

Implementation of SIAPIK-Based Sustainable Accounting Digitalization to Support MSME Business Upgrading

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Abstract: *This study aims to analyze the implementation of SIAPIK-based digital accounting in supporting business upgrading among MSMEs in Bukittinggi. Adopting a qualitative approach with a case study design, this research seeks to provide an in-depth understanding of the digitalization process. The informants comprised 15 MSME practitioners selected via purposive sampling, meeting the criteria of being registered entities, possessing a Taxpayer Identification Number (NPWP), and having been in operation for over two years. Data were gathered through semi-structured interviews, participatory observation, and documentation, then analyzed using the Miles and Huberman interactive model. The findings reveal four primary themes: SIAPIK as an instrument for business regularity, digitalization as a strategic driver for business upgrading, challenges in digital literacy and technological adaptation, and digital accounting as a foundation for business sustainability. The utilization of SIAPIK assists MSMEs in enhancing financial administrative order, operational efficiency, and strategic decision-making, while also facilitating access to financing and business legality.*

Abstrak : *Penelitian ini bertujuan menganalisis implementasi digital accounting berbasis aplikasi SIAPIK dalam mendukung business upgrading pada UMKM di Bukittinggi. Penelitian menggunakan pendekatan kualitatif dengan jenis studi kasus. Informan terdiri dari 15 pelaku UMKM yang dipilih melalui teknik purposive sampling dengan kriteria UMKM terdaftar, memiliki NPWP, dan menjalankan usaha lebih dari dua tahun. Data dikumpulkan melalui wawancara semi-terstruktur, observasi partisipatif, dan dokumentasi, kemudian dianalisis menggunakan model interaktif Miles dan Huberman. Hasil penelitian menunjukkan empat tema utama, yaitu SIAPIK sebagai instrumen keteraturan bisnis, digitalisasi sebagai strategi business upgrading, tantangan literasi digital dan adaptasi teknologi, serta digital accounting sebagai pendukung keberlanjutan usaha. Penggunaan SIAPIK membantu UMKM meningkatkan keteraturan administrasi keuangan, efisiensi pengelolaan usaha, pengambilan keputusan, serta akses pembiayaan dan legalitas usaha.*

Keywords : *SIAPIK, Digital Accounting, Sustainable Accounting, Business Upgrading, MSMEs, Digital Transformation.*

INTRODUCTION

Digital transformation has become a pivotal element in the shifts within global business systems, including the Micro, Small, and Medium Enterprises (MSMEs) sector. The advancement of information technology drives business practitioners to adopt management systems that are more effective, efficient,

and data-driven. In the context of financial management, accounting digitalization has emerged as a crucial strategy for enhancing the quality of business administration and corporate sustainability (Huy & Phuc, 2024; Pham & Vu, 2022). According to extant literature, the digitalization of accounting information can improve decision-making efficiency and support a sustainable innovation ecosystem within MSMEs. This shift indicates that digital financial recording systems no longer function merely as administrative tools but also as strategic instruments to bolster business competitiveness in the digital economy era.

In Indonesia, MSMEs contribute significantly to national economic growth; however, they continue to face various constraints regarding financial management. A majority of MSME practitioners still rely on simple manual recording systems, and many have yet to separate personal finances from business accounts. This condition leads to weak cash flow control, difficulties in preparing financial statements, and limited access to formal financing (Aulia & Rizki, 2025). To support the digital transformation of MSMEs, Bank Indonesia developed the SIAPIK application a financial information recording system specifically designed for MSMEs. This application assists business owners in recording transactions, managing cash flows, and generating simplified digital financial reports.

The phenomenon of SIAPIK adoption is beginning to grow among MSMEs in Bukittinggi, particularly in the trade, culinary, and service sectors. Preliminary observations indicate that several MSME practitioners have started utilizing SIAPIK to improve the regularity of their financial administration. Nevertheless, the implementation of digital accounting still encounters various hurdles, such as low digital literacy, limited technological proficiency, and resistance to changes in work systems. Some practitioners reported that using digital applications feels challenging in the initial stages due to a lack of familiarity with integrating technology into daily business activities (Khadik et al., 2025). This situation underscores that MSME digital transformation involves not only the adoption of technology but also a process of social adaptation and business culture shifts.

Theoretically, this study is grounded in Sustainable Accounting Theory, which emphasizes that modern accounting systems serve not only as financial recording tools but also support business sustainability through enhanced efficiency, transparency, and accountability. Furthermore, this study utilizes the Technology Organization Environment (TOE) Framework to understand the factors influencing digital technology implementation in MSMEs. The TOE Framework posits that successful technology adoption is influenced by technological, organizational, and external environmental factors (Putra et al., 2024). In the MSME context, the implementation of the SIAPIK application is driven not only by the ease of use but also by human resource readiness and the surrounding business environment.

Previous research has demonstrated that digital accounting positively influences the sustainability and development of MSMEs. Studies by Pham and Vu (2022) suggest that accounting digitalization

enhances business management quality and innovation. Similarly, Huy and Phuc (2024) indicate that the effectiveness of digital accounting systems can strengthen sustainable business model innovation. However, most prior studies have predominantly utilized quantitative approaches and focused on variable correlations. Research that explores the lived experiences of MSME practitioners in implementing digital accounting applications in-depth remains relatively limited, particularly within the context of local Indonesian MSMEs.

Based on these conditions, this study aims to analyze the implementation of SIAPIK-based digital accounting in supporting business upgrading among MSMEs in Bukittinggi. The research focuses on the experiences of MSME owners in utilizing the SIAPIK application, the challenges encountered, and the significance of digital transformation for business sustainability. This research is expected to provide a theoretical contribution to the development of sustainable accounting and MSME digital transformation studies, while offering practical implications for the government and stakeholders in designing more effective digitalization mentoring programs for MSMEs.

METHOD

This study employs a qualitative approach with a case study design. The case study method was selected because the research focuses on gaining an in-depth understanding of the implementation of sustainable accounting digitalization within MSMEs and how this process supports business upgrading in a real-world operational context. This approach allows the researcher to explore the experiences, perceptions, and social dynamics encountered by MSME practitioners in adopting digital accounting. According to Yin (2021), a case study is relevant when a study aims to understand contemporary phenomena deeply within their real-life contexts. Furthermore, a qualitative approach enables the researcher to comprehend the subjective meanings and social experiences of participants regarding the phenomena under investigation (Creswell & Poth, 2024).

The research was conducted among MSMEs in Bukittinggi. The selection of this location was based on the rapid development of MSME activities and the increasing adoption of digital technology in business management, particularly within the trade, culinary, and service sectors. Recognized as a hub for trade and tourism in West Sumatra, Bukittinggi possesses a unique characteristic where MSMEs actively adapt to the digital economy. These conditions make the region a relevant setting for examining the implementation of digital accounting in supporting capacity building and business sustainability. In qualitative research, the local context is vital for understanding the relationship between social phenomena and the environment in which they occur (Merriam & Tisdell, 2020).

Research subjects were selected using a purposive sampling technique based on several criteria: (1) the MSME is officially registered or possesses business legality; (2) holds a Taxpayer Identification

Number (NPWP); (3) has been in operation for more than two years; and (4) has utilized or is currently implementing a digital financial recording system. The informants consist of business owners and financial managers deemed to have a direct understanding of the business management process. The total of 15 informants was determined based on the principle of data saturation, a point where obtained data show repetitive patterns and no significant new information is discovered (Hennink & Kaiser, 2022).

Data collection techniques involved semi-structured interviews, participatory observation, and documentation. Interviews were conducted to explore the experiences, perceptions, and challenges of MSME practitioners in utilizing the SIAPIK application. Observations focused on the actual use of the application for transaction recording and financial management, while documentation including digital financial reports, business documents, and transaction archives served as supporting data (Nowell et al., 2020). To ensure data trustworthiness, the study employed source triangulation, method triangulation, member checking, and an audit trail. Data analysis followed the interactive model by Miles, Huberman, and Saldaña, which includes data reduction, data display, and thematic conclusion drawing (Miles et al., 2020).

RESULTS AND DISCUSSION

Based on in depth interviews, participatory observations, and documentation involving 15 MSME practitioners utilizing the SIAPIK application in Bukittinggi, this study finds that the implementation of digital accounting via SIAPIK has catalyzed shifts in financial management patterns and business governance. Prior to adopting SIAPIK, the majority of informants relied on manual recording through simple cash books, and several practitioners had yet to separate personal finances from business accounts. Such conditions led to difficulties in monitoring cash flow, evaluating business profits, and preparing systematic financial statements. The introduction of SIAPIK is perceived as a practical solution that assists MSME practitioners in recording transactions in a more structured and comprehensible manner.

The data analysis reveals four primary themes emerging from the practitioners' experiences in implementing the SIAPIK application: (1) SIAPIK as an instrument for business regularity, (2) digitalization as a strategy for business upgrading, (3) challenges in digital literacy and the technological adaptation process, and (4) digital accounting as a driver for business sustainability.

Table 1. Thematic Coding of Research Results

Primary Theme	Sub-theme	Finding Indicators	Informant Quotations
SIAPIK as an instrument for business regularity	Financial administration	More organized recording processes	"All transactions are recorded immediately." (I3)
Business upgrading	Decision-making	Facilitated product evaluation	"Now I know which products are the best-sellers." (I7)
Digital literacy	Technological adaptation	Initial usage difficulties	"Initially, I was afraid of pressing the wrong button." (I5)
Business sustainability	Business professionalism	Facilitated access to financing	"Banks trust [the business] more." (I11)

SIAPIK as an Instrument for Business Regularity

The majority of informants stated that the utilization of the SIAPIK application assists in establishing regularity within business financial administration. Informants explained that they previously encountered frequent errors in transaction recording, loss of sales data, and difficulties in accurately calculating business profits. Following the adoption of SIAPIK, the transaction recording process has become more organized, efficient, and easier to monitor on a daily basis.

One informant noted:

"In the past, small transactions were often left unrecorded because I was still using a regular notebook. Since using SIAPIK, all income and expenses are entered immediately and are much more organized." (I3)

This statement indicates that the implementation of SIAPIK not only assists with the technical aspects of financial recording but also fosters a new awareness regarding the importance of administrative discipline. Field observations revealed that MSMEs utilizing SIAPIK possess more comprehensive and accessible transaction documentation compared to practitioners still employing manual methods. In a social context, this shift demonstrates a transformation in MSME work culture, moving from traditional administrative patterns toward a digitally based management system.

Beyond facilitating transaction recording, several informants stated that SIAPIK enables them to monitor business cash flow in real-time. Business owners have gained a deeper understanding of income and expenditure patterns, allowing for better control over operational costs. This condition illustrates that digital accounting via SIAPIK functions as a business control tool that helps MSMEs enhance operational management efficiency.

Digitalization as a Strategy for Business Upgrading

The second theme indicates that MSME practitioners perceive the implementation of SIAPIK as a strategic move toward business upgrading. Informants explained that digital financial statements enable them to make business decisions more rapidly and accurately. Several business owners have begun utilizing the transaction data stored within the SIAPIK application to evaluate consumer-preferred products, calculate profit margins, and plan for business expansion.

One informant stated:

"Now I can see which products are the best-sellers and which ones have high production costs. It makes it much easier to determine my sales strategy." (I7)

This finding demonstrates that digital accounting is no longer viewed merely as an administrative tool but has become an integral part of business development strategy. Furthermore, several informants revealed that the digital financial reports generated by SIAPIK enhance the trust of financial institutions toward their businesses. This credibility significantly assists MSMEs during the application process for financing or business credit.

In the context of Bukittinggi's local economy, which is dominated by the trade and culinary sectors, the ability to interpret business data quickly has become a vital factor in maintaining business competitiveness. The use of SIAPIK assists MSME practitioners in becoming more adaptive to market fluctuations and consumer behavior shifts in the digital era.

Challenges in Digital Literacy and Technological Adaptation

Despite the various benefits provided by the implementation of SIAPIK, this study finds that the digitalization process still encounters several obstacles. The primary challenges perceived by informants are low digital literacy and difficulties in adapting to new technologies. A significant number of informants, particularly business owners over the age of 40, admitted requiring substantial time to comprehend the features within the SIAPIK application.

One informant explained:

"Initially, I was afraid of pressing the wrong button and worried that the data would be lost because I wasn't used to using applications." (I5)

Furthermore, several informants noted constraints regarding internet connectivity and a lack of continuous technical training. Some MSME practitioners only understand the basic functions of the application without being aware of other features that could optimize business management. Field observations indicate that MSMEs with younger family members or employees with technological proficiency tend to adapt to SIAPIK more rapidly compared to businesses managed solely by the owner.

These findings suggest that MSME digital transformation is not merely about the provision of technology; it is also heavily influenced by human resource readiness, age factors, prior technological experience, and social support systems. Consequently, the digital adaptation process is a critical determinant in the successful implementation of digital accounting among MSMEs.

Digital Accounting as a Driver for Business Sustainability

The final theme indicates that MSME practitioners have begun to perceive SIAPIK as a fundamental component of their strategy to ensure business sustainability. The adoption of digital applications assists business owners in achieving operational efficiency, mitigating the risk of transaction data loss, and enhancing business professionalism. Several informants stated that digital financial reports facilitate the fulfillment of tax administration requirements and business legality.

One informant noted:

"When financial reports are organized and digitalized, the business becomes more trusted by both banks and customers." (I11)

Furthermore, the utilization of SIAPIK enhances the readiness of MSMEs to navigate economic shifts and business competition. Within the socio-economic context of the Bukittinggi community, the implementation of digital accounting reflects a paradigm shift among practitioners toward more modern, long-term-oriented business management. Consequently, the implementation of SIAPIK generates not only an economic impact but also contributes to a cultural transformation in how MSMEs manage their enterprises.

The findings of this study demonstrate that the implementation of the SIAPIK application among MSMEs in Bukittinggi extends beyond the mere adoption of financial recording technology; it reflects a broader process of business culture transformation toward management that is more professional, transparent, and sustainable. This aligns with Sustainable Accounting Theory, which posits that modern accounting systems serve not only as administrative tools but also as catalysts for efficiency, accountability, and business viability (Pham & Vu, 2022). In this study, the utilization of SIAPIK is proven to assist MSME practitioners in establishing more systematic business governance through accurate and structured transaction recording.

Furthermore, the results support the Technology Organization Environment (TOE) Framework, which asserts that successful technology implementation is influenced by technological, organizational, and external environmental factors (Tornatzky & Fleischer, 2020). The technological factor is evident in the perceived ease of use and the efficiency benefits experienced by business owners. The organizational factor is manifested through human resource readiness and the practitioners' ability to adapt to changes in work systems. Meanwhile, the environmental factor is observed in government

support, MSME digitalization training, and digital market demands that compel practitioners to adopt technology-based financial recording systems.

This research identifies that SIAPIK implementation significantly influences business upgrading, particularly by enhancing decision-making capabilities and facilitating access to business financing. This finding is consistent with (Huy & Phuc, 2025), who state that the effectiveness of digital accounting systems can strengthen business model innovation and sustainability by improving the quality of business information. However, this study offers a novel perspective by demonstrating that the success of digital accounting implementation is shaped not only by technical aspects but also by the social and cultural factors of the practitioners.

In this context, some MSME owners still perceive technology as complex and risky, particularly those who have long relied on manual systems. This indicates that MSME digital transformation is an incremental process requiring a substantial period of social adaptation. This finding diverges from previous quantitative studies that often portray a linear relationship between technology adoption and business performance. Instead, this research highlights that digital accounting implementation in local MSMEs is more accurately understood as a social process involving learning, negotiation, and shifts in work culture.

The results also indicate that successful SIAPIK implementation is heavily contingent upon digital literacy and technological mentoring. MSMEs that receive training or have support from family and business communities tend to adapt more rapidly to digital applications. This underscores that MSME digital transformation requires a more inclusive and contextual approach that aligns with the social characteristics of the practitioners. Consequently, digitalization programs should not merely provide applications but must be accompanied by continuous mentoring and human resource capacity building.

Theoretically, this study contributes to the advancement of sustainable accounting and MSME digital transformation literature through a qualitative lens. It illustrates that digital accounting performs more than just a technical function; it reshapes management culture and business decision-making patterns. Practically, the results imply that local governments, financial institutions, and educational entities should strengthen digital literacy programs and technical assistance for SIAPIK usage among MSMEs.

Despite these insights, this study has limitations, as it was conducted within a specific geographical area with a limited number of informants, meaning the results cannot be broadly generalized. Therefore, future research is encouraged to conduct comparative studies across different regions, utilize mixed-methods approaches, or explore the relationship between SIAPIK implementation

and green business sustainability, financial inclusion, and MSME digital transformation readiness in greater depth.

CONCLUSION

This study demonstrates that the implementation of SIAPIK-based digital accounting among MSMEs in Bukittinggi has significantly contributed to enhancing business management quality and facilitating the process of business upgrading. The utilization of SIAPIK assists MSME practitioners in establishing financial administrative order, increasing transaction recording efficiency, strengthening strategic decision-making, and supporting access to financing and business legality. The findings further reveal that digital accounting is perceived not merely as a technical bookkeeping tool but as an integral component of a broader business culture transformation toward more professional, transparent, and sustainable management. The research finds that the success of SIAPIK implementation is contingent upon human resource readiness, digital literacy levels, the technological adaptation process, and external environmental support. Despite encountering various obstacles such as limited technological proficiency, resistance to change, and a lack of digitalization mentoring the incremental adaptation process indicates that accounting digitalization serves as a vital strategy in supporting the long term sustainability of MSMEs in the digital economy era.

Theoretically, this study contributes to the advancement of Sustainable Accounting Theory and the Technology Organization Environment (TOE) Framework through a qualitative lens. It emphasizes the social and cultural experiences of MSME practitioners in implementing digital accounting, highlighting that successful digital transformation is determined not only by technological attributes but also by organizational factors, social environments, and the subjective experiences of business owners.

Practically, the results imply that MSME digitalization programs must be integrated with digital literacy training, specialized mentoring for the SIAPIK application, and the strengthening of managerial capacity to ensure optimal and sustainable implementation. Local governments, financial institutions, and educational entities play a pivotal role in fostering an inclusive digital ecosystem that supports MSME transformation. Notwithstanding its insights, this study is subject to limitations, as it focused on MSMEs within a specific region with a limited number of informants. Consequently, future research is encouraged to undertake comparative studies across different regions, employ mixed-methods approaches, or explore the nexus between SIAPIK implementation and financial inclusion, green business sustainability, and broader digital transformation readiness among MSMEs.

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