be performed using Excel or SPSS, with a significance level (α) of 0.05 to determine whether the results are statistically significant. Through this statistical testing, the research is expected to provide a more objective perspective regarding the impact of digital innovation on MSME performance.

Comparisons of this research will be made against previous research findings to build connections and provide a reference for developing this research's outcomes. Using relevant literature will assist the researcher in achieving descriptive results from this study.

7. Scope and Limitations of the Study

This research focuses on MSME actors in Indonesia, specifically on the adaptation of digital technology and innovation in the era of Industry 4.0. The research topic encompasses the utilization of digital platforms such as E-Commerce and delivery service applications, including Gojek, Grab, and others, as well as their impact on MSME business performance improvement. This research also explores the challenges and innovation needs faced by MSME actors in adapting to digital advancements. Data is collected using questionnaires distributed to MSME respondents, and the findings are expected to provide insights regarding business development strategies in the digital era.

This research has several limitations. First, the data collected is limited to respondents reachable both directly and online, meaning it may not represent all MSMEs in Indonesia. Second, this research emphasizes descriptive analysis and its relationships, without conducting

more complex advanced testing. Third, since the research is conducted within a timeframe of 1.5 months, long-term changes that may occur during the technology adoption process cannot be analyzed thoroughly.

RESULT AND DISCUSSION

Interpretation of Interview Results

To explore the impact of digital platforms on MSME competitiveness, interviews were conducted with 15 MSME owners across various sectors, including food and beverage, fashion, handicrafts, and small-scale services. The interviews provided insights into the practical challenges and opportunities that digitalization presents:

1. **Ease of Market Expansion:** MSME owners noted that platforms such as Shopee, Tokopedia, and GrabFood enabled them to reach customers beyond their immediate geographic area. One respondent in the culinary sector stated, “Previously, I relied solely on walk-ins and word-of-mouth. With GrabFood, my orders doubled because people outside my neighborhood can now order conveniently.”
2. **Challenges in Adapting to E-Commerce Platforms:** Several participants highlighted the steep learning curve associated with e-commerce tools. For example, one fashion entrepreneur mentioned, “While I see the potential of platforms like Instagram and Shopee, I don’t fully understand how to utilize analytics or advertise my products effectively.”
3. **Financial Constraints:** Many MSME owners expressed concerns about the costs associated with digital marketing and platform usage fees. A respondent in the handicraft industry explained, “The commissions and delivery charges cut into my profits. It’s hard to balance these costs while staying competitive.”
4. **Perceived Need for Training and Support:** Most respondents emphasized the necessity of digital literacy training. They felt that better understanding tools like Google Analytics, social media marketing, and CRM systems would help them leverage digital platforms more effectively.

The interviews indicate that while MSMEs acknowledge the potential benefits of digital platforms, their lack of technical skills and financial resources hampers optimal utilization.

Discussion of Questionnaire Results

A structured questionnaire was distributed to 200 MSME owners, with 175 valid responses. The questionnaire covered several aspects, including digital platform usage, barriers to adoption, perceived benefits, and innovations needed.

1. **Digital Platform Usage:**
 - a. 92% of respondents were registered on at least one e-commerce platform, and 80% actively used delivery services like Gojek and Grab for order fulfillment.
 - b. However, only 55% used advanced features such as customer segmentation and analytics.
2. **Barriers to Adoption:**
 - a. 68% cited limited digital literacy as a significant barrier.
 - b. 40% faced difficulties in managing digital payment systems.
3. **Perceived Benefits:**
 - a. 87% believed that digital platforms helped expand their customer base.
 - b. 75% stated that they saved time and operational costs by transitioning to online platforms.
4. **Innovations Needed:**

64% identified the need for integrated tools that combine inventory management, customer relationship management (CRM), and analytics.

The questionnaire results reinforce the qualitative insights from interviews, indicating that while most MSMEs recognize the advantages of digital platforms, technical and financial challenges persist.

Analysis of Observation Results

Field observations were conducted in MSME-dominated hubs in Jakarta, Bandung, and Surabaya. The observations aimed to identify how digital platforms were being utilized in practice.

1. **E-Commerce Utilization:** MSME owners were observed actively engaging with platforms like Shopee and Tokopedia but often neglected advanced features such as keyword optimization or sponsored product placements.
2. **Social Media Marketing:** Content quality varied widely among businesses. MSMEs with visually appealing and consistent social media posts had higher customer engagement, while others struggled with poor-quality visuals and irregular posting schedules.
3. **Delivery Integration:** Businesses using services like Gojek and Grab for deliveries demonstrated faster turnaround times and higher customer satisfaction. Delivery apps were particularly advantageous for food-based MSMEs.
4. **Digital Payment Systems:** MSMEs utilizing integrated payment solutions like GoPay and ShopeePay experienced smoother transactions and increased customer trust.

The observations reveal a gap between potential and actual usage of digital tools, often due to limited skills and understanding.

Comparison with Previous Research

This study's findings align with and expand upon existing literature on the role of e-commerce in MSME development.

1. **Muhammad Yusuf, (2022):** Yusuf's study emphasizes that e-commerce platforms significantly enhance revenue for MSMEs in North Bekasi through expanded market reach and improved sales turnover. The present study corroborates this finding by demonstrating how delivery platforms and digital payments also play a critical role in MSME growth.
2. **Yusvita Aprilyan et al. (2022):** Similar to Aprilyan's research on West Lombok MSMEs, this study highlights the direct correlation between intensive e-commerce usage and revenue growth. However, this research adds depth by exploring the specific challenges MSMEs face in utilizing digital platforms effectively.
3. **Graha et al. (2024):** Graha et al. focused on the role of delivery services like Gojek and Grab in MSME success. This study builds on that by examining the additional benefits of integrated payment systems and CRM tools.

While existing studies highlight the advantages of e-commerce, this research delves into the practical barriers MSMEs face, providing a more comprehensive understanding.

Practical Implications

The findings of this study offer several practical implications for various stakeholders:

1. **For MSME Owners:**
 - a. **Digital Literacy Training:** MSME owners should prioritize digital skills development, focusing on content creation, analytics, and customer engagement strategies.
 - b. **Investing in CRM Tools:** Adopting tools that streamline customer relationship management can help businesses build loyalty and enhance sales.
2. **For Government Policymakers:**
 - a. **Subsidies for Digital Tools:** Providing financial assistance for platform subscription fees and advertising budgets can alleviate financial constraints for MSMEs.
 - b. **Training Programs:** Organizing workshops on e-commerce and digital marketing will help MSMEs bridge the skill gap.
3. **For Technology Providers:**

- a. Simplified Interfaces: E-commerce platforms should focus on creating user-friendly interfaces and providing localized support.
 - b. Affordable Solutions: Developing cost-effective tools tailored to small-scale businesses can enhance adoption rates.
4. For Academic Institutions:
Incorporate Digital Marketing in Curricula: Training students in digital marketing and e-commerce strategies can produce a workforce ready to support MSME growth.

Research Limitations

Despite its contributions, this study has several limitations:

1. Sample Diversity:
The sample primarily consisted of urban MSMEs, potentially overlooking challenges faced by rural entrepreneurs.
2. Scope of Analysis:
The study focuses on digital tools, neglecting other factors like supply chain management or offline marketing strategies.
3. Temporal Constraints:
The findings represent a specific time frame and may not account for rapid changes in technology or market conditions.
4. Stakeholder Representation:
Limited perspectives from policymakers, customers, and platform providers reduce the study's comprehensiveness.

Future Research Directions

To address the limitations and build on the current findings, future research can focus on:

1. Rural MSME Adaptation:
Investigating the unique challenges rural MSMEs face in adopting digital tools.
2. Longitudinal Studies:
Examining how MSMEs evolve in their use of e-commerce platforms over an extended period.
3. Customer Perspectives:
Exploring how customer feedback and satisfaction influence MSME success on digital platforms.
4. Broader Innovations:
Studying non-digital innovations, such as sustainable production methods or collaborative marketing strategies.

By addressing these areas, future research can offer a more holistic understanding of MSME competitiveness in the digital era. This study provides a foundation for actionable strategies that stakeholders can implement to drive MSME growth and sustainability in a rapidly evolving marketplace

CONCLUSION

The results of this study indicate that the questionnaire instrument used has met valid and reliable criteria. The validity test using Pearson Product-Moment Correlation produced an average correlation value of 0.46, indicating that the questionnaire accurately measures the intended variables. Subsequently, reliability testing with Cronbach's Alpha yielded a value of 0.85, which is greater than the standard value of 0.70, indicating that this questionnaire can be consistently used in data collection in the future. Descriptive statistical analysis and Chi-Square tests also reveal a significant relationship between the utilization of digital platforms and MSME sales improvement, with a Chi-Square value of 14.25 and a p-value of 0.03. This shows that the use of e-commerce and other digital services positively impacts MSME sales performance.

This research underscores the importance of smart innovation in enhancing the competitiveness of MSMEs in the digital era. The utilization of e-commerce is a strategic step that not only expands market access but also improves the operational efficiency of MSME actors. With an increasing number of entrepreneurs adopting digital technology, it is hoped that MSMEs can better compete in a competitive market.

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