

MODERN ACCOUNTING MANAGEMENT: IMPLEMENTATION OF TECHNOLOGY TO ENHANCE EFFICIENCY IN 100 SMES IN KARANGANYAR REGENCY

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Abstract: This research aims to analyze the application of technology in modern accounting management and its impact on efficiency in 100 Micro, Small, and Medium Enterprises (MSMEs) in Karanganyar Regency. In an increasingly advanced digital era, the use of technology in accounting management has become an essential need for MSMEs to improve operational and financial efficiency. This efficiency is crucial for MSMEs as it can enhance competitiveness, improve financial management, and aid in more accurate decision-making. The research method employed is semi-structured interviews with MSME owners in Karanganyar Regency. The interviews will cover questions related to the use of technology in accounting management, such as the use of accounting software, digital payment systems, as well as the understanding and skills of human resources related to the use of such technology. The interviews will also delve into the challenges faced by MSMEs in implementing accounting management technology. The data obtained will be analyzed using thematic analysis methods to identify patterns and main themes. The research results are expected to identify concrete benefits gained by MSMEs through the application of technology in accounting management, such as operational efficiency, reduction of human error, better accessibility of financial information, and improved decision-making capabilities. This research can provide valuable insights for MSMEs in Karanganyar Regency and other regions in understanding the importance of applying technology in accounting management. The practical implication of this research is to provide recommendations to MSMEs on steps that can be taken to adopt technology in accounting management, in order to improve business efficiency and competitiveness. These findings can also be applied by MSMEs outside Karanganyar by considering local contexts and specific needs of each region.

Keywords: *Modern Accounting Management, Technology, Efficiency, MSMEs*

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1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the Indonesian economy. According to data from the Central Statistics Agency (BPS) in 2020, MSMEs contributed 61.10% to the Gross Domestic Product (GDP) and employed up to 97.2 million people (Central Statistics Agency, 2020).

In the advancing digital era, the use of technology has become a crucial factor in various aspects of life and business. In the business world, technology has transformed how companies manage operations, including in the field of accounting management (Albrecht, Stice, & Swain, 2018). For Micro, Small, and Medium Enterprises (MSMEs), the application of technology in accounting management is crucial to enhance efficiency and competitiveness (Chong & Eggleton, 2018).

Karanganyar Regency is one of the regions in Indonesia rich in MSME potential. However, MSMEs in Karanganyar often face challenges in managing their accounting efficiently. Many MSMEs still use manual or traditional methods to handle their financial records, which are susceptible to errors and time-consuming (Salehi & Salehi, 2019). Therefore, a better understanding of the importance of technology adoption in accounting management to improve efficiency for MSMEs in Karanganyar is needed.

This research aims to analyze the implementation of technology in modern accounting management and its impact on efficiency in 100 MSMEs in Karanganyar Regency. The research will utilize interview techniques with MSME owners to identify the role of technology in enhancing efficiency in accounting management.

In this study, the technology under examination includes the use of accounting software, digital payment systems, the understanding and skills of human resources related to the use of technology in accounting management in MSMEs. Interviews will also delve deeper into the challenges faced by MSMEs in implementing technology in accounting management.

Through the application of technology, it is expected that MSMEs in Karanganyar Regency can reap benefits such as higher operational efficiency, reduction of human errors, improved accessibility of financial information, and enhanced decision-making capabilities (Yudarwati, 2019).

Laudon and Laudon (2022) highlight the role of information technology in changing how organizations operate and achieve their goals. In the context of Modern Accounting Management, the adoption of information technology, such as accounting software and digital payment systems, can bring significant changes in financial record-keeping processes, data analysis, and decision-making.

Wijaya (2019) states that the application of technology in accounting management can help MSMEs reduce errors in transaction recording, improve the accuracy of financial reports, and expedite strategic decision-making. Sari and Haryanto (2018) note that knowledge and skills in using technology are crucial factors influencing the adoption of technology in accounting management.

Rogers (2003) emphasizes factors influencing innovation adoption, including technology. In this context, MSMEs can be considered as innovators or early adopters influenced by factors such as relative advantage, complexity, compatibility, perceived benefits, and ease of trial.

Venkatesh and Davis (2003) highlight factors influencing the acceptance and use of technology. In the context of MSMEs, readiness and intention to adopt accounting technology can be understood through variables such as perceived usefulness, perceived ease of use, and social factors.

Romney and Steibart (2022) examine the interaction between information systems and accounting activities in an organization. In Modern Accounting Management, the use of accounting software and accounting information systems is considered a system that supports the collection, processing, and presentation of accounting information.

Stalling (2021), in the context of technology use, especially with the presence of online accounting information systems, emphasizes the importance of information security theory.

The focus is on protecting financial data and sensitive information, as well as implementing security controls to prevent cyber threats.

Galbraith (2000) emphasizes that there is no single management approach suitable for all situations. In the context of Modern Accounting Management, technological solutions must be tailored to the specific context of MSMEs, including size, industry, and business environment.

The method used in this research includes data collection through interviews with 100 randomly selected MSMEs in Karanganyar Regency. The collected data will be analyzed using a qualitative approach to answer the research questions (Sugiyono, 2017).

The results of this research will provide valuable insights for MSMEs in Karanganyar Regency in understanding the importance of technology adoption in accounting management. Additionally, this research is expected to provide practical recommendations to MSMEs on steps that can be taken to adopt technology in accounting management to improve efficiency and business competitiveness. Therefore, this research will also analyze the level of knowledge and skills of MSMEs in adopting technology in accounting management.

2. Literature Review

2.1 Albrecht, Stice, Stice, and Swain (2018) provide a basic understanding of accounting concepts and their application in various business contexts. The implementation of technology in modern accounting management can provide MSMEs in Karanganyar Regency with better knowledge of accounting concepts and how to optimize the use of technology in MSME operations.

2.2 Chong and Eggleton (2018) discuss management accounting practices and the process of change that can help companies face financial challenges. The implementation of technology in accounting management can assist MSMEs in Karanganyar Regency in identifying financial problems and taking appropriate corrective actions.

2.3 Salehi and Salehi (2019) examine the relationship between management accounting information systems and firm performance. The implementation of technology in accounting management can help MSMEs in Karanganyar Regency improve their performance through better accessibility to financial information and more accurate decision-making.

2.4 Yudarwati (2019) investigates the influence of accounting information systems on the quality of financial reports. The implementation of technology in accounting management can assist MSMEs in Karanganyar Regency in producing more accurate and reliable financial reports.

2.5 Zahir and Ahmed (2018) explore the relationship between management accounting practices and financial performance of companies. The implementation of technology in accounting management can help MSMEs in Karanganyar Regency enhance their financial performance through more efficient management and accurate data analysis.

Through this literature review, it can be observed that the implementation of technology in accounting management has a significant impact on improving efficiency and financial performance of Micro, Small, and Medium Enterprises (MSMEs). This is related to the enhancement of understanding accounting concepts, identification of financial issues, performance improvement through better accessibility to financial information, production of

more accurate financial reports, and more efficient management with accurate data analysis. Including this research as a foundation that supports:

- a. Providing a basic understanding of accounting concepts and their application in various business contexts.
- b. The application of technology in modern accounting management can provide MSMEs in Karanganyar Regency with better knowledge of accounting concepts and how to optimize the use of technology in MSME operations.
- c. Discussing management accounting practices and change processes that can help companies face financial challenges.
- d. The application of technology in accounting management can assist MSMEs in Karanganyar Regency in identifying financial issues and taking appropriate corrective actions.
- e. Examining the relationship between management accounting information systems and company performance.
- f. The application of technology in accounting management can help MSMEs in Karanganyar Regency improve their performance through better accessibility to financial information and more accurate decision-making.
- g. Examining the influence of accounting information systems on the quality of financial reports.
- h. The application of technology in accounting management can assist MSMEs in Karanganyar Regency in producing more accurate and reliable financial reports.
- i. Investigating the relationship between management accounting practices and financial company performance.
- j. The application of technology in accounting management can help MSMEs in Karanganyar Regency improve financial performance through more efficient management and accurate data analysis.

Therefore, this research aims to analyze the implementation of technology in modern accounting management and its impact on efficiency in 100 MSMEs in Karanganyar Regency. The goal is to provide valuable insights for MSMEs in optimizing the use of technology for the success of MSME business management.

3. Research Method

This research employs a qualitative approach to gain a deep understanding of the experiences and perceptions of MSMEs regarding the implementation of technology in accounting management. The research design uses a case study or phenomenological approach to explore in-depth the experiences and perspectives of MSMEs. The research population includes MSMEs in 17 Districts in Karanganyar Regency that have experience in implementing accounting management technology. The sample consists of 100 MSMEs covering various business sectors and levels of technology implementation.

Structured interview guidelines were developed to cover the research objectives, including instruments on the level of technology implementation, benefits, obstacles, and its impact on business efficiency. The respondent selection process was conducted by directly contacting MSME owners via telephone to explain the research objectives and request their participation. Interview schedules were determined considering respondents' availability during the period from January 15 to February 15, 2024. Interviews were conducted at comfortable locations

according to respondents' preferences, either in-person or virtually if face-to-face interviews were not feasible.

The interviews were conducted based on the prepared guidelines, focusing on gaining profound insights into respondents' experiences. Each answer and response from respondents was documented during the interviews, and interviews were recorded with respondents' permission to support accurate transcription. Interview recordings were then accurately transcribed, and thematic analysis was used to identify emerging themes and patterns.

Research security and ethics were maintained by ensuring the confidentiality of respondents' identities and data, as well as conducting the research in compliance with research ethics, including respecting the rights and consent of respondents. The validity and reliability of the research were enhanced by employing triangulation with additional data or other data sources, as well as ensuring consistency and reliability of data through careful recording and documentation in this research.

4. Results and Discussion

4.1 Results

The aim of this research is to analyze the implementation of technology in modern accounting management and its impact on efficiency in 100 MSMEs in Karanganyar Regency. The research findings reveal significant adoption of technology in accounting management among MSMEs in the region. Over 80% of MSMEs use accounting software to record their financial transactions, while approximately 60% utilize digital payment systems to facilitate transactions with customers and suppliers. This implementation has shown a positive impact on operational efficiency, with over 70% of MSMEs reporting time savings in managing financial records and preparing financial reports through the use of accounting software. Additionally, around 65% of MSMEs noted that digital payment systems have expedited the payment process and reduced errors in transaction recording.

Despite the widespread adoption, challenges persist in implementing technology. The main obstacles reported include a lack of knowledge and skills in using technology, high implementation costs, and concerns about data security. A detailed summary of the interview results with 100 MSMEs in Karanganyar Regency provides further insights into these findings.

The majority of respondents demonstrated high awareness of the importance of adopting technology in accounting management, with this awareness acquired through various sources including training, industry seminars, and online media. However, limited financial resources were cited by most MSMEs as the main barrier to adopting technology, along with a lack of understanding of long-term benefits.

Respondents implementing technology reported significant improvements in operational efficiency, with automation of routine tasks such as transaction recording reducing time and human errors. A tendency for cultural change was observed in MSMEs that accept and adapt to technology, although this acceptance takes time and some MSMEs were initially skeptical before seeing direct benefits.

Proactive adoption of technology led to business growth through digital expansion for many MSMEs, with online sales and presence on e-commerce platforms helping to reach a wider market. MSMEs receiving support from local government or educational institutions reported greater success in implementing technology, and training programs proved effective in enhancing understanding and skills.

Data security emerged as a top priority for MSMEs, with some respondents stating the need for further investment in data protection and cybersecurity. A small number of

respondents faced challenges in integrating technology systems with existing business processes, highlighting the need for a careful approach to ensure compatibility.

These findings underscore the significant impact of technology adoption on MSME operations in Karanganyar Regency, while also highlighting the ongoing challenges and areas for further development in this digital transition.

4.2 Discussion

The results of this research indicate that the implementation of technology in accounting management has a positive impact on the operational efficiency of MSMEs in Karanganyar Regency. The use of accounting software enables MSMEs to manage financial records more efficiently and compile financial reports more quickly. Additionally, digital payment systems expedite the payment process and reduce errors in transaction recording.

Based on the results of interviews from various instruments, the following aspects were obtained: The majority of MSMEs in Karanganyar Regency demonstrate high awareness of the importance of technology adoption in accounting management, reflecting a keen interest in staying updated with the latest developments in the business world. This awareness is obtained through various sources such as training, industry seminars, and online media, indicating that respondents are actively seeking up-to-date information to enhance their accounting management. Most MSMEs identify limited financial resources as the main barrier to adopting technology, indicating that economic aspects are key factors in technology-related decision-making. A lack of understanding of long-term benefits is also a significant hindrance, necessitating efforts to improve MSME owners' understanding of the positive long-term impact of technology investments. Respondents implementing technology reported significant improvements in operational efficiency, reflecting that technology, especially the automation of routine tasks, has successfully optimized MSMEs' business processes. Automating routine tasks, such as transaction recording, not only reduces operational time but also lowers the risk of human errors, enhancing data accuracy and reliability. The tendency for cultural change in MSMEs that accept and adapt to technology indicates that the use of technology has broader impacts beyond just operational aspects, reflecting changes in attitudes and organizational values. Technology acceptance takes time, and some MSMEs were initially skeptical before seeing direct benefits. Therefore, an inclusive approach and continuous education can accelerate this change. MSMEs that proactively adopt technology report business growth through digital expansion, indicating that technology can be a growth catalyst. The success of online sales and presence on e-commerce platforms shows that technology enables MSMEs to reach a broader market and increase business opportunities. MSMEs receiving support from local government or educational institutions report greater success in implementing technology, emphasizing the importance of external support in enhancing MSMEs' readiness for technology. Training programs have proven effective in improving understanding and skills, making investment in training programs a key strategy in supporting MSMEs in adopting technology. Data security is one of the top priorities for MSMEs in Karanganyar Regency, with an awareness of potential data security risks being crucial in managing financial and operational information. Some respondents expressed the need for further investment in data protection and cybersecurity, reflecting an understanding that facing evolving security threats requires additional resources to enhance data protection. Some respondents faced difficulties in integrating technology systems with existing business processes, highlighting that technology adoption is often not straightforward and can pose challenges in integrating new technology with existing infrastructure. A careful approach is needed to ensure compatibility

between the implemented technology system and existing business processes, which may involve selecting suitable solutions and a deep understanding of business needs.

Results Correlation with Previous Linear Studies: The impact of technology implementation on operational efficiency has been explored in previous linear studies. Albrecht, Stice, Stice, and Swain (2018) provided a fundamental understanding of accounting concepts and their application in various business contexts. With the implementation of technology in accounting management, such as the use of accounting software, MSMEs can efficiently manage financial records and compile financial reports. Additionally, Chong and Eggleton (2018) discussed management accounting practices that help companies overcome financial challenges. The application of technology in accounting management, such as digital payment systems, accelerates the payment process and reduces transaction recording errors, thereby enhancing operational efficiency. Challenges in adopting technology have also been studied. Salehi and Salehi (2019) examined the relationship between management accounting information systems and company performance, finding that despite the benefits, challenges such as a lack of knowledge and skills in using technology persist. Furthermore, Yudarwati (2019) investigated the influence of information systems on the quality of financial reports and found that the implementation cost of technology is a factor that needs attention for MSMEs. Moreover, Zahir and Ahmed (2018) discovered that while the application of technology in accounting management can improve the financial performance of companies, cost challenges and concerns about data security remain limiting factors. To overcome these challenges, several steps can be taken. Providing training and mentoring to SMEs regarding the use of technology in accounting management is essential, as a lack of knowledge and skills is a major barrier (Albrecht, Stice, Stice, and Swain, 2018). Financial incentives from local governments are also crucial; they should provide incentives or financial assistance to SMEs to encourage the use of technology in accounting management, addressing the significant factor of implementation cost (Yudarwati, 2019). Prioritizing data security is another critical step; it is important to acknowledge the importance of data security and recommend the use of reliable software and the involvement of data security experts, addressing the major concern of data security (Zahir and Ahmed, 2018).

Results of this research are also aligned with several theories related to modern accounting management: Innovation Adoption Theory, Technology Acceptance Theory, Accounting Information System Theory, and Information Security Theory. Laudon and Laudon (2022) and Wijaya (2019) emphasize the role of information technology in transforming organizational operations and improving efficiency. Technology Acceptance Theory (Venkatesh and Davis, 2003) aids in understanding the readiness and intention of MSMEs to adopt technology. Accounting Information System Theory (Romney and Steinbart, 2022) supports the understanding that accounting software and information systems form a system to facilitate financial information management. Information Security Theory (Stallings, 2021) focuses on the protection of financial data and sensitive information in the use of technology, especially in online accounting information systems. Contingency Theory (Galbraith, 2000) asserts that technological solutions must be tailored to the specific context of MSMEs, including size, industry, and business environment.

5. Conclusion

In the discussion on Modern Accounting Management focusing on technology implementation to enhance efficiency for SMEs in Karanganyar Regency, several theories and research findings have been highlighted, leading to important conclusions. Over 80% of SMEs in the

region use accounting software for financial transactions, while about 60% employ digital payment systems. More than 70% report time savings in managing financial records and compiling statements due to accounting software, and approximately 65% note expedited payment processes and reduced errors with digital payment systems.

Key challenges in technology adoption include lack of knowledge and skills, high implementation costs, and data security concerns. Despite these obstacles, most SMEs demonstrate high awareness of technology's importance in accounting management, fostered through training, seminars, and online media. Financial resource limitations remain a major barrier, with insufficient understanding of long-term benefits posing a significant challenge.

SMEs implementing technology report significant improvements in operational efficiency, with automation reducing time and minimizing errors. Cultural changes are observed in SMEs adapting to technology, though this transformation takes time. Proactive technology adoption contributes to business growth through digital expansion, helping SMEs reach wider markets via online sales and e-commerce platforms.

Support from local governments and educational institutions aids SMEs in technology implementation, with training programs proving effective. Data security is a top priority, with some respondents emphasizing the need for further investment in protection and cybersecurity. A small percentage face difficulties integrating new systems with existing processes, requiring a cautious approach to ensure compatibility.

Recommendations include providing training and mentorship, offering government financial support, focusing on data security, and selecting appropriate technology solutions. These align with relevant theories such as Innovation Adoption, Agency, Technology Acceptance, Accounting Information System, Information Security, and Contingency. The research conclusions emphasize the positive contribution of technology implementation in modern accounting management to operational efficiency for SMEs in Karanganyar Regency, while acknowledging the need to address specific challenges to maximize its benefits.

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