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Digital-Based Business Sustainability Strategy for MSMEs in Medan City

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Abstract

This study evaluates digital-based business sustainability strategies among Micro, Small, and Medium Enterprises (MSMEs) in Medan City and identifies internal and external factors affecting business resilience. Using a qualitative descriptive approach, data were collected through in-depth interviews with five MSME owners/managers, supported by observations and documentation. Data validity was ensured through source triangulation and member checking. The analysis employed SWOT analysis along with the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices. The results indicate that digital adoption among MSMEs is still developing. While most businesses utilize social media and online marketplaces, digital technology has not yet been fully integrated into comprehensive business strategies. The IFE score of 2.50 reflects a moderate internal condition, with strengths in product innovation and operational flexibility, but weaknesses in digital literacy and human resource capabilities. The EFE score of 2.95 shows that MSMEs are relatively responsive to external opportunities, particularly the rapid growth of e-commerce and evolving consumer behavior. SWOT analysis places MSMEs in Quadrant II (Weakness–Opportunities), indicating that significant external opportunities are not yet supported by adequate internal capacities. Accordingly, a turnaround (WO) strategy is recommended, emphasizing the utilization of digital opportunities to address internal weaknesses through improving digital literacy, enhancing workforce competencies, and integrating technology into business operations. The study concludes that digitalization is a key driver of business sustainability. However, its effectiveness depends on strengthening internal capabilities and implementing adaptive strategies that enable MSMEs to achieve long-term sustainable growth and maintain competitiveness in an increasingly digital business environment.

Keywords Digitalization; MSMEs; Business Sustainability; SWOT

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1. INTRODUCTION

Digitalization is a key factor in the development of modern business. Amidst rapid technological advancements, digital transformation has become a global phenomenon, playing a crucial role in driving change and significantly impacting various economic sectors, including Micro, Small, and Medium Enterprises (MSMEs) (Warsiyah et al., 2024). The development of information technology, the

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increasing tendency of society to be oriented towards digital platforms (Meutia et al., 2024). Furthermore, growing market competition requires businesses to adopt technology-based business strategies to maintain business continuity and drive growth.

In this context, business sustainability depends not only on product excellence but also on the ability to adapt to a dynamic digital environment (Wibowo & Sriyana, 2024). For MSMEs, this transformation is not optional, but essential to maintaining business sustainability amidst dynamic economic pressures. At the national level (Nurbaiti et al., 2023), as a key driver of the national economy, MSMEs make a significant contribution to driving economic growth and employment in Indonesia. Data from the Ministry of Cooperatives and SMEs shows that Micro, Small, and Medium Enterprises (MSMEs) contribute more than 60% to the national Gross Domestic Product (GDP) and accommodate approximately 97% of the Indonesian workforce (Kementerian Koperasi Dan UKM, 2024). This significant contribution demonstrates that the sustainability of MSMEs is not solely about individual entrepreneurs, but also about economic stability and socio-economic conditions. With a business population exceeding 65 million, MSMEs play a key role as drivers of the national economy, supporting regional economic resilience, and contributing to job creation, economic progress, and improving the quality of life for the community.

However, given these conditions, this contribution is not directly proportional to the level of preparedness and resilience of MSMEs in facing the challenges of the digital era. Digitalization is a major obstacle in facing global competition (Hendra et al., 2022). The inability to adopt digital technology leads to business stagnation and vulnerability. The reality is that many MSMEs remain digitally behind. Obstacles include a lack of understanding of digital technology and limited availability of technological resources. Stagnant business models leave digitalization merely a buzzword without concrete implementation.

Findings from (Dewi et al., 2023); (Khairawati et al., 2025) and (Adi Wicaksono et al., 2024) show that the majority of MSMEs still experience various structural constraints, particularly in terms of capital and funding, unequal access to technology, limited digital literacy, and optimization of government policy support. Access to formal financing remains a major obstacle due to limited collateral and low administrative eligibility for micro-enterprises. Furthermore, nearly all MSMEs still rely on conventional marketing strategies, resulting in relatively limited and suboptimal market reach, as well as less competitiveness amidst the increasing use of digital platforms by consumers. These changes demand regulations that accommodate the dynamics of electronic transactions, consumer guarantees, and a competitive business environment.

In the Indonesian context, digital commerce regulations are governed by various legal instruments. As a legal basis for e-commerce activities, the government has enacted various regulations, including

Law Number 7 of 2014 concerning Trade, Government Regulation Number 80 of 2019 concerning Commerce Through Electronic Systems, and the Electronic Information and Transactions Law (UU ITE). Therefore, the implementation of digital commerce regulations in Indonesia serves not only as a control tool but also as a strategic instrument in building a competitive, equitable, and sustainable business ecosystem. This phenomenon is also reflected at the regional level, including in Medan, the main center of economic activity and growth in North Sumatra Province. As a metropolitan city with high trade activity, Medan has a strong capacity to support the digital transformation of MSMEs (Tubastuvi & Rusydiana, 2024). However, various reports and studies show that the digital transformation of MSMEs in the regions still faces obstacles in the form of technology utilization, minimal integrated digital strategies, and less than optimal synergy between business actors and policy makers (Purba & Natalia, 2023). This situation has weakened the capacity of local businesses to face competition compared to those who have already systematically adopted digital business models.

Conceptually, business sustainability refers to a company's capacity to maintain a balance between survival and creating long-term value while considering economic, social, and environmental factors (Nurhalita & Imsar, 2022). This approach, called the triple bottom line concept, emphasizes profit, people, and the planet. In the context of MSMEs, sustainability is not defined as financial viability, but rather the ability to adapt to external transformations such as economic instability, technological shifts, and changes in consumer preferences (Firayani et al., 2024). Sustainable MSMEs generally possess organizational flexibility, product innovation, and the ability to optimize the use of technology to strengthen competitive advantage. Empirical studies demonstrate that the use of digital platforms in business models contributes significantly to improving performance. There is a research gap in previous studies that have analyzed the relationship between digitalization and business sustainability. Research by (Gunawan & Siregar, 2021); (Herman et al., 2024) and (Mahayani et al., 2024) found that the use of digital marketing significantly impacts sales growth, thus contributing to the financial sustainability of MSMEs. Research studies by (Lau & Kulsum, 2023); (Soemitra et al., 2022) and (Sugianto et al., 2023) confirmed that the use of digital technology contributes to supporting efficiency levels and expanding market reach. However, this research focuses on digital marketing aspects partially and quantitatively, and has not fully explored how digital-based business sustainability strategies are designed and implemented in specific local contexts through a qualitative approach. This research gap indicates the need for a more comprehensive qualitative study of digital-based business sustainability strategies, particularly for MSMEs in Medan City, where empirical evidence on holistic strategy formulation remains limited. Qualitative methods are needed to identify the experiences, perceptions, and adaptive strategies established by MSME managers in facing the challenges of digitalization. By understanding the social context and local dynamics, this research is expected to provide a more detailed understanding of the sustainability factors of digitalization-based MSMEs.

Against this backdrop, this study aims to: (1) evaluate the current implementation of digital-based business sustainability strategies among MSMEs in Medan City; (2) identify the internal and external factors influencing MSME business resilience through IFE and EFE matrix analysis; and (3) formulate strategic recommendations using SWOT analysis to support sustainable digital transformation among MSMEs. These objectives are pursued through a qualitative descriptive approach that centers the experiences and strategic perceptions of MSME owners and managers in Medan City.

2. METHODS

This study applies a descriptive qualitative method that provides researchers with the opportunity to explore more comprehensive information regarding digital-based business sustainability strategies in MSMEs in Medan City (Rahmani, 2022). The purpose of this research is to identify and describe digital-based business sustainability strategies for MSMEs in Medan City and to identify obstacles and opportunities that arise during the digitalization process. The study was conducted from August to October 2024, involving five MSMEs operating across three business sectors fashion, food, and services in Medan City. Informants were selected using a purposive sampling technique, which involves selecting informants in a targeted manner based on established criteria, such as MSME entrepreneurs actively using digital platforms for marketing or business operations, their business experience, and the sustainability of their businesses. This method aims to obtain more relevant data to provide a comprehensive picture of digital strategies. The research subjects included MSMEs operating in Medan City, particularly those that have adopted digital technology to support their business activities. Data were collected through in-depth interviews with informants, who served as sources of information for the research, namely MSME owners or managers. The interviews were conducted in a semi-structured manner to obtain comprehensive data on business sustainability strategies, understanding of digital literacy, and its implications for business sustainability.

In addition to interviews, supporting data was obtained through observation and documentation, such as operational records, digital sales reports, and digital marketing activities (Moloeng, 2018). To ensure data credibility, triangulation techniques were applied, encompassing source triangulation (cross-checking information across multiple informants), methodological triangulation (comparing interview data with observational and documentary evidence), and member checking, whereby key findings were verified with research participants. These procedures strengthen the trustworthiness and transferability of the qualitative findings. In analyzing business sustainability strategies, SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis is used to examine and identify internal and external factors influencing the sustainability of digital-based MSME businesses. Internal factor analysis is carried out through the use of the Internal Factor Evaluation (IFE) Matrix with the aim of identifying the main strengths and weaknesses of MSMEs. Meanwhile, external factor analysis is carried out through the use of the External Factor Evaluation (EFE) Matrix to identify opportunities and threats originating from the external business environment, namely the development of digital technology, market competition, and changes in consumer behavior. The weights assigned in the IFE and EFE matrices were determined through structured expert judgment discussions involving the research team and cross-validated with interview responses from MSME managers, reflecting the relative importance of each factor within the Medan City MSME business context. The findings of the IFE and EFE analyses are then combined in a SWOT analysis to formulate strategic options that can be utilized by MSMEs to improve business sustainability in the digitalization era. Through this approach, the target is to obtain appropriate strategies for entrepreneurs in utilizing digital technology to expand market competition and business sustainability (Sugiyono, 2023).

3. FINDINGS AND DISCUSSION

The findings of this study are summarized using field data collected through in-depth interviews, direct observation, and documentation of five MSMEs in Medan City operating in various business sectors, namely fashion, food, and services. Based on the data collected, all informants have utilized digital technology in running their businesses, at varying levels of utilization.

In general, the research findings indicate that the implementation of digital-based business sustainability among MSMEs in Medan City is still in the developing stage. The majority of business managers have utilized social media platforms such as Instagram, WhatsApp Business, and marketplace platforms like Shopee, TikTok Shop, and websites as promotional and communication platforms with consumers. While most MSMEs have embraced digital technology, its use remains partial and has not been integrated into a comprehensive business strategy. This illustrates that digitalization has become a primary requirement for maintaining business sustainability, yet it still faces various internal and external obstacles. The following is the Identity Data of MSMEs in Medan City:

Table 1. Identity of MSMEs in Medan City

Type of Business	Business Name	Informant Name	Business Year
Fashion Clothing Store	Tinyseoul	Dewi Prasasti	2022
Shoe Store	Rabel Sneakers	Aditya Rahman	2022
Food Store	Ayam 78	Amelia	2021
Food Store	Risoles Diva	Dhea Syafira	2021
Service Store	Maxi Shoes care	Rizky Ramadhana	2021

Interviews revealed that MSMEs like Tinyseoul and Rabel Sneakers demonstrated that digital marketing can increase product visibility and reach consumers outside the Medan area. This has led to increased sales, particularly during specific occasions such as online promotions or digital campaigns. Meanwhile, MSMEs in the culinary sector, such as Ayam 78 and Risoles Diva, utilize digital platforms more for daily ordering and promotions, although their use is still limited to simple apps.

Conversely, service MSMEs like Maxi Shoes Care demonstrated that digitalization helps build customer relationships (customer engagement) through online testimonials and social media content. However, limitations remain in customer data management and sustainable digital strategy optimization.

3.1 Internal Strategic Factors Analysis (IFA)

Internal factor analysis is carried out to identify the strengths and weaknesses of MSMEs in adopting digitalization.

Table 2. IFA Matrix

Internal Factors	Weight	Rating	Score
Strength			
Product Innovation	0.10	4	0,40
Cost Efficiency	0,10	3	0,30
Operational Flexibility for MSMEs	0,15	2	0,30
Wide Market Reach	0,15	2	0,30
Weakness			
Internet Network Dependence	0,10	4	0,40
Data Security and Fraud Risk	0,10	2	0,20
Limited Digital Skills and Low Digital Literacy	0,20	2	0,40
Delivery Service Barriers	0,10	2	0,20
Total	1,00		2,50

Source: data processed by researchers

Findings from the Internal Factor Evaluation (IFE) Matrix analysis indicate a score of 2.50. This score places the MSME's internal conditions in the average category, indicating that the business's internal capabilities are adequate, but not yet demonstrating a dominant strength supporting competitive advantage. In other words, MSMEs possess a number of internal strengths, but have not yet optimally addressed their various weaknesses.

In terms of strengths, product innovation is the most contributing factor, with the highest score of 0.40. This illustrates MSMEs' adaptive capacity to respond to market needs and preferences through product development. Furthermore, cost efficiency, operational flexibility, and market reach also play a significant role in MSMEs' internal performance. This flexibility characteristic demonstrates MSMEs' relative adaptability to changes in the business environment, particularly in the context of digitalization. However, these strengths are not optimally utilized to create a sustainable competitive advantage.

Meanwhile, in terms of weaknesses, several factors remain major obstacles. Dependence on the internet, limited digital skills, and low digital literacy are dominant weaknesses, with a score of 0.40. This indicates that human resource preparation for implementing digital tools is still relatively low. Furthermore, data security, fraud risks, and delivery service constraints also impact MSME operational effectiveness, albeit to a more moderate degree. This situation confirms that the main challenges for MSMEs lie not only in technical aspects, but also in managerial aspects and awareness of digital risks.

Overall, the IFE Matrix results indicate that MSMEs have the potential to develop towards business sustainability, but still require internal capacity building. Strategic efforts that can be implemented include improving digital competency, strengthening technological literacy, and digital risk management. By optimizing their strengths while simultaneously minimizing weaknesses, MSMEs are expected to strengthen their competitiveness and maintain business sustainability in an increasingly complex and digitalized environment.

3.2 External Strategic Factors Analysis (EFA)

External factor analysis is applied to identify the opportunities and threats faced by MSMEs in the context of digitalization, serving as the basis for the EFE Matrix construction below:

Table 3. EFA Matrix

External Factors	Weight	Rating	Scor
Opportunities			
Digital Trends (E-commerce, Cashless Payments, etc.)	0.30	4	1,20
Digital Ecosystem	0,30	3	0,90
Consumer Behavior Changes	0,10	2	0,20
Access to Digital Financing & Training	0,05	2	0,10
Threads (Threats)			
Cybercrime	0,10	2	0,20
Consumer Trust is Volatile	0,05	3	0,15
Disruption from Competitors	0,05	2	0,10
Trade Monopolies (Global Markets)	0,05	2	0,10
Total	1,00		2,95

Source: data processed by researchers

The findings from the EFE Matrix analysis indicate that MSMEs have relatively good skills in responding to external factors. A total score of 2.95 indicates that MSMEs in Medan are above average. This means that MSMEs are able to seize opportunities and face risks, although not optimally.

In terms of opportunities, digital trends such as e-commerce and cashless payments are the most dominant factor, with a score of 1.20. This indicates that technological developments have had a significant impact and have been utilized quite effectively by MSMEs. The digital ecosystem also makes a significant contribution, with a score of 0.90, indicating that digital platform and infrastructure support are quite supportive of business growth. However, changes in consumer behavior and access to digital financing and training are still underutilized, as evidenced by the relatively low scores.

Meanwhile, in terms of threats, cybercrime is the primary risk, with a score of 0.20. This indicates that digital security remains a challenge that requires attention. Furthermore, volatile consumer trust is also a threat, with a score of 0.15, requiring MSMEs to be more consistent in maintaining quality and service. Disruption from competitors and the potential for global market monopoly also pose external pressures, although their impact remains relatively moderate.

Overall, the results indicate that MSMEs are quite adaptive to the external environment, particularly in exploiting digital opportunities. However, improved strategies are needed to address threats and optimize untapped opportunities to ensure continued MSME competitiveness.

3.3 Analysis SWOT

Based on the results of the IFE and EFE analysis, the following digital-based business sustainability development strategy was obtained:

Table 4. SWOT Analysis

	Strength (S)	**Weakness (W)**
Leave Blank	1. Product Innovation 2. Cost Efficiency 3. Operational Flexibility for MSMEs 4. Broad Market Reach	1. Internet Network Dependence 2. Data Security and Fraud Risk 3. Limited Digital Skills & Low Digital Literacy 4. Delivery Service Barriers
Opportunities (O)	SO Strategies	WO Strategies
1. Digital Trends 2. Digital Ecosystem 3. Changing Consumer Behavior 4. Access to Digital Financing & Training	1. Develop product innovations in line with digital trends and consumer needs. 2. Leverage cost efficiency to adopt digital technologies that support business sustainability. 3. Leverage operational flexibility to quickly respond to changes in consumer behavior. 4. Expand the market by optimizing marketplaces, social media, and business websites.	1. Adopt simple, easy-to-use business applications to reduce digital technical barriers. 2. Improve data security by leveraging trusted digital solutions. 3. Participate in digital training to improve digital skills and literacy. 4. Partner with digital logistics services to overcome delivery barriers.
Threads (T)	ST Strategies	WT Strategies
1. Cybercrime 2. Volatile Consumer Trust 3. Competitor Disruption 4. Trade Monopolies (Global Market)	1. Improve Product Quality and Transparency to Combat Cybercrime and Build Trust, such as Testimonials, Branding, etc. 2. Increase service transparency and product quality to maintain consumer trust. 3. Leverage product innovation as a differentiation strategy to address competitor disruption.	1. Improve digital literacy and security to prevent cybercrime. 2. Use trusted platforms to maintain consumer trust. 3. Enhance digital capabilities to compete with disruptive competitors. 4. Collaborate with logistics to address shipping competition.

	4. Expand Market Reach to Reduce the Impact of Global Market Dominance.	

Source: data processed by researchers

Integration between internal (IFE) and external (EFE) factors produces 4 main strategy options, namely SO, WO, ST, and WT, which can be used to improve digital-based MSME business sustainability.

a. SO Strategy (Strength–Opportunities)

SO strategies emphasize the use of internal strengths to seize external opportunities. In the context of research, strategies that can be implemented include:

1) Develop product innovations in line with digital trends and consumer needs.
2) Leverage cost efficiency to adopt digital technologies that support business sustainability.
3) Leverage operational flexibility to quickly respond to changes in consumer behavior.
4) Expand market reach by optimizing marketplaces, social media, and business websites.

This strategy is the most ideal aggressive strategy, because MSMEs have the potential to grow by utilizing available digital opportunities.

b. WO Strategy (Weakness–Opportunities)

WO strategies focus on optimizing weaknesses by exploiting external opportunities. Implementation of this strategy includes:

1) Adopt simple and easy-to-use business applications to reduce digital technical barriers.
2) Improve data security by leveraging trusted digital solutions.
3) Participate in digital training to improve digital skills and literacy.
4) Partner with digital logistics services to overcome delivery barriers.

This strategy is important because it shows that increasing human resource capacity is the main factor for the success of MSME digital transformation.

c. ST Strategy (Strength–Threats)

ST strategy utilizes internal strengths to face external threats. Some strategies that can be implemented are:

1) Improve Product Quality and Transparency to Combat Cybercrime and Build Trust, such as through Testimonials, Branding, etc.
2) Increase service transparency and product quality to maintain consumer trust
3) Leverage product innovation as a differentiation strategy to address competitor disruption
4) Expand Market Reach to Reduce the Impact of Global Market Dominance

This strategy emphasizes the importance of differentiation and competitiveness as a response to market threats.

d. WT Strategy (Weakness–Threats)

WT strategy is a defensive strategy to prevent weaknesses and reduce threats, including:

1) Improving digital literacy and security to prevent cybercrime.
2) Using trusted platforms to maintain consumer trust.
3) Improving digital capabilities to compete with disruptive competitors.
4) Collaborating with logistics to address shipping competition.

This strategy shows that without internal improvements, MSMEs have the potential to experience difficulties in facing external pressures.

3.4 Quadrant Diagram

Based on the results of the SWOT analysis, the following quadrant diagram for digital-based business sustainability development was obtained:

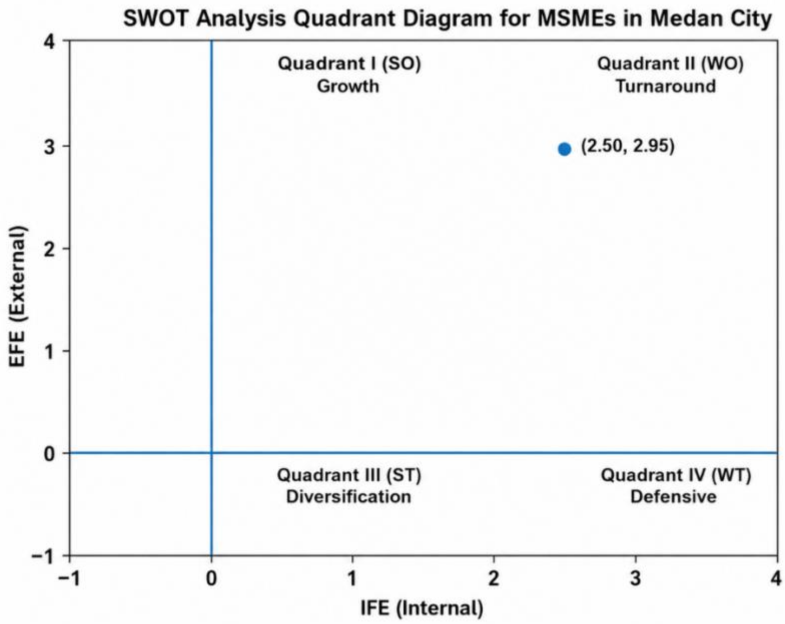

Figure 1. Quadrant Diagram

Source: data processed by researchers

The SWOT analysis reveals that MSMEs in Medan City are positioned in Quadrant II (Weaknesses–Opportunities), reflecting significant external opportunities, but insufficient internal strengths. An EFE score of 2.95 indicates that MSMEs have been quite responsive to external environmental opportunities, particularly in leveraging digital trends such as e-commerce, cashless payments, and digital ecosystem support. Meanwhile, an IFE score of 2.50 indicates that MSMEs' internal capacity remains average, with various weaknesses that have not been fully addressed.

This position confirms that an effective strategy is a turnaround (WO) strategy, one that focuses on capitalizing on external opportunities to address internal weaknesses. In the context of this research, the primary weaknesses lie in low digital literacy, limited technological skills, and reliance on suboptimal digital infrastructure. From another perspective, the external opportunities are substantial, particularly stemming from developments in digital technology and the shift in consumer behavior patterns toward online platforms.

Therefore, the success of the strategy is greatly influenced by the ability of MSMEs to undertake internal transformation, particularly through improving the quality of human resources and strengthening digital capabilities. Digital training programs, the use of user-friendly platforms, and support from the digital ecosystem are key to optimizing these opportunities. This strategy also emphasizes the importance of integrating technology into the overall business model, not merely as a marketing tool but as part of a business sustainability strategy.

Furthermore, Quadrant II also indicates that MSMEs have significant potential to move into Quadrant I (Growth Strategy) if they can strengthen their internal factors. This means that if weaknesses such as limited digital skills and risk management can be minimized, MSMEs have the opportunity to grow aggressively by capitalizing on existing digital opportunities. Overall, the results of this SWOT quadrant analysis emphasize that the challenges facing MSMEs lie not in a lack of opportunities, but in their internal readiness to manage them. Therefore, strategies oriented towards capacity building, digital literacy improvement, and technology-based business transformation are top priorities in achieving sustainable business.

3.5 Discussion

Research findings demonstrate that digitalization has significant implications for the business sustainability of MSMEs in Medan, particularly in economic and social aspects, as well as in adapting to the dynamics of the business environment. Economically, the use of digital technology provides MSMEs with opportunities to improve their business performance through expanded market access, increased sales volume, and reduced operational cost efficiency. The use of digital services, such as social media and marketplaces, allows entrepreneurs to expand their market reach without being limited by geographic location. These findings are reinforced by a study (Gaja et al., 2024) in the International Journal of Information Management, which describes digital transformation as being able to develop the market position and business activities of MSMEs, but requires adequate digital and managerial skills. Furthermore, research (Matondang et al., 2025) explains that the digital economy plays a role in increasing the competitiveness of MSMEs through optimizing digital platforms, although its implementation is still not optimal due to limited digital literacy and technological access.

However, research findings indicate that technology utilization remains partial and not integrated into the overall business model, resulting in a less than optimal impact on financial sustainability. This condition aligns with research that found that the digitalization of MSMEs in Medan City still faces various obstacles, such as limited technological understanding, minimal training, and low optimization of digital platforms. Furthermore, these findings are reinforced by research (Mujiatun et al., 2023), which argues that the digital readiness of MSMEs in Medan City is still limited to the use of basic technology without integrated strategic planning. This demonstrates that the success of digitalization is no longer determined by technology adoption, but primarily by entrepreneurs' ability to manage and integrate that technology into long-term business strategies.

From a social perspective, digitalization contributes to strengthening relationships between entrepreneurs and consumers by increasing interaction and customer engagement. Social media has become a primary tool for building two-way communication, strengthening customer commitment, and building brand image. The research findings align with (Ananda & Santosa, 2024), who explain that digital marketing encourages the creation of more interactive customer relationships. Furthermore, digital transformation can support the strengthening of human resource capacity, particularly in digital literacy and technological capabilities. However, limited digital competency continues to be a major obstacle faced by the majority of MSMEs, necessitating systematic efforts in the form of ongoing training and mentoring. This demonstrates that the social sustainability of MSMEs is significantly influenced by the quality of human resources who readily adapt to technological developments.

Furthermore, in the context of business sustainability, digitalization plays a crucial role in enhancing MSMEs' adaptability to changes in the external environment, such as shifts in consumer behavior, technological disruption, and dynamic market competition. MSMEs that have utilized digital technology have the potential to be more flexible and responsive in responding to these changes, thus having a higher level of resilience than MSMEs that still operate conventionally. These findings align with a study (Suwarsi et al., 2022) hat shows that e-business implementation can improve operational efficiency, market access, and customer satisfaction, which ultimately supports business sustainability. Furthermore, (Latifah et al., 2025) emphasizes that digitalization is a crucial strategy in maintaining the sustainability of MSMEs, especially in the face of economic uncertainty.

However, this resilience is not evenly distributed across all business actors, indicating a gap in digital readiness that needs to be addressed in developing sustainability strategies. This finding aligns with the concept of business sustainability as stated by Elkington (1997) with reference to (Harahap et al., 2023) Based on the triple bottom line (TBL) framework, business sustainability encompasses three interconnected dimensions: economic viability (profit), social responsibility (people), and environmental stewardship (planet). In the context of this research, the economic dimension is reflected in increased sales volume and reduced operational costs through optimized digital platform utilization. The social dimension is manifested in strengthened customer engagement and brand image building through social media interactions. The adaptive dimension analogous to the environmental sustainability pillar is observed in MSMEs' capacity to respond to shifting consumer behaviors and disruptive market forces. Collectively, these dimensions confirm that MSME sustainability is not reducible to financial performance alone, but requires the simultaneous management of human capital, relational capital, and technological capabilities. The findings state that MSME sustainability is not based on digitalization opportunities, but rather the capacity to formulate integrated, analysis-based strategies and adapt to the dynamics of market competition (Budiarto et al., 2023).

From a competitive advantage perspective, these findings align with the Resource-Based View (RBV) theory, which explains sustainable competitive advantage as based on the management of unique and difficult-to-imitate internal resources (Khairani et al., 2023). Digital capabilities, product innovation, and operational flexibility are key to creating sustainable competitiveness. However, without adequate managerial skills and digital literacy, these advantages tend not to be maintained over the long term. Therefore, the sustainability of MSME businesses is not determined by technology ownership, but by the ability to strategically manage, develop, and optimize that technology.

Overall, the implications of this research confirm that digitalization is a key factor in driving the business sustainability of MSMEs in the digital economy era. However, to achieve optimal sustainability, a more comprehensive transformation is needed, not only in the technological aspect, but also in strengthening human resource capacity, integrating business strategies, and increasing collaboration with various parties in the digital ecosystem. Thus, MSMEs are expected to be able to transform from mere users of developing technology into business actors who are responsive to change, innovative, and competitive in facing the dynamics and business opportunities in the digital era.

4. CONCLUSION

The findings indicate that the implementation of digital-based business sustainability by MSMEs in Medan City is still in the development stage, where digital technology has been utilized but has not been strategically integrated into the business model. The IFE Matrix analysis indicates that the internal condition of MSMEs is in the moderate category with a score of 2.50, reflecting strengths such as product innovation and operational flexibility, but still faces major weaknesses such as low digital literacy and limited human resources.

Meanwhile, the EFE Matrix score of 2.95 indicates that MSMEs are quite adaptive to external opportunities, particularly developments in digital technology, e-commerce, and changes in consumer behavior, although they have not yet been optimally utilized. The SWOT analysis places MSMEs in Quadrant II (Weakness–Opportunities), indicating that the most appropriate strategy is a turnaround (WO) strategy, namely utilizing external opportunities to mitigate internal weaknesses by increasing digital capacity and strengthening business strategy.

Overall, this study emphasizes that the sustainability of MSMEs in the digital era is no longer determined by technology adoption, but by the ability of business actors to strategically manage, integrate, and maximize technology. Therefore, strengthening digital literacy, improving the quality of human resources, and integrating technology into business models are key factors in achieving sustainable business sustainability.

Despite its contributions, this study has several limitations that must be acknowledged. First, the sample is restricted to five MSMEs operating in selected business sectors in Medan City, which may limit the generalizability of findings to a broader MSME population across other regions or sectors in Indonesia. Second, the weights and ratings applied in the IFE and EFE matrices, while grounded in empirical data and expert deliberation, inevitably contain a degree of subjectivity inherent to the qualitative research paradigm. Third, the cross-sectional design of this study captures digital adoption at a single point in time, which precludes tracking the longitudinal dynamics of digital transformation among the researched MSMEs.

These limitations point to several avenues for future research. Future studies should expand the sample size and apply a mixed-method approach—integrating quantitative surveys with qualitative case studies—to enable statistically robust generalization of findings. Longitudinal research designs tracking MSME digital transformation trajectories over multiple years would provide deeper insights into the determinants of sustained digital-based business growth. Additionally, comparative studies across different cities or provinces in Indonesia, and between varying MSME typologies (e.g., Islamic-based versus conventional enterprises), could yield valuable insights for policymakers and practitioners aiming to formulate more targeted digital empowerment programs.

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