Digital Transformation of MSME Finance: The Role of Digital Financial Literacy, Digital Lifestyle, and Saving Decisions in Digital Banks (SDB) for Business Resilience

ABSTRACT

This research aimed to address a gap in MSME finance investigations that emphasised digital credit while under-examining saving decisions in digital banks (SDB) and the implications for business resilience. A total of 210 MSME owners/managers were surveyed, and the mediation model was analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results showed that digital financial literacy had a significant positive effect on SDB ($\beta = 0.386$, $p < 0.001$). Furthermore, digital lifestyle significantly increased SDB ($\beta = 0.327$, $p < 0.001$), which predicted business resilience/sustainability ($\beta = 0.555$, $p < 0.001$). The model explained 35.0% and 30.8% of the variance in SDB and business resilience/sustainability, respectively. Bootstrapped indirect effects confirmed that SDB mediated the effects of digital financial literacy ($\beta\_indirect = 0.214$, 95% BCa CI [0.142, 0.293]) and lifestyle ($\beta\_indirect = 0.181$, 95% BCa CI [0.120, 0.253]) on business resilience/sustainability. The novelty of this research was in conceptualising digital-bank saving as a digitally enabled cash-management routine that stabilised MSME operations through fund separation, cash-flow documentation, and real-time liquidity access. Practical implications included MSME-oriented digital banking features and literacy nudges to promote safe, documented, and disciplined reserve saving.

Keywords: digital transformation; digital financial literacy; digital lifestyle; digital banks; business resilience.

INTRODUCTION

Micro, small, and medium enterprise (MSME) plays an important role in the economic structure of developing countries. These enterprises absorb labour, maintain income circulation at the household level, support local consumption, and act as a buffer for economic activity when the formal sector weakens (Llados-Masllorens & Ruiz-Dotras, 2022; Ruiz, 2025; Tay et al., 2022). Furthermore, MSME is the most vulnerable group to income shocks, changes in raw material prices, cash flow disruptions, and limited access to short-term formal financing. Several actors rely on daily cash and informal personal savings to cover operational costs such as purchasing materials, paying rent, and labour wages. Under these conditions, business resilience and sustainability are major concerns for MSME sector in economically volatile developing countries (Łasak, 2022; Sanga & Aziakpono, 2023).

The rapid expansion of digital banking and cashless payment platforms is reshaping cash management practices. However, various challenges may be experienced when adopting these technologies, such as trust concerns, perceived security and fraud risks, service fees, and interoperability constraints. To avoid conceptual overlap, this research defines digital financial literacy as the capability to use products knowledgeably. Digital lifestyle is defined as habitual mobile, cashless, and always-online routines for managing business transactions and cash flows. These conditions show that saving with digital banks is a relevant cash management mechanism required to strengthen business resilience of MSME.

In recent years, there has been an acceleration of digital transformation in the financial sector. This transformation includes the development of digital banks that operate through online channels without physical branches, the integration of wallets, cashless payments based on quick code scanning, and mobile banking services (Almajali et al., 2022; Sultana et al., 2025). These changes have impacted retail consumers, payment methods, pay suppliers, record transactions, and store business funds (Ly & Ly, 2024; Ridwan et al., 2025; Srouji & Torre, 2022). The literature on digital financial inclusion states that access to digital-based financial services can reduce transaction costs, accelerate cash flow, and expand the reach of formal financial services for small-scale businesses (ET, 2025; Mashoene et al., 2025; Tay et al., 2022). In addition, digital transformation offers financial infrastructure previously difficult for MSME to access.

The majority of research on financial digitalisation still focuses on financing, particularly on access to technology-based credit through peer-to-peer lending platforms, high-risk app-based loans, and digitally accelerated working capital credit (Ali et al., 2025; Łasak, 2022; Sanga & Aziakpono, 2023). The research emphasises that financial technology serves as an alternative source of capital, assisting MSME to overcome collateral, administrative, and geographical proximity barriers. This focus is important, but leaves a significant gap. A relatively underdiscussed question is how MSME manages the funds obtained through loans. In this context, academic attention has largely been directed towards "raising money", while "saving money in a controlled manner" has not received adequate analysis (Anshari, 2025; Martina & Girsang, 2025; Tandilino et al., 2025). This gap is becoming increasingly relevant since business cash storage patterns are also undergoing digitalisation. Many MSME owners/managers use digital bank accounts as a method of transaction and a main repository for daily business cash. Saving decisions in digital banks (SDB) have important implications. First, business owners can separate money from personal money, gaining clearer visibility of cash flow. Second, business funds are held in a secure, institutionally recognised channel and can be accessed in real time without having to keep large amounts of cash. Third, a consistently maintained balance in a digital account has the potential to become a formal financial record required to strengthen the credibility of businesses (Almajali et al., 2022; Ly & Ly, 2024; Ridwan et al., 2025; Sinha et al., 2025). More recent literature suggests that the use of digital financial channels by MSME is about transaction convenience and cash management discipline (Apriyanti & Bella, 2024; ET, 2025; Ruiz, 2025). Access to business balances helps MSME owners/managers meet routine obligations, absorb short-term sales declines, and keep business activities running. Therefore, digital-based cash management practices can be understood as a form of business resilience at the micro level (Ruiz, 2025; Tay et al., 2022). The two main drivers of this behaviour are digital financial literacy and lifestyle orientation. Digital financial literacy describes the extent to which MSME owners/managers understand the features of products, security mechanisms, cost structures, and the practical benefits of services (Chhillar et al., 2025; Kurniasari et al., 2025; Kusumawardhani et al., 2023). Previous research shows that higher financial literacy among small business owners is associated with increased confidence in the independent use of digital financial instruments, improved awareness of security and fraud risks, and more focused allocation of funds (Kusumawardhani et al., 2023; Rizki & Hendarman, 2024; Sadalia & Fachrudin, 2025). These results suggest that digital financial literacy increases technology use and promotes the practice of saving business funds through formal channels.

Digital lifestyle refers to the tendency of MSME to conduct business and financial activities in a cashless, fully online, fast, and mobile-based manner. Practices associated with an ‘urban lifestyle’ have become embedded in daily business operations, including micro and small enterprises (Almajali et al., 2022; Srouji & Torre, 2022; Sultana et al., 2025; Wauk et al., 2025). MSME owners/managers familiar with code-based payments, digital transfers, real-time balance monitoring, and minimal cash handling tend to view digital bank accounts as the most practical methods of holding daily business funds (Almajali et al., 2022; Ly & Ly, 2024; Sultana et al., 2025). Digital lifestyle orientation has the potential to drive repeated "digital saving" behaviour, rather than a one-time use and then being forgotten. This research positions SDB as a form of financial innovation. The term entrepreneurial financial innovation refers to a new method for small entrepreneurs to manage business liquidity through secure, documented, and accessible digital means, rather than relying on informal cash storage (Anshari, 2025; Łasak, 2022; Tandilino et al., 2025). This method broadens the dominant view that digitalisation of MSME finance is important for access to capital loans. Digitalisation of MSME finance is also important in terms of cash management and business liquidity buffers. By keeping business funds in digital bank accounts, MSME owners/managers build a relatively safe and easily traceable cash buffer related to the perception of business resilience and sustainability (Apriyanti & Bella, 2024; ET, 2025; Ruiz, 2025).

The purpose of this research is to analyse the relationship between digital financial literacy, digital lifestyle, SDB, as well as the resilience and sustainability of businesses. This research explores the effects of digital financial literacy and lifestyle on SDB. The relationship between these decisions and MSME owners' confidence is explored in business continuity and financial resilience. The mediating role of saving in digital banks is examined in the relationship between digital literacy, digital lifestyle, and business resilience.

This research provides three main contributions. First, the focus of research on digital transformations is shifted from technology-based financing issues to cash management and digital business fund storage issues. Second, this research positions SDB as an entrepreneurial financial innovation practice (Łasak, 2022; Sultana et al., 2025; Wauk et al., 2025). Third, this research links digital savings practices with perceptions of business resilience and sustainability. Therefore, the results are directly relevant to digital transformation agenda from an entrepreneurial and innovation perspective in developing countries (Mashoene et al., 2025; Ridwan et al., 2025; Tandilino et al., 2025). Even though previous MSME digital finance research has emphasised access to financing and digital credit, this research shifts attention to digitally enabled saving and cash management routines in digital banks. Specifically, SDB is positioned as a measurable mechanism that links digital financial literacy and lifestyles to business resilience and sustainability. Practical implications are also offered for digital banking features and literacy initiatives that support liquidity buffers and continuity for MSME.

THEORETICAL FOUNDATION AND HYPOTHESIS DEVELOPMENT

Digital Financial Literacy for MSME

Digital financial literacy refers to the ability of business actors to understand, evaluate, and use digital-based financial products and services safely and effectively in a business context. This literacy includes knowledge about the features of banking and digital payment products, service costs, data and transaction security, as well as rights and protections as users of formal financial services. In addition, digital financial literacy also comprises the ability to manage business cash flow through digital channels (Chhillar et al., 2025; Kurniasari et al., 2025; Kusumawardhani R, Ningrum N, 2023). In developing countries, this variable distinguishes between business actors who only passively "use applications" and those who consciously use digital financial services as managerial tools for businesses (Rizki & Hendarman, 2024; Sadalia & Fachrudin, 2025).

Several research shows that improved digital financial literacy is associated with more formal financial behaviour and increased capacity to plan short-term cash usage (Kusumawardhani et al., 2023; Rizki & Hendarman, 2024). Literacy is associated with greater confidence in using digital financial services since business actors are more aware of potential risks and security mechanisms, including the ability to identify official applications, verify transaction security, and understand withdrawal limits and hidden costs (Ridwan et al., 2025; Rosdiana Sijabat, 2024). Digital financial literacy is an educational tool and foundations of recurring and sustainable digital financial behaviour (Mashoene et al., 2025; Tay et al., 2022). This variable drives financial behaviour through attitudes and lifestyle, which are relevant to the formation of saving habits and digital cash management discipline (Widjayanti et al., 2025). MSME owners/managers with higher digital financial literacy tend to be more prepared to deposit business funds in formal channels, such as digital bank accounts. SDB requires an understanding of the security and control of funds. Therefore, the first hypothesis is formulated as follows.

H1: Digital financial literacy has a positive effect on SDB.

Digital Lifestyle

Digital lifestyle refers to the routine use of digital and cashless financial practices by MSME owners/managers in daily business activities. The orientation is characterised by a preference for non-cash payments, the use of mobile phones to manage business transactions and balances, the habit of making transfers or payments online, and the need to monitor cash flow in *real time* (Almajali et al., 2022; Srouji & Torre, 2022; Sultana et al., 2025; Wauk et al., 2025). Digital lifestyle was considered a phenomenon among middle-class urban consumers. However, recent research shows that micro and small MSME is also rapidly adopting similar patterns due to operational efficiency, faster supplier payments, and a professional image in the eyes of customers (Almajali et al., 2022; ET, 2025; Ly & Ly, 2024).

Previous research suggests that a cashless lifestyle orientation plays a role in promoting the continued use of digital channels. Habitual engagement with digital transactions, electronic record-keeping, and digital cash management leads business actors to view digital bank accounts as a natural and secure option for storing funds, given continuous accessibility and reduced reliance on physical cash holdings (Ridwan et al., 2025; Sultana et al., 2025). Digital lifestyle is a preference for payment methods and an operational mindset that compels MSME to transition from informal physical cash storage to more structured digital cash storage. This variable is expected to be a direct driver of SDB. Stronger digital orientation in business management increases the tendency to use digital bank accounts as a business-only wallet. Based on this reasoning, the second hypothesis is formulated as follows.

H2: Digital lifestyle has a positive effect on SDB.

The Decision to Save in Digital Banks (SDB) as an Entrepreneurial Financial Innovation

SDB includes the possession of digital accounts by MSME owners/managers and the regular allocation of business income as reserves for operational cash. Digital bank accounts are treated as the main location for storing daily business liquidity. This practice has strategic characteristics in relation to the separation of business and personal funds, transaction traceability, and the preparation of a cash cushion to deal with income fluctuations. Recent field research and policy analyses indicate that MSME is treating digital channels as a secure, quickly accessible, and documented "liquidity vault" (ET, 2025; Rakshit et al., 2021; Ruiz, 2025).

In the field of entrepreneurial finance, practices that transform the management and protection of business funds are frequently conceptualised as financial innovations. Entrepreneurial financial innovation is the ability of small entrepreneurs to use financial instruments creatively and strategically, enabling businesses to operate, survive, and grow under conditions of uncertainty (Anshari, 2025; Łasak, 2022; Tandilino et al., 2025). In this context, SDB can be considered a form of financial innovation because such a practice (i) moves funds from informal cash storage to formal accounts regulated by financial institutions, (ii) generates a transaction record that may facilitate future access to formal financing, and (iii) provides business owners with the assurance that funds are available for operational expenses.

Literature on digital financial inclusion and banking in developing countries links cash storage behaviour with improved cash flow discipline, operational efficiency, and increased perceptions of security among business owners (Almajali et al., 2022; Arner et al., 2024; Ridwan et al., 2025; Sinha et al., 2025). Therefore, SDB serves as a financial mechanism that helps MSME owners/managers maintain financial stability.

Resilience and Sustainability of MSME Businesses

Business resilience can be understood as the ability to withstand disruptions, maintain core operations, fulfil routine obligations, and quickly recover activities after experiencing income pressure. In this context, business sustainability reflects owners' belief in the ability of businesses to persist over the medium term, rather than only surviving daily (Apriyanti & Bella, 2024; Rizki & Hendarman, 2024; Ruiz, 2025). Literature on MSME in developing countries emphasises that access to flexible and readily available formal financial services is a key factor in supporting resilience through access to emergency financing and the availability of safe and controlled cash reserves (Kurniasari et al., 2025; Mashoene et al., 2025; Tay et al., 2022).

In the context of digital transformation, there is growing evidence that the use of digital financial services, including bank accounts, cashless payments, wallets, and mobile-based cash flow monitoring, contributes to the resilience of small businesses. This is because business owners can more quickly ascertain cash position, prioritise important payments, and adjust operational costs when sales decline (Ly & Ly, 2024; Ruiz, 2025; Wauk et al., 2025). Evidence from MSME under economic pressure shows that the capacity to mobilise cash efficiently, securely, and transparently determines business survival (Arner et al., 2024; Rakshit et al., 2021). Therefore, the relationship between digital cash storage behaviour and business resilience becomes important. The practice of maintaining business funds in digital bank accounts as liquidity reserves enhances the perceptions of safety, preparedness for revenue shortfalls, and the ability to fulfil short-term obligations. Business resilience and sustainability are viewed as strategic outcomes of digital cash management practices. This research predicts that a stronger commitment to deposit business funds is associated with higher levels of resilience and long-term sustainability. Therefore, the third hypothesis is formulated as follows.

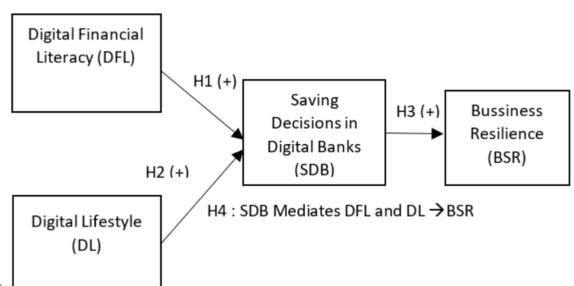
H3: SDB has a positive effect on the resilience and sustainability of businesses.

Conceptual Model and Hypothesis Formulation

The previous section has outlined that digital financial literacy and lifestyle are two main factors driving digital financial behaviour in MSME. These two factors are expected to enhance the propensity of business actors to actively allocate funds and use digital accounts as a buffer for cash flow. SDB functions as a financial mechanism that strengthens resilience and sustainability. Therefore, business funds become more segregated, documented, easily accessible, and readily available to ensure operational continuity during periods of income pressure. This research examines the direct influence of digital financial literacy and lifestyle on SDB. The mediating role of saving in digital banks is examined in the relationship between digital factors and MSME resilience. This mediation idea is in line with the view that entrepreneurial financial innovation serves as a bridge between digital capabilities of actors and sustainability of businesses (Anshari, 2025; Łasak, 2022; Tandilino et al., 2025). Therefore, the fourth hypothesis is formulated as follows.

H4: SDB mediates the influence of financial literacy and lifestyle on the resilience and sustainability of MSME.

Figure 1. Conceptual model of the research.



METHODS

Research Design

A quantitative method was used with a cross-sectional survey design. The design was selected because the purpose of this research was to examine the relationship between latent variables reflecting the behaviour and perceptions of MSME. The quantitative survey method was commonly used in research on the adoption of digital financial services, business cash management behaviour, and digital financial inclusion in MSME, allowing for simultaneous testing of structural models (Kusumawardhani et al., 2023; Ridwan et al., 2025; Tandilino et al., 2025). The model positioned digital financial literacy and lifestyle as independent variables, SDB as a mediating variable, and business resilience and sustainability as dependent variables. Therefore, this research combined descriptive and explanatory methods to uncover the mechanisms linking the variables.

Population and Sample

The population consisted of MSME owners/managers who actively managed business finances. The inclusion criteria for this research included the following. First, respondents had to be individual business owners or directly responsible for daily financial decisions, including receiving customer payments, paying suppliers, and managing operational cash flow. Second, the business had to be active at the time of data collection, with ongoing commercial transaction activities. Third, access to digital financial services, such as mobile banking, digital banking, digital wallets, or other non-cash payment channels, was required.

Respondents were recruited in Indonesia through two channels, namely (i) MSME mentoring/training activities, and (ii) online dissemination using MSME community networks and social media. Since respondents were recruited from mentoring/training programmes, which may attract more digitally engaged individuals than thebroader population, the results should be interpreted as representative of digitally active MSME. To address the issue, this research provides detailed information on the characteristics of respondents and acknowledges the potential selection bias as a limitation. Future research could use probability sampling across regions and sectors.

Purposive sampling was used for the deliberate selection of respondents based on eligibility criteria. After the screening process, there were 210 MSME respondents whose data were suitable for analysis. This sample size was considered sufficient for Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis since 200 respondents were considered adequate for models (Hair et al., n.d.; Wauk et al., 2025). Respondent characteristics indicated that the majority of MSME operators were women (63.8%) in the productive age range of 25 to 44 years. Most businesses have been operating for more than one year. The most prominent business sectors are retail trade and food and beverages, reflecting the typical composition of MSME in developing countries. Approximately 72.4% of respondents had used digital bank accounts to manage business funds. The average weighted monthly turnover is around 60 million rupiah per business. This suggests that respondents are entrepreneurs who truly rely on daily cash flow to maintain commercial operations (ET, 2025; Ruiz, 2025)

Data Collection Procedure

Data was obtained through a structured questionnaire distributed using direct and independent online completion by respondents who met the inclusion criteria. Respondents were asked to answer based on the conditions of businesses.

For the mentoring/training channel, respondents were invited by programme organisers in Indonesia and completed the survey online through Google Forms after the session. The questionnaire link was distributed through WhatsApp group networks/communities of MSME to reach eligible actors for the online channel. Furthermore, no personal identifiers were collected, and a total of 260 responses were received. Only 210 responses were retained as valid for analysis. Responses were excluded when incomplete, missing substantial data, or showing low-quality patterns such as duplicates or inconsistencies. The questionnaire was pre-tested with a small group of MSME owners for clarity and content validity.

A formal pilot test was not conducted, but the instrument was adapted from established measures. The instrument was reviewed for face validity and clarity before distribution. Minor wording adjustments were applied to ensure contextual fit for MSME respondents and to minimise ambiguity in interpretation. Measurement quality was subsequently evaluated through PLS-SEM measurement model assessment.

To minimise common method and self-report biases, the survey emphasised voluntary participation and anonymity, avoided evaluative wording, and divided the questionnaire into clearly labelled sections according to construct. In addition, collinearity was assessed using Variance Inflation Factor (VIF) values. The results indicated low VIF values (1.000–1.164), which were well below common thresholds. This suggested that multicollinearity was a concern, and the common method bias affected the result significantly.

Operational Definitions of Variables and Instruments

This research uses four main constructs, namely digital financial literacy, digital lifestyle, SDB, and business resilience and sustainability. All four are treated as reflective constructs. Each construct is measured through several statement indicators, and respondents assess the level of agreement with each statement using a five-point Likert scale.

Digital financial literacy is defined as the ability of MSME owners/managers to understand, assess, and use digital financial services safely and effectively in the context of business. This literacy includes understanding the features and costs of digital bank accounts, awareness of transaction security, and the ability to monitor business cash flow through applications. Examples of statements presented to respondents are "I understand the main features of digital savings account I use for my business" and "I know how to ensure that digital banking application I use is secure." Digital financial literacy has been viewed in previous research as a foundation of repeated and sustainable digital-based behaviour in MSME sector (Kurniasari & Lestari, 2024; Ridwan et al., 2025; Sadalia & Fachrudin, 2025).

Digital lifestyle is defined as the orientation of business actors to carry out financial activities digitally and cashless as a normal routine. Indicators include a preference for cashless transactions, reliance on mobile phones as the primary tool for managing cash flow, the need for real-time access to cash balances, and the perception that financial processes not requiring cash handling or visits to physical bank branches are important for business operations. Examples of statements include "I prefer to receive and make business payments in a non-cash manner" and "I almost always use a mobile phone to manage my business finances." Digital lifestyles have been linked to the sustained adoption of financial channels among MSME in various developing countries (Almajali et al., 2022; Srouji & Torre, 2022; Sultana et al., 2025; Wauk et al., 2025).

SDB is defined as the tendency of MSME owners/managers to actively set aside business funds into a digital bank account for storing operational cash. The indicators include the intention to continue the practice of saving in digital bank accounts, the perception of security regarding the storage of business funds, the routine of setting aside a portion of income, and the preference for placing funds in digital accounts rather than storing cash. Examples of statements include "I routinely set aside a portion of business income into a digital bank account" and "I believe my business funds are safe if stored in a digital bank account." These decisions are seen as a form of entrepreneurial financial innovation that moves cash from informal storage to secure, documented, and easily monitored formal channels (Arner et al., 2024; ET, 2025; Ridwan et al., 2025).

Business resilience and sustainability are defined as the level of confidence among MSME owners/managers that businesses can withstand short-term declines in sales, meet routine operational obligations, and continue operating over the medium term. Indicators include business cash reserves, short-term operational cost coverage, timely payment of obligations, resilience to sales declines, and confidence in business continuity over the next one to two years. Examples of statements are "My business has sufficient reserve savings to cover operational costs for the next few months" and "I am confident that my business will continue to run even if sales suddenly decline." MSME resilience is widely connected in the literature to rapid, secure, and digitally accessible formal financial channels (Apriyanti & Bella, 2024; Rakshit et al., 2021; Rizki & Hendarman, 2024; Ruiz, 2025). Therefore, this section explains the conceptual definitions of each construct and shows the empirical measurement through statements provided to respondents.

Data Analysis Methods

Data analysis was conducted using PLS-SEM. This method was selected for several relevant reasons. First, the research model comprised several interrelated latent constructs and included mediation paths, namely SDB as an intermediary variable between digital factors (digital financial literacy and digital lifestyle) and business resilience. Second, the analysis used a moderate sample size (210 respondents), appropriate for PLS-SEM, which was tolerant of non-large samples. Third, the variables were perceptual in nature, and the use of variance-based estimation was considered appropriate (Hair et al., n.d.; Ridwan et al., 2025; Sultana et al., 2025).

Justification for PLS-SEM

PLS-SEM was selected because the research was prediction-oriented, included a mediation structure (DFL and DL → SDB → BSR), and focused on explaining variance in the key endogenous constructs. The method was suitable for non-normally distributed data and for analyses focused on estimation and prediction rather than exact model fit.

Software and bootstrapping

The model was estimated using SmartPLS (v. 3.2.9). Meanwhile, significance testing was performed through bootstrapping with 5,000 subsamples, two-tailed tests ($\alpha = 0.05$), and bias-corrected and accelerated (BCa) 95% confidence intervals for direct and indirect effects. Potential collinearity and common method bias were assessed using inner VIF values, which were found to be low (1.000–1.164) since biases did not affect the results.

The analysis was conducted in two main stages. The first stage was the evaluation of the measurement model to test internal reliability and convergent validity. Internal reliability was assessed using Cronbach's Alpha and Composite Reliability (CR), with a general benchmark of above 0.70 as an indication of good consistency. Convergent validity was assessed using the Average Variance Extracted (AVE) value. In this context, a value above 0.50 shows that the indicators in a construct adequately explain the latent variable (Hair et al., n.d.; Kurniasari et al., 2025; Tandilino et al., 2025)

The second stage was the evaluation of the structural model. At this stage, the path coefficients between latent variables, t-values, and p-values were assessed to test the statistical significance of the direct relationships. In addition, the coefficient of determination (R^2) was reported to assess the proportion of variance in the endogenous variables explained by the model. Indirect effect testing was also conducted to evaluate the mediating role of SDB in transmitting the influence of digital financial literacy and lifestyle on business resilience and sustainability (Łasak, 2022; Wauk et al., 2025). Following the analytical design, this research analysed direct digital–financial relationships and the mediating role of saving business funds in digital banks as an entrepreneurial innovation enhancing MSME resilience.

RESULTS AND DISCUSSION

Results

Respondent Characteristics

Respondent characteristics provide context regarding the profile of MSME. Table 1 presents a summary of 210 respondents.

Table 1. Profile of MSME Respondents (n = 210)

Characteristics	Category	Percentage (%)
Gender of business owner/manager	Female	63.8
	Male	36.2
Age of business owner/manager	Under 25 years old	12.4
	25–34	37.1
	35–44	34.3
	45 years and above	16.2
Length of time in business	Less than 1 year	9.5
	1–3 years	41
	4–7 years	32.4
	Over 7 years	17
Business sector	Retail trade	38.6
	Food and beverages	33.3
	Services (salons, repairs, tailoring, and similar services)	21
	Other	7.1

Characteristics	Category	Percentage (%)
Monthly business turnover	Less than Rp10 million	27.1
	IDR 10–50 million	44.8
	Rp50–200 million	20
	Over Rp200 million	8.1
Number of employees	Self-managed (no employees)	52.9
	Two to four people	33.8
	Five to ten people	10.5
	More than ten people	2.9
Using a digital bank account for business	Yes	72.4
	No	27.6
Having more than one digital bank account for business	Yes	28.1
	No	71.9

The results in Table 1 show that the majority of respondents are women and are in the productive age range of 25 to 44 years. The majority of businesses had operated for more than one year, suggesting that the sample did not consist of newly established entrepreneurs. The dominant sectors are retail trade and food and beverages, which are in line with the general structure of MSME in developing countries.

A total of 72.4% of respondents reported using digital bank accounts specifically for business funds. In addition, evidence suggested a separation of business and personal funds since some respondents reported maintaining more than one digital bank account specifically for managing cash. The weighted average turnover was around 60 million rupiahs per month per business. Respondents were active business owners who engaged in daily cash management, rather than operating small-scale household side enterprises. This was in line with the latest results that the adoption of digital financial services was becoming a normal operational practice (Small Firms, Big Impact, 2025; PayNearby Research Team, 2025).

Descriptive Statistics of Constructs and Correlations

This research uses four main constructs, namely digital financial literacy, digital lifestyle, SDB, and business resilience and sustainability. Table 2 presents the mean values, standard deviations, and correlations between variables.

Table 2. Descriptive Statistics and Correlations between Constructs (n = 210)

Variable	Mean	Standard Deviation	DFL	DL	SDB	BSR
DFL: Digital financial literacy	4.1	0.60	1.00	0.41	0.48	0.35
DL: Digital lifestyle	4.20	0.50	0.41	1.00	0.44	0.32
SDB: Decision to save in a digital bank	3.90	0.70	0.48	0.44	1.00	0.52
BSR: Business resilience and sustainability	3.80	0.7	0.35	0.32	0.52	1.00

The average digital financial literacy score of 4.10 on a scale of one to five shows that MSME owners/managers are relatively confident in understanding bank account features, costs, and security aspects. The average score for digital lifestyle is slightly higher, at 4.20, indicating that the use of mobile phones to manage business finances, accept cashless payments, and monitor cash balances in real time has become an established habit.

SDB has an average of 3.90, where MSME owners/managers have begun to actively place business funds in digital bank accounts. However, there are still variations between actors with a standard deviation of 0.70. Business resilience and sustainability have an average score of 3.80. This suggests a fairly high level of confidence that businesses can continue to operate, meet routine obligations, and survive when sales decline in the short term.

Table 2 presents descriptive statistics and bivariate associations among the constructs. These bivariate results are reported for descriptive purposes only and indicate that the constructs are related in the expected direction. However, hypothesis testing is based on PLS-SEM structural model results (path coefficients and bootstrapped inference) reported in Tables 4 and 5.

At the descriptive level, digital financial literacy and lifestyle show positive associations with SDB (r = 0.48 and r = 0.44, respectively). Furthermore, SDB suggests a positive association with business resilience and sustainability (r = 0.52). These pairwise associations describe the pattern of relationships in the sample. Conclusions regarding hypothesis support were drawn from PLS-SEM structural model estimates and bootstrapped significance tests reported in Tables 4 and 5. These descriptive results are consistent with the literature stating that digital financial literacy promotes more formal cash management behaviour (Kurniasari & Lestari, 2024; Kusumawardhani et al., 2023; Sadalia & Fachrudin, 2025). Digital lifestyle is associated with the habit of non-cash payment practices and continuous monitoring of business cash (Almajali et al., 2022; Sultana et al., 2025; Wauk et al., 2025). The availability of secure and documented cash reserves increases the resilience of small businesses (Apriyanti & Bella, 2024; Rizki & Hendarman, 2024; Ruiz, 2025).

Measurement Model Evaluation

The measurement model was evaluated to ensure each construct was calculated reliably and validly before testing the relationships between latent variables. The results of internal reliability and convergent validity are shown in Table 3.

Table 3. Internal Reliability and Convergent Validity of Constructs

Construct	Items used	Cronbach's Alpha	Composite Reliability (CR)	AVE
Digital financial literacy (DFL)	DFL1–DFL5	0.88	0.91	0.62
Digital lifestyle (DL)	DL1–DL5	0.86	0.90	0.60
Decision to save in a digital bank (SDB)	SDB1–SDB5	0.89	0.92	0.66
Business resilience and sustainability (BSR)	BSR1–BSR5	0.90	0.93	0.68

Cronbach's Alpha values for all constructs are above 0.80, indicating good internal consistency. CR values are all above 0.90, showing that the indicators in the construct consistently measure the same concept. AVE values ranged from 0.60 to 0.68. Therefore, each construct met the convergent validity criteria because AVE was greater than 0.50. The four constructs in this research can be declared reliable and valid for further analysis. The results meet the general criteria in PLS-SEM, which recommends Cronbach's Alpha and CR above 0.70, and AVE above 0.50 (Kurniasari et al., 2025; Sarstedt et al., 2020; Tandilino et al., 2025). The instruments used to measure digital financial literacy, digital lifestyle, SDB, as well as business resilience and sustainability, are statistically robust.

Structural Model Evaluation

After the measurement model was declared feasible, the structural model was evaluated to test the hypothesised relationships among latent variables. Table 4 reports the standardised path coefficients (β), t-values, and p-values. The model shows moderate explanatory power, where R^2 for SDB is 0.350. Therefore, 35.0% of the variance in SDB is explained by digital financial literacy and digital lifestyle. R^2 for business resilience (BSR) is 0.308, showing that 30.8% of the variance in BSR is explained by SDB.

Table 4. Structural Model Testing Results

Path between variables	Coefficient (β)	t-value	p-value	Hypothesis Support
Digital financial literacy → Decision to save in digital banks (SDB)	0.386	6.969	< 0.001	H1 supported
Digital lifestyle → Decision to save in digital banks (SDB)	0.327	6.011	< 0.001	H2 supported
Decision to save in digital banks (SDB) → Business resilience (BSR)	0.555	11.927	< 0.001	H3 supported

As presented in Table 4, digital financial literacy had a significant positive effect on SDB (β = 0.386, t = 6.969, p < 0.001), supporting H1. Digital lifestyle also had a significant positive effect on SDB (β = 0.327, t = 6.011, p < 0.001), supporting H2. These results suggest that fast-paced, cashless, and gadget-based financial routines allow MSME to treat digital bank accounts as a primary place for storing business working capital. Therefore, the normalisation of digital payment practices changes the storage and management of business funds (Sultana et al., 2025; Wauk et al., 2025).

SDB significantly predicted business resilience and sustainability ($\beta = 0.555$, $t = 11.927$, $p < 0.001$), supporting H3. The results imply that regular allocation of business funds into digital bank accounts enhances the preparedness to fulfil routine operational obligations, handle short-term sales fluctuations, and sustain business continuity. This is consistent with the argument that documented and easily accessible cash management strengthens small-business resilience to shocks (Ruiz & Chakraborty, 2025) (Apriyanti & Bella, 2024) (Rakshit et al., 2021).

Mediation (Indirect Effects)

Table 5 reports the mediation results in addition to the direct effects. Bootstrapping shows that SDB significantly mediates the effect of digital financial literacy ($\beta\_indirect = 0.214$, $t = 5.547$, $p < 0.001$, 95% CI [0.142, 0.293]) and lifestyle ($\beta\_indirect = 0.181$, $t = 5.321$, $p < 0.001$, 95% CI [0.120, 0.253]) on business resilience. Indirect effects are significant since the 95% BCa confidence intervals do not include zero, providing support for the mediating role of SDB (H4). Conceptually, digital financial literacy and lifestyle do not make a business resilient. This is because resilience increases when digital capabilities and habits are translated into concrete financial actions. SDB functions as an entrepreneurial financial innovation mechanism that channels digital factors towards business resilience (Anshari, 2025; Łasak, 2022; Tandilino et al., 2025)

Table 5. Specific Indirect Effects (Mediation) through SDB

Indirect path	β_indirect	t-value	p-value	95% CI (BCa)
DFL → SDB → BSR	0.214	5.547	< 0.001	[0.142, 0.293]
DL → SDB → BSR	0.181	5.321	< 0.001	[0.120, 0.253]

Additional model diagnostics reported satisfactory validity and predictive capability. Discriminant validity was supported since HTMT values were below commonly used thresholds (max HTMT = 0.612). Collinearity was not a concern, with outer VIF values ranging from 1.815 to 3.243. Effect size results indicated a medium (DFL → SDB: $f^2 = 0.197$) and a small-to-medium (DL → SDB: $f^2 = 0.141$) effect of digital financial literacy and lifestyle on SDB. Meanwhile, SDB exhibited a large effect on business resilience (SDB → BSR: $f^2 = 0.445$). Blindfolding results supported predictive relevance (SDB: $Q^2 = 0.231$; BSR: $Q^2 = 0.114$).

Discussion

This research reinforces several important results in the literature, while adding a new perspective. First, digital financial literacy is directly related to cash-management behaviour through SDB. MSME owners/managers who understand the features, security, cost structure, and benefits of financial services tend to allocate business funds into formal digital channels. In this context, digital financial literacy supports disciplined cash management. Business funds are stored in accounts that can be monitored and recorded (Kurniasari et al., 2025; Kusumawardhani et al., 2023; Ridwan et al., 2025). These results reinforce the argument that improving digital financial literacy is a strategic intervention because the concept is associated with more orderly and measurable financial practices at the small-business level.

Second, digital lifestyle of MSME owners/managers is not a technological preference or personal style but has become an operational pattern. Individuals accustomed to receiving and making cashless payments, recording transactions using gadgets, and monitoring business cash flow in real time through applications, concentrate business funds in digital bank accounts. Digital lifestyle orientation normalises digitally enabled financial routines as a temporary adoption of new technology (Almajali et al., 2022; Sultana et al., 2025; Wauk et al., 2025)

Third, this research links SDB with MSME owners' perceived ability to withstand short-term cash flow pressures. MSME owners/managers who routinely place business funds in digital bank accounts report a higher sense of operational security. These individuals feel more capable of meeting routine obligations on time, managing temporary sales declines, and maintaining business continuity. The results expand the discussion of MSME resilience by reporting secure, documented, and easily accessible business cash reserves as an important component of resilience (Rakshit et al., 2021; Ruiz, 2025)

Fourth, the mechanism underlying the relationship between digital capability and resilience is reported. SDB serves as an entrepreneurial financial innovation that channels digital capability into resilience outcomes. In the context of a developing country, entrepreneurial financial innovation is concerned with accessing new financing and managing internal liquidity in a more structured, transparent, and separated manner from household consumption (Łasak, 2022; Tandilino et al., 2025). Therefore, routinely placing business funds in digital banks functions as a transaction tool and financial management instrument at the micro level.

The results position digital transformation as a matter of business financial management rather than technology adoption. From the perspective of regulators and financial service providers, digital banking services should be positioned as fast-payment tools that support business stability. The practical implication is the need to separate business and personal funds, maintain cash reserves in secure and recorded accounts, and build consistent cash-management habits.

CONCLUSION

In conclusion, digital financial literacy and lifestyle strengthened business resilience/sustainability through a concrete cash-management behaviour, namely saving business funds in digital banks. This research explored the links between digital financial literacy, digital lifestyle, SDB, and the effects on MSME resilience and sustainability. PLS-SEM was used to conduct a quantitative survey of 210 MSME owners/managers who actively manage business finances.

The three main results of this research included the following. First, digital financial literacy had a significant positive effect on SDB. This showed that understanding the features, security, costs, and mechanisms of using digital financial services played a direct role in promoting formal business cash storage behaviour. Second, digital lifestyle also had a significant positive effect on SDB. MSME actors accustomed to non-cash transactions, recording cash flow through mobile devices, and monitoring financial conditions in real time tended to use digital bank accounts as the main location for storing business cash. Third, SDB significantly predicted resilience and sustainability. Therefore, MSME actors felt more confident that businesses survived when sales declined, met operational obligations on time, and continued to operate in the future.

The mediation results suggested that SDB transmitted the influence of digital financial literacy and lifestyle on business resilience. Conceptually, digital financial literacy and lifestyle did not automatically make a business resilient. In this context, business resilience was strengthened when digital capabilities and habits were manifested in concrete financial actions, namely, regularly setting aside funds in a digital bank account. SDB functioned as an entrepreneurial financial innovation mechanism that channelled the influence of digital factors towards business resilience (Anshari, 2025; Łasak, 2022; Tandilino et al., 2025). Theoretically, the results positioned the practice of saving business funds in digital bank accounts as a form of entrepreneurial financial innovation on a micro scale. This method broadened the focus of research on digital transformation, which previously focused more on obtaining capital through credit and platform-based loans (Ridwan et al., 2025; Sultana et al., 2025). Digital transformation also occurred in the organisation of internal liquidity buffers. An important aspect of digital transformation was the ability to obtain external funds, as well as the capacity to save, separate, and sustainably protect business funds.

This research had several practical implications. For MSME owners, the separation of business from personal funds through digital bank accounts created more disciplined cash control and clearer visibility of financial condition. The habit of setting business funds in digital accounts served as an operational buffer fund when there was a short-term decline in sales. Furthermore, the results showed that digital banking products for micro-businesses served as a method of transaction and an instrument of small business stability. Features such as the separation of business and personal balances, real-time cash monitoring, and the marking of operational reserve funds had the potential to be an added value directly relevant to the needs of MSME in developing countries. The results suggested that digital financial literacy programmes were designed to address proficiency in using digital financial applications and the capacity to safeguard, monitor, and segregate business funds from personal consumption.

This research reported several limitations as follows. First, the cross-sectional nature of the data showed that the relationships were associative. Further research could use a longitudinal design to examine changes in fund placement behaviour in digital bank accounts and business resilience. Second, all indicators were measured through self-assessment by respondents. Subsequent research added objective indicators, such as the frequency of business cash deposits into digital bank accounts, average business account balances, and records of the use of reserve funds for operational needs. Third, this research focused on MSME in the context of developing countries. The performance of replication research in medium-sized sectors with formalised cash flow systems could assess when the results apply broadly or remain specific to micro and small businesses. Digital capabilities (literacy) and habits (cashless financial lifestyle) were related to the storage of business cash. The behaviour of storing business funds in digital bank accounts acted as a financial mechanism that supported resilience. Therefore, digital-based cash management practices should be understood as an important part of the digital transformation agenda in developing countries, particularly from an entrepreneurship and innovation perspective.

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