

The Impact of Digital Finance on SMEs' Growth and Sustainable Practices

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ABSTRACT

Digital finance is increasingly used by small and medium enterprises to manage payments, banking transactions, business records, and routine financial activities. This study examines how mobile application services, internet banking services, service efficiency, and digital adoption rate are associated with SME growth and sustainable practices in the Colombo District of Sri Lanka. A quantitative cross-sectional survey was conducted among 200 registered SMEs, while 163 complete responses were used for regression analysis after data screening. The findings show that mobile application services are the strongest predictor of both SME growth and sustainable practices, followed by internet banking services and service efficiency. However, digital adoption rate is not statistically significant once these functional and efficiency-related dimensions are included. The results suggest that SME outcomes are associated more strongly with the quality, usefulness, and routine integration of digital finance than with adoption frequency alone. The study contributes to SME digital finance literature by showing that digital finance can be understood as an operational capability that supports growth and sustainability through transaction speed, record discipline, financial control, and traceability.



Keywords: Digital Finance, SME Growth, Sustainable Practices, Mobile Applications, Internet Banking, Sri Lanka

1. INTRODUCTION

Digital finance is now playing an important role in SMEs' business process. It comprises of mobile banking, internet banking, digital payments, fintech-enabled services, platform-based lending, electronic records, among others, that rely on technology to carry out and manage financial transactions (Ozili, 2023; Demirgüç-Kunt et al., 2022). Digital finance is not just a means to access financial services for SMEs. It might also be utilized for customer payments, supplier settlements, payroll, document the transactions, cash-flow monitoring and normal financial control. The significance of these functions is that the SMEs generally have limited access to working capital, lower bargaining power, lack of formal documentation and are vulnerable to transaction delays than larger businesses (Banna & Alam, 2021; Yang & Zhang, 2020).

Existing research indicates that digital finance can help to improve SME performance in various ways. It can lower transaction costs, increase the speed and convenience of transactions, broaden access to finance, and provide a digital transaction history that can help to mitigate information asymmetry between SMEs and financial institutions (Ta and Lin, 2023; Wei & Li, 2024). In emerging economies, fintech financing is also associated with better firm performance and lower borrowing costs in the finance constrained firms (Gaibullov et al., 2025). Likewise, digital financial inclusion has been associated with economic outcomes in general via access, efficiency and inclusion mechanisms (Basnayake et al., 2024). The current results indicate that, if digital finance

is properly utilized and practiced on a regular basis in business routines, it can be a resource for the firm.

The impact digital finance has on SMEs, however, is not a foregone conclusion. However, the research suggests that the benefits of technology adoption can be less pronounced in the absence of complementary resources, digital abilities, managerial preparedness, or process integration (Chen et al., 2024; Nagy *et al.*, 2025). This is especially important for SMEs, as a large number of companies could use digital financial tools to make payments, and have manual records, cash-flow planning and poor financial control. Hence, the difference between digital finance adoption and digital finance integration is significant. The digital tool being used is reflected in adoption, while the integration is reflected in the use of digital tools in daily business routines and decision making processes (Affandi *et al.*, 2024; Chen, Liu and Gao, 2024).

Digital finance can also be used to promote sustainable activities among SMEs. Sustainability in SMEs is not confined to formal environmental reporting or to big investments for greenness. It can also encompass the implementation of practical measures like cutting down on paper-based transactions, increasing the traceability of transactions, maintaining proper records, enhancing accountability, minimizing unnecessary travel for banking operations and strengthening transparency in customer and supplier transactions. Previous research indicates that fintech and digital finance can be used to facilitate access-to-finance and innovation pathways to enhance green finance, sustainability-related financing, financial flexibility and corporate

sustainability performance (Mirza *et al.*, 2023; Siddik, Rahman and Yong, 2023; Chen, Liu and Gao, 2024). For SMEs, these sustainability impacts are more likely to be embedded in everyday financial activities as opposed to the formal sustainability system.

Sri Lanka offers a relevant frontier-market context for this study as digital payment systems have grown when credit constraints, liquidity pressure, increasing operating costs and digital capability gaps are pervasive among SMEs. The recent developments in the payment systems such as JustPay, LANKAQR, and the digital payment initiatives by the government such as GovPay highlight the increasing institutional support for digital transactions and cashless payment infrastructure (Ministry of Digital Economy, 2025; Daily Mirror, 2025). The usefulness of these for SMEs however, would depend on whether digital finance is only used for basic payments or whether it is incorporated into the everyday business process, including customer collections, supplier settlements, transaction documentation, cash flow monitoring, and financial control. This is significant in the post crisis business world, because more constrained liquidity situations and increased operating expenses impose greater importance on cash-flow visibility, speed of payment and automatic financial management for small businesses.

It is an appropriate empirical context to explore the question in the Colombo District. SMEs in Colombo are more exposed to formal banking channels, digital payment systems, competition from other businesses, customers' demand for digital transactions, and public-sector digitization projects. Meanwhile, Colombo-based SMEs are not

exempt from the broader pressures on financial and operating performance that are being experienced by SMEs in Sri Lanka. This renders the district appropriate for testing if there is an association between the use and not just the adoption of digital finance and SMEs growth and sustainable use. Hence, the context of this study is Sri Lanka, which enables the study to link digital finance to both performance and sustainability outcomes in an environment where the capabilities of financial firms are uneven, but digital financial services are growing.

While the issue of digital finance has been increasingly discussed in recent literature, three gaps are significant. First, there are studies that focus on financial inclusion indicators, fintech development or technology adoption indicators, whereas there is less research on firm-level mechanisms that can support the outcomes of SMEs in digital finance (Banna and Alam, 2021; Oanh, 2024). Second, the research has been limited to growth, profitability, access to finance or innovation so far, and the sustainability practices of the SMEs have received less attentions (Yang and Zhang, 2020; Siddik, Rahman and Yong, 2023). Third, there is a lack of development of the difference between the digital adoption rate and the quality of integration. This is because if digital finance were used too often it may not create a good business result unless digital services are reliable, efficient and part of the routine business processes (Chen, Liu and Gao, 2024; Nagy *et al.*, 2025).

This study is particularly interested in the central research problem that, although digital finance is adopted, this does not necessarily mean it is used meaningfully in business. Customers and suppliers, banks, competitors or public institutions are

increasingly expecting digital transactions, which will be an opportunity for SMEs to adopt mobile banking, internet banking or digital payment tools. This type of adoption, however, may be restricted to limited payments and may not be integrated into customer collections, supplier settlements, payroll, record keeping, cash-flow planning and documentation for compliance. As a result, the association between SME growth and sustainable practices are yet to be determined, whether this is more driven by the frequency of digital finance usage or the quality, efficiency and functional integration of digital finance services.

This study tackles the above issue by looking at the relationship between the four aspects of digital finance and the two outcomes of SMEs. Mobile application services, internet banking services, service efficiency and digital adoption rate are the four dimensions of the digital finance. Outcome variables are SME growth and sustainable practices. The study involves separating the adoption from service-related dimensions to determine whether the outcomes of SMEs are more closely related with the extent of the adoption of digital finance or quality and efficiency in the use of digital finance in business operations.

An integrated theoretical approach is used to guide the study. The resource-based view proposes that digital finance can be considered a resource for firms when it is valuable and part of the business processes (Barney, 1991). Dynamic capabilities theory helps to understand how SMEs might leverage digital finance in response to liquidity constraints, uncertainty and evolving market dynamics (Teece, Pisano and Shuen, 1997). The Technology-Organization-Environment (TOE) framework helps to

understand the influence of technological readiness, organizational capability and external conditions on digital finance outcomes (Tornatzky and Fleischer, 1990). The institutional theory of DiMaggio and Powell (1983) was used to suggest that under pressure from banks, customers, competitors or regulators, some SMEs may choose to engage in symbolic use of digital finance. The triple bottom line view justifies the consideration of sustainable practices as an outcome since digital finance could help to ensure transparency, accountability and resource efficiency (Elkington, 1999). These views clearly indicate that digital finance is more likely to contribute to SME outcomes as a business capability, rather than as an adoption signal.

The three contributions of this study to the literature are, Firstly, it separates the concept of digital adoption and the quality of digital finance use, going beyond adoption-oriented explanations of digital finance. Next, it separated the concept of digital adoption and the quality of digital finance use, beyond the adoption-oriented explanation of digital finance. Second, it offers empirical evidence from Sri Lanka where SMEs have credit constraints, faced with crisis liquidity pressures, high operating costs and high expectations of digitalization. Third, it makes digital finance a key component of SME growth and sustainable business activities, indicating that beyond being a lever for financial and operational results, digital finance can also contribute to the traceability of transactions, the discipline of records, financial control and, consequently, the adoption of more resource efficient business practices.

The rest of the paper is organized as follows. The literature review on digital finance, SME growth, sustainable practices and the difference between adoption rate and the

quality of integration is then presented and hypotheses are developed. The methodology section describes the research design, research setting, sampling procedure, measurement of variables, screening of data and analytical methods. The results section includes reliability analysis, correlation analysis, regression results and diagnostic analysis. The results are discussed in relation with the previous ones and the context of Sri Lankan SME and these results are presented in the discussion section. The final section outlines theoretical, practical, and policy implications, and limitations and directions for future research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Digital finance as a strategic capability

Digital finance encompasses the deployment, access and management of financial services via mobile banking, internet banking, digital payments, fintech platforms, electronic records, digital credit, and other technology-enabled financial channels (Ozili, 2023; Demirgüç-Kunt et al., 2022). Digital finance plays a significant role in SMEs as small businesses and medium enterprises typically have limited resources, weaker bargaining power, lack of financial records, lack of collateral and higher transaction costs than large businesses (Banna & Alam, 2021; Yang & Zhang, 2020). These limitations may hinder business growth, limit liquidity flexibility and affect the ability to access formal finance. Digital finance is thus anticipated to play a role in helping SMEs grow by minimizing delayed payments, ensuring ease of transactions, generating digital transaction records, enhancing cash-flow

visibility, and facilitating interaction with banks, customers, and suppliers (Ta and Lin, 2023; Wei & Li, 2024).

The empirical evidence in general suggests that there is a positive link between digital finance and firm level outcomes, but varies by context. Fintech financing has a positive effect on firm performance and lowers borrowing costs in emerging economies, including for finance-constrained firms (Gaibullov *et al.*, 2025). Basnayake *et al.* (2024) also demonstrate that digital financial inclusion can enable economic outcomes via financial access and efficiency pathways in Asia Pacific countries. At the SME level, Yang and Zhang (2020) offer evidence that digital financial inclusion is correlated with the sustainable growth of small and micro enterprises, and Affandi *et al.* (2024) finds a correlation between digital adoption and business performance of ultra micro enterprises, micro enterprises and small enterprises in Indonesia. Sri Lanka-specific study by Weerakoon and Anuradha (2024) report a positive association between digital banking and SME financial performance, underscoring the importance of digital finance in the local SME context. But as the literature also indicates, digital finance does not create homogenous benefits for all firms. The impact of digital finance relies on preparedness, management skills, digital knowledge, infrastructure, and the degree of digitalization in daily operations (Chen, Liu and Gao, 2024; Nagy *et al.*, 2025).

Digitalisation can result in a digitalisation paradox, as explained in Chen, Liu and Gao (2024) study, when a business invests in technology or adopts digital

tools without aligning them with business processes, there is a lack of proportional performance improvement. This argument is relevant for SMEs since digital finance itself doesn't mean better growth. When digital finance is actively employed for customer collections, supplier payments, account monitoring, payroll, business records and financial planning, benefits are more likely to be incurred. The mobile application services are particularly relevant to SMEs as they enable transactions which are frequent, small in value and time sensitive. Mobile-based finance lets business owners follow up accounts, get paid, pay bills, and manage suppliers with less time invested. It can be convenient for those SMEs which rely on daily money flow and speedy settlement. Internet banking also plays a role in the growth of SMEs, albeit typically more formal financial administration, as in bill payments, payroll, fund transfers, transaction history and managing bank accounts. When integrated into the day-to-day operations of a business, these services can help minimize transaction friction and enhance financial coordination. So the following hypotheses are proposed,

H1: Mobile application services positively influence SME growth.

H2: Internet banking services positively influence SME growth.

2.2. Dynamic capabilities and financial agility

Service efficiency is the speed, reliability, convenience, security and cost-effectiveness of digital finance services. This feature is crucial, as the usefulness of digital finance does not just rely on the availability of the services, but also on whether it can be used with efficiency, without delay,

transaction failure, high costs, or uncertainty. Inefficient financial services can impact the SME's customer collections, supplier payments, working capital management as well as the continuity of their operations. Hence, service efficiency can be considered as an important precondition to making digital finance effective for growth.

Dynamic capabilities theory offers a good explanation of the role played by service efficiency. Firms must possess capabilities to sense, seize and respond to the market environment, as stated by Teece, Pisano and Shuen (1997). Digital finance can help SMEs achieve such responsiveness by helping them better see their cash flow, speed up payment settlement, and decrease reliance on manual financial processes. Lee *et al.* (2024) demonstrate that the effects of digitalisation on financing strategies and risk-management practices can occur via financing constraint-related channels. Xiong *et al.* (2023) also identify that digital inclusive finance can facilitate enterprise innovation, thereby implying that digital financial infrastructure could boost firms' efforts to develop capability. The results suggest that better and faster financial decision making, through efficient digital finance services, could enhance SME agility and growth.

However, service efficiency is not a given. However, digital finance benefits may be dampened by unreliability of digital platforms, insufficient internet connectivity, digital illiteracy, cybersecurity, trust, and transaction costs in emerging economies (Oanh, 2024; Nagy *et al.*, 2025). Consequently, while

SMEs might digitize their finance, they may still use cash or manual finance, when digital services are not seen as reliable or convenient. Hence the efficiency of the service is expected to have a direct association with SME growth since it is indicative of the practical quality of digital finance use and not just adoption.

H3: Service efficiency positively influences SME growth.

2.3. Digital adoption rate and integration quality

One of the biggest challenges with the digital finance literature is the separation between digital adoption rate and quality of integration. Digital adoption rate is a measure of the extent or frequency of use of digital finance services adopted by SMEs. But digital finance does not always imply that finance is integrated in business processes. Simple payments can be made through mobile banking and internet banking, and yet a firm may have poor records, informal financial planning, manual documentation, and poor cash flow control. In such cases, digital adoption might not be deep and may not generate robust value for the enterprise.

Institutional theory is useful in understanding why this may occur. Digital tools can be used because of external pressure from banks, customers, suppliers, competitors, regulators or government systems (DiMaggio and Powell, 1983). In such cases the adoption is symbolic and not strategic. This implies that SMEs can leverage digital finance to satisfy external demands whilst maintaining internal processes. This argument is also substantiated by the

Technology-Organization-Environment (TOE) framework which suggests that the adoption of technology is influenced by technological, organizational and environmental factors (Tornatzky and Fleischer, 1990). In the last few years, there have been significant signs of variation in fintech use among SMEs, depending on their socioeconomic background and the impact of both technology and environmental conditions (Nagy *et al.*, 2025). Likewise, Abdurrahman (2024) uses the TOE framework to study adoption of mobile banking and reveals that digital business ecosystems influence technology adoption behaviour.

The distinction between the adoption-integration also explains inconsistencies in previous studies. Researches which cover digital adoption on a broad range of business functions tend to report positive impacts on business performance (Affandi *et al.*, 2024). Conversely, the research on digitalisation indicates that digitalisation adoption can have weak, delayed, or even non-linear effects if complementary resources are missing or if digital tools are not well aligned with the business needs (Chen, Liu and Gao, 2024). Hence, the adoption rate of the digital options may be supportive for SME growth but the influence may be lesser than the influence of service quality and functional integration. On this basis the following hypothesis is proposed:

H4: Digital adoption intensity positively influences SME growth.

2.4. Digital finance and sustainable performance

Digital finance can also help ensure sustainability for SMEs. Environmental management systems, green investment and formal reporting are effective ways to discuss sustainability in large companies. In SMEs, sustainability is more likely to manifest itself in complex, practical and routine matters, including minimising paper-based transactions, better record keeping, enhanced transparency, less unnecessary travel to banking transactions, better evidence of payments being made digitally, and better accountability of transactions with customers and suppliers. These practices are not necessarily identified by SME owners as sustainability, but can be related to improvement of environmental, social and governance.

Sustainable practices are included as an outcome as the triple bottom line perspective accounts for the economic, social and environmental dimensions, and not just the financial (Elkington, 1999). Digital finance can play a role in this wider perspective by enhancing the traceability, financial transparency, documentation and resource efficiency of transactions. Fintech is capable of facilitating green finance and sustainability-linked financial mechanisms as demonstrated by Mirza *et al.* (2023). According to Siddik, Rahman and Yong (2023), fintech adoption and financial literacy are related to corporate sustainability performance via access-to-finance channels. Digital finance, according to Chen, Liu and Gao (2024), facilitates green innovation via financial flexibility and Chen and Zhou (2026) offer SME-level evidence of the capacity of digital finance to drive green technology innovation.

The sustainability impact of digital finance can happen as a byproduct of SMEs' regular financial processes, without necessarily being tied to a sustainability investment. Mobile application services can assist with digital receipts, decrease reliance on cash and increase traceability of recurring transactions. The internet banking facilities can improve documentation, scheduled payments, transaction history and auditability. When a service is quick, secure and easy, SMEs will be incentivized to replace manual and paper-based systems with digital methods if the service is efficient. Digital finance could be used in these mechanisms to help sustainability related practices, through greater transparency, record discipline, financial control and more sustainable business behaviour, by using less resources. But for sustainability, as with growth, the adoption rate does not necessarily imply benefit. When SMEs only use digital tools on a sporadic basis or because other parties demand digital transactions, the impact on sustainability can be limited. This is in line with institutional theory, which proposes that sometimes adoption may be symbolic, that is, a result of external pressures, and not a result of internal capability development (DiMaggio and Powell, 1983). Hence it is expected that functional use and service efficiency should have a stronger influence than frequency of adoption. Based on this reasoning, the following hypotheses are proposed:

H5: Mobile application services positively influence SME sustainable practices.

H6: Internet banking services positively influence SME sustainable practices.

H7: Service efficiency positively influences SME sustainable practices.

H8: Digital adoption intensity positively influences SME sustainable practices.

3. METHODOLOGY

3.1. Research design

This study was conducted with a quantitative survey cross-sectional design in order to explore the relationship between digital finance dimensions, SME growth and sustainable practices. A quantitative design was felt as appropriate as it tests pre-developed hypotheses, explores relationship between measurable constructs using the statistical techniques (Creswell and Creswell, 2018; Saunders, Lewis and Thornhill, 2019). A cross-sectional design was appropriate since data was gathered from SMEs once at a specific time to identify the present circumstances of their digital finance utilization, and their perceptions of business outcomes. Since the study is cross-sectional, the result is interpreted to be an association, not cause and effect. The unit of analysis was the individual SME. One owner, manager or senior finance or operations officer per SME were selected to provide adequate insight into the SME's digital finance, business performance and sustainability-related practices. This is because digital finance usage and impact on business outcomes are a firm-level issue and not an individual consumer-level behaviour.

3.2. Population, sampling frame, and sample size

The study was carried out with registered SMEs in Colombo District of Sri Lanka. Colombo District was selected because it is the country's main commercial and financial centre and has a high concentration of business, banking, trade and service activities. This setting is suitable for examining the association between digital finance, SME growth and sustainable practices because SMEs in Colombo are more exposed to formal banking services, internet banking, mobile banking, digital payment channels and competitive business conditions.

The accessible sampling frame comprised 416 registered SMEs from the administrative SME/business registration records that were available for the study. This number is not considered as the total number of SMEs in Colombo District. It is the available list of registered SMEs from which the study sample was drawn. The accessible frame was composed of three sector groups: manufacturing, trading and services. The desired sample size was calculated using Krejcie and Morgan's sample size guidelines for finite populations. The suggested sample size for a finite population of about 420 is about 201. Therefore, a target sample of 200 SMEs was considered appropriate for the accessible sampling frame of 416 registered SMEs. Following data screening, 163 questionnaires were complete and usable for analysis, resulting in a usable response rate of 81.5 per cent. The final sample was considered adequate for multiple regression analysis because the study used four independent variables

and the number of usable observations was sufficient for the planned statistical analysis.

3.3. Survey instrument and data collection

Stratified sampling A proportionate stratified sampling procedure was used as the accessible sampling frame comprised three meaningful sector groups: manufacturing, trading and services. These sectors were considered as strata as SMEs in each sector might differ in terms of their transaction frequency, customer base, supplier relationships, payment practices and the use of digital finance (Saunders, Lewis and Thornhill, 2019).

3.4. Measurement of constructs

The sampling frame was first segmented into the three sector strata that were accessible. The target sample of 200 SMEs was then proportionately allocated based on the proportion of each sector in the accessible frame. The frame was comprised of 97 manufacturing SMEs, 171 trading SMEs and 148 service SMEs. Thus, questionnaires were sent to 47 manufacturing SMEs, 82 trading SMEs and 71 service SMEs.

Data screening resulted in a sample of 35 manufacturing SMEs, 75 trading SMEs and 53 service SMEs. This procedure ensured that all three sector groups were represented in the analysis and that the sample reflected the sector composition of the accessible registered SME frame.

In this study, manufacturing, trading and service SMEs were considered as the key strata, as the frequency of transaction, customer base, suppliers network and operational needs of SMEs may differ from one sector to another leading to different use of digital finance.

Table 01- Distribution of questionnaire by sectors

Sector	Registered SMEs in distributed accessible frame	Questionnaires	Usable responses	Percentage of usable responses
Manufacturing	97	47	35	74.5%
Trading	171	82	75	91.5%
Services	148	71	53	74.6%
Total	416	200	163	81.5%

Source: Survey data

A sufficient number of usable responses existed for the sample to be deemed adequate for analysis using multiple regression, as the number of responses was greater than the number of predictors (4) and the minimum number of responses for use with multiple regression models. Sample adequacy is often evaluated with respect to the number of predictors, statistical power, and regression estimate stability in applied social science research (Hair *et al.*, 2019; Tabachnick and Fidell, 2019).

3.5. Questionnaire development and data collection

Primary data was gathered by using structured questionnaire which was given to the owners, managers or senior finance and operations managers of SMEs. The respondents were chosen as they were likely to have a good understanding of the firm's digital finance usage, business operations, growth conditions and sustainability-related practices. The questionnaire was divided into three parts. The first section gathered firm level data, such as sector, business experience, ownership characteristics and general digital finance use. The second section captured the dimensions of digital finance which included mobile application services, internet banking services, service efficiency and digital adoption rate. The third section assessed the growth of SMEs and sustainable practices.

The measurement items were modified from previous research on digital finance, digital banking, SME performance, technology adoption and sustainability practices. The items were adapted to the Sri Lankan SME context and were formulated at the firm level and not as individual consumer preferences. The five-point Likert scale was used, with 1 = strongly disagree and 5 = strongly agree. Likert-type scales are commonly used in business and management studies to measure multi-item constructs including service efficiency, intensity of adoption, perceived growth and sustainability practices (Hair *et al.*, 2019; Tabachnick and Fidell, 2019).

3.6. Measurement of Variables

Independent variables consisted of 4 dimensions of digital finance namely mobile application services, internet banking services, service efficiency and digital adoption rate. Mobile application services quantified how much SMEs use mobile-based financial apps for payments, transfers, account monitoring, and for customer or supplier transactions. The Internet banking service was used to measure the utilization of the Internet banking facilities for fund transfer, bill payments, payroll, transaction history, and account management. Service efficiency was the perceived speed, reliability, convenience, cost-effectiveness and usefulness of the digital financial services. Digital adoption rate was used to capture the level of or frequency with which the SME used digital finance. The variables for the dependent variable were SME growth and sustainable practices. The growth of SMEs was determined by perceived improvement in sales, customer base, market expansion, business activity, and the size of operations. The indicators for sustainable practices were: reduction in paper-based transactions, greater traceability, better record keeping, transparency, accountability, and resource-efficient practices. This was appropriate because despite the fact that in many SMEs sustainability is not formalised by a sustainability report, most of the time it is manifested by practical behaviours in terms of operating their business.

3.7. Data Screening and usable responses

A total of 200 questionnaires were returned, and not all of the answers were appropriate for regression analysis. Data was cleaned for missing data, invalid responses, inconsistent responses and out-of-range response. Of the 163 complete responses that passed through this screening process, 163 were used in the regression analysis. This is the reason for the discrepancy between the number of SMEs reported in the methodology and the number of degrees of freedom in the regression tables. Only complete cases for each of the variables in the regression models were used. This clarification was required as not all responses may be completed, which can have an impact on the reliability of regression estimates. Hence listwise deletion was used for missing data for the main study variables. The regression analysis has been consistently performed on the final sample of 163 usable SMEs.

3.8. Common Method Bias and Procedural controls

Common method bias was addressed because data were gathered from a single questionnaire from one respondent per SME. A number of procedural steps were taken to minimize this risk. Respondents were told that their responses would be only for academic purposes and that confidentiality would be respected. The questionnaire did not contain leading questions or group predictor and outcome questions together and used clear questions with limited ambiguity. Respondents were also asked to respond according to the real life business practices and not according to the socially desirable responses.

Furthermore, as a procedural remedy, a statistical test for common method bias was performed based on Harman's single factor test. The outcome showed that the factor one explained 26% of the variance which is less than the standard 50% for the number of factors. Hence common method bias was not a major problem in this data set (Podsakoff *et al.*, 2003).

3.9. Reliability, diagnostic checks and analytical method

Descriptive statistics, reliability analysis, correlation analysis and Multiple regression analysis were used to analyse the data. The profile of the respondents and the level of digital finance usage among the SMEs was summarized through descriptive statistics. Cronbach's Alpha was used to measure reliability. In social science research, a Cronbach's alpha value generally greater than 0.70 is acceptable for internal consistency (Hair *et al.*, 2019). All main constructs in this study were above this threshold, thus demonstrating acceptable internal consistency for further analysis. To investigate the strength of relationship and direction of the association between digital adoption rate, mobile application services, internet banking services, service efficiency, SME growth, and sustainable practices, they were analyzed with correlation analysis. The hypotheses were then tested using multiple regression analysis, as there are multiple dimensions of digital finance that are associated with two dependent variables namely SME growth and sustainable practices. To increase transparency in the interpretation of the regression results, diagnostic checks were performed. Tolerance values and variance

inflation factors were used to determine multicollinearity based on the predictor correlation matrix reported below. The VIF values were between 1.457 and 4.267, well under the accepted cut-off of 5. Thus, multicollinearity was not deemed as a serious problem. Histogram inspection was used to analyze normality of SME growth and sustainable practices and the distributions were found to be broadly acceptable for regression analysis. Because this was a cross-sectional survey study, the results of the regression analysis were considered to be associations, not causal effects.

4. DATA ANALYSIS AND RESULTS

4.1. Reliability validation

Cronbach's alpha was used to determine the internal consistency of the measurement scales to evaluate the reliability of the measures. Results indicated that all constructs had internal consistency that was above the recommended minimum level of 0.70 for further analysis.

Table 02- Reliability statistics (Cronbach's alpha)

Construct	Cronbach's α	α (Standardized items)	No. of items
SME Growth	0.916	0.928	5
Sustainability Practices	0.886	0.906	5
Digital Finance	0.891	0.902	6

Source: Author Constructed

Cronbach's alpha values suggest good to high internal consistency. The alpha value for SME growth was 0.916, sustainable practices was 0.886 and digital finance was 0.891. The results indicated that the items in the questionnaire which were used to measure the main constructs were reliable and appropriate for correlation and regression analysis.

4.2. Diagnostic Test

A series of diagnostic tests were performed prior to interpreting the results of the regression to ensure that the data were appropriate for multiple regression analysis. Multicollinearity was tested based on tolerance and the variance inflation factor values as the study included four predictors Digital adoption rate, Mobile application services, Internet banking services and Service efficiency. The predictor correlation matrix reported was used to calculate the VIF values.

Table 03- VIF test

Predictor	Tolerance	VIF	Interpretation
Digital Adoption Rate	0.686	1.457	No multicollinearity concern
Mobile Application Services	0.234	4.267	Acceptable
Internet Banking Services	0.319	3.132	Acceptable
Service Efficiency	0.413	2.419	Acceptable

Source: Author Constructed

As the results indicated all the VIF value is less than the commonly used value of 5. So, multicollinearity was not regarded as serious problem in the regression models. However, mobile application services had the highest VIF value of 4.267, which is reasonable as it was highly correlated with the service efficiency and internet banking services. But the value remained in an acceptable range, which means that the predictors could be kept in the regression models.

Normality of SME growth and sustainable practices was determined by using histogram inspection. The histograms showed the distributions were generally acceptable for regression analysis. Minor deviations from normal were noted but were not deemed to be an encumbrance as 163 observations were available and usable for the sample. Thus, data were found to be appropriate for correlation and regression analysis.

The study also took into account the problem of incomplete responses or missing data. Questionnaires were sent out to 200 participants, of whom 163 answered properly. Thirty-seven questionnaires were discarded because they were incomplete or not suitable for regression analysis. This accounts for the discrepancy between the sample size given (200 SMEs) and the degrees of freedom reported in the model outputs. The regression analysis was performed with 163 valid observations since the total degrees of freedom in the regression tables was 162. The study design is a cross-sectional, self-reported survey, so the results of the regression are interpreted as associations,

not causal effects. This conservative interpretation is in line with the research design and it prevents over-stating the results.

4.3. Correlation analysis

To explore the strength and direction of the relationships between digital adoption rate, mobile application services, internet banking services, service efficiency, SME growth and sustainable practices, Pearson correlation analysis was performed. The results indicate the positive and statistically significant relationships between the main variables.

Table 04- Correlation analysis

Variable	Digital Adoption Rate	Mobile Application Services	Internet Banking Services	Service Efficiency	SME Growth	Sustainability Practices
SME Growth	0.520**	0.834**	0.774**	0.712**	1	0.865**
Sustainability Practices	0.489**	0.824**	0.762**	0.727**	0.865**	1

Source: Author Constructed

Pearson correlation analysis was carried out to reveal the nature and magnitude of the relationship between the digital adoption rate, mobile application services, internet banking services, service efficiency, SME growth, and sustainable practices. The results indicate that the main variables are positively and statistically correlated. The correlation outcomes display that all the digital finance dimensions have a positive correlation with SME development and sustainable practices. The highest correlation to SME

growth ($r = 0.834, p < 0.01$) and sustainable practices ($r = 0.824, p < 0.01$) are mobile application services. There are also strong positive correlation between the internet banking services and SME growth ($r = 0.774, p < 0.01$) and SME sustainable practices ($r = 0.762, p < 0.01$). There is a positive relationship between service efficiency and SME growth ($r = 0.712, p < 0.01$) as well as sustainable practices ($r = 0.727, p < 0.01$). Digital adoption rate is also positively correlated with SME growth ($r = 0.520, p < 0.01$) and sustainable practices ($r = 0.489, p < 0.01$). But correlation results do not account for the effect of other predictors. Accordingly, multiple regression analysis method was used to analyze the unique contribution of the variables and dimensions of digital finance.

4.4. Regression model 1- Digital finance on SME growth

A regression analysis was performed that revealed the relationship between digital finance and SME growth.

Table 05- Model fit

R	R²	Adjusted R²	Std. Error
0.856	0.733	0.727	0.35816

Source: Author Constructed

Four digital finance dimensions were used as independent variables, and SME growth was the dependent variable, for which a multiple regression model was estimated. Digital adoption rate, mobile application services, internet banking services and service efficiency were the predictors. The R Square

value of 0.733 shows that the model accounts for 73.3% of the variance in the growth of SMEs. The adjusted R Square value, 0.727, indicates strong explanatory power of the model after account for the number of predictors.

Table 07- ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	55.734	4	13.933	108.617	0
Residual	20.268	158	0.128		
Total	76.002	162			

Source: Author Constructed

The mean value of the overall model is statistically significant as indicated by the ANOVA results ($F(4, 158) = 108.617, p < 0.001$). This indicates that the four digital finance dimensions jointly explain a statistically significant proportion of variance in SME growth.

Table 08- Regression Result

Independent Variable	B	Std. Error	Beta	t	Sig.
Constant	0.41	0.187	0	2.19	0.03
Digital Adoption Rate	0.049	0.034	0.071	1.431	0.154
Mobile Application Services	0.483	0.085	0.48	5.653	0
Internet Banking Services	0.231	0.068	0.246	3.387	0.001
Service Efficiency	0.125	0.054	0.148	2.312	0.022

Source: Author Constructed

The regression result indicate that the mobile application services shows the highest positive relationship with the SME growth with a value of 0.480 and

p value of < 0.001 , followed by internet banking services with a value of 0.246 and p value of 0.001 and service efficiency with a value of 0.148 and p value of 0.022. The digital adoption rate is positive, but not statistically significant ($\beta = 0.071$, $p = 0.154$). Hence H1, H2 and H3 are supported and H4 is not supported. These findings indicate that the growth of SMEs is more correlated with functional usage and efficiency of digital finance than with the adoption rate of digital finance. From a practical perspective, services like mobile application, internet banking services, and convenient digital financial services seem to be promoting the growth of SMEs, as it creates a great ease in the payment processing, transaction convenience, account monitoring, and regular financial control. The negligible effect of digital adoption rate, however, suggests that the adoption of digital finance, even if frequent and general, does not necessarily lead to growth if it is not used in a meaningful way in business operations.

4.5. Regression model 2- Digital finance on sustainability practices

In order to estimate a second multiple regression model, the sustainable practices was taken as the dependent variable. These four digital finance dimensions were also added as predictors.

Table 09- Model fit

R	R²	Adjusted R²	Std. Error
0.849	0.721	0.714	0.39052

Source: Author Constructed

The R Square value is 0.721 which means that the model accounts for 72.1% of the variance in sustainable practices. The strong explanatory power of the model is signified by the value of adjusted R Square which is 0.714.

Table 10- ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	62.169	4	15.542	101.912	0
Residual	24.096	158	0.153		
Total	86.265	162			

Source: Author Constructed

The results of the ANOVA indicate that the overall model is statistically significant, $F(4, 158) = 101.912$, $p < 0.001$. This means that both the digital finance dimensions together account for a significant amount of variance in SME sustainable practices statistically.

Table 11- Regression Result

Independent Variable	B	Std. Error	Beta	t	Sig.
Constant	0.286	0.204	—	1.403	0.163
Digital Adoption Rate	0.023	0.037	0.032	0.621	0.536
Mobile Application Services	0.502	0.093	0.469	5.39	0
Internet Banking Services	0.221	0.074	0.221	2.975	0.003
Service Efficiency	0.185	0.059	0.207	3.158	0.002

Source: Author Constructed

Results of the regression indicate that services of mobile applications have the highest positive relationship with sustainable practices ($\beta = 0.469$, $p < 0.001$), followed by services of internet banking ($\beta = 0.221$, $p = 0.003$) and service efficiency ($\beta = 0.207$, $p = 0.002$). The digital adoption rate is not significant ($\beta = 0.032$, $p = 0.536$) but is positive. Thus, H5, H6 and H7 are supported and H8 is not.

The results indicate that sustainable practices are more strongly related to effective and efficient use of digital finance than merely adoption rates. Mobile application services can help to make transactions easier to follow, less cash-based, and less paper based, providing an avenue for sustainability. Internet banking service can provide documentation and scheduled payments, transaction history and accountability. Moreover, service efficiency can also push SMEs to abandon manual financial processes for more reliable and transparent digital processes. But, the non-significant relation of the digital adoption rate suggests that the benefits of sustainability are dependent on the application of the digital finance and not on the level of adoption.

Overall, the results reveal that mobile application services, internet banking services, and service efficiency have significant impact on SME growth and sustainable practices. Digital adoption rate, on the other hand, is not significant in either regression model. This suggests that the impact of digital finance is not necessarily about how often it is used but more about its quality, usefulness, and integration with the operations of the credit unions.

5. DISCUSSION

5.1. SME growth model

Results reveal that the mobile application services, internet banking services, and service efficiency are positively related to SME growth as well as sustainable practices. But once the other digital finance dimensions are added to the model, none of the digital adoption rates are statistically significant. This pattern matters because it reflects the fact that the benefits of digital finance cannot be understood based on the frequency of adoption. Rather, the results indicate that digital finance is of value when it is embedded in business practices and when the service is efficient, reliable, and is relevant for SME operations.

Mobile application services on SME growth ($\beta = 0.480$, $p < 0.001$).

Mobile application services were the highest associated services with the SME growth and sustainable practices. Mobile application services had the highest standardized coefficient in the SME growth model suggesting that this is the most influential dimension of digital finance in explaining SME growth. This result is not surprising in the Sri Lankan SME context since mobile applications are closely related with daily business transactions. Mobile applications are used by small businesses often to collect payments from customers, pay suppliers, check accounts, interact with customers, and conduct small, frequent transactions. These functions are directly related to cash flow management, transaction speed and customer convenience.

A higher impact of mobile application services also highlights the pragmatic approach of SMEs. Many SMEs do not have Accounting Department or an advanced Accounting system. Thus, the mobile applications offer a relatively easy and accessible means to control financial operations without relying overly on the banking branch-based system or manual payment methods. This aligns with the findings of studies which have indicated that mobile financial services can enhance SME operations through lower transaction costs, accessibility and financial convenience (Weerakoon and Anuradha, 2024; Ozili, 2023).

The same was true for mobile application services, which were also the most positively associated with sustainable practices. The findings indicate that routine operational changes could be the way in which mobile-based financial transactions contribute to sustainability, not necessarily by means of environmental programmes. For instance, mobile transactions can help cut down on paper receipts, enhance traceability of transactions, minimize unnecessary trips to banks, and promote better financial transparency. The practices may not be explicitly called sustainability by the SME owners but they help to achieve resource economy, responsibility and record discipline.

Internet banking services on SME growth ($\beta = 0.246$, $p = 0.001$).

Internet banking services also exhibited a strong positive correlation with SME growth and sustainable practices, but not as strong as mobile application services. This disparity is not unusual as the internet banking could be more

frequently used for a more systematic management of finances rather than for everyday use. SMEs can utilise internet banking to pay bills, settle suppliers, transfer funds, monitor balances, payroll and track transactions. These functions help to control and document finances, both vital for business expansion.

For Sri Lankan SME context, internet banking is most beneficial for the SMEs who require formal transaction evidence and financial records. Hence, much of the documentation and informal financial practices are important as they are some of the factors that constrain SMEs access to finance. Internet banking can help to develop a digital paper trail of business transactions, which can enhance transparency and financial discipline. This is in line with previous research which has established a relationship between digital banking and financial performance and operational efficiency of SMEs (Weerakoon and Anuradha, 2024; Ozili, 2023).

Documentation and traceability can also be used to clarify the positive relationship between internet banking services and sustainable practices. Internet banking reduces the need for physical banking, enables scheduled payments and offers transaction histories that can be utilised for accountability and compliance. The relevance of these functions for sustainability in relation to governance is that they will help with record-keeping, minimise manual errors and make business processes more transparent.

Service efficiency on SME growth ($\beta = 0.148$, $p = 0.022$).

There was a positive relationship between the efficiency of service and SME growth and sustainable practices. This discovery points to the importance of quality of the digital finance services. The faster, more reliable, more accessible, more secure, and more convenient digital finance services are for SMEs, the better. For small companies, the slow payment process, system breakdown, or poor service quality may directly impact working capital and customer service. Thus, becoming efficient in service is a practical precondition for providing digital finance to support growth.

This finding is in line with the dynamic capabilities argument, as SMEs require a speedy response to changes in the market, suppliers, customers' payments and liquidity stress. The effective utilization of digital finance services can enhance the visibility of cash flow, speed up transaction settlement, and decrease reliance on paper-based methods. Other studies have also indicated that digitalization can positively influence the performance of a firm if it enhances operational efficiency and improves financial capability (Lee *et al.*, 2024; Xiong *et al.*, 2023).

The efficiency of a specific service has also got to do with sustainability. The adoption of digital finance platforms by SMEs is more likely when digital platforms are reliable and easy to use, and manual and/or paper-based financial practices are replaced with digital ones. This enhances transaction transparency, minimises paper usage and helps manage financial

administration better. Hence, the efficiency of services is related to digital finance not only in terms of business development but also operational improvements that come from sustainability.

In the Colombo District context, where SMEs are more exposed to banks, digital payment systems, customer demand for digital transactions and competitive market conditions, service efficiency can determine whether digital finance becomes a useful business capability or remains a basic transaction tool.

Digital adoption rate on SME growth ($\beta = 0.071$, $p = 0.154$).

The most notable of the findings from this study is that the digital adoption rate was not statistically significant in either of the regression models. Digital adoption rate had positive correlation with SME growth and sustainable practices, but was not a significant factor when adding mobile application services, Internet banking services, and service efficiency into the regression models. This suggests that when functional use and service quality are taken into account, the frequency of adoption is not directly linked to SME outcomes.

This is an important finding that helps to explain the distinction between adoption and integration. Digital finance may be used often by SMEs, and perhaps there is some use of digital finance, but it is restricted to some basic transactions. For instance, a company can accept payments digitally from its customers but not take digital accounts for cash-flow planning, supplier

management, documentation or financial decision making. In such cases, adoption fails to get deep, and it is not a valid business capability.

This result is also in line with institutional theory. There are some SMEs that may consider using digital finance, as customers, suppliers, banks, competitors or public institutions may require transactions to be conducted digitally. This kind of adoption might be externally compelled and symbolic and not strategically integrated. Thus, if SMEs do not have the in-house capacity to leverage digital tools, digital finance adoption may not drive growth and sustainability outcomes. This reinforces the view that the usefulness, efficiency and integration quality of digital financial services should not only be computed based on adoption;

The also inconclusive finding, is in line with the 'digitalisation paradox' mentioned in recent literature. When digitalization does not match up with business processes, as Chen, Liu and Gao (2024) claim, the benefits of such digitalization may not be proportional. In a similar manner, Nagy *et al.*, (2025) also demonstrate that SMEs' uptake of fintech is influenced by context related to technology, organization and the environment. The insignificant impact of the digital adoption rate also indicates that digital finance can provide value only if it has been integrated in the process of the SMEs.

5.2. Sustainable practices model

The sustainable practices model further demonstrates that the worth of digital finance is not only based upon its adoption rate but on its functional use and service quality. Among the regression results, mobile application services have the highest positive relationship with sustainable practices (Beta = 0.469, $p < 0.001$). Hence, H5 is accepted. Based on this finding, it is believed that the services provided by mobile applications can contribute to improving the SME in the field of sustainability related practices, such as digital receipts, decreasing cash transactions, increasing transaction traceability and reducing reliance on paper-based financial processes (Chen & Zhou, 2026; Hasan *et al.*, 2024).

A high positive correlation has also been found between the sustainable practices and Internet banking services ($\beta = 0.221$, $p = 0.003$). So, H6 is accepted. This finding suggests that Internet banking might help sustainability related practices by making transactions better documented, scheduled payments more easily made, money more transparent and accountable. These functions are especially applicable to SMEs as many small businesses still do not have a sophisticated formal reporting system and digital banking records can help to promote financial discipline (Weerakoon & Anuradha, 2024).

Sustainable practices are also positively and significantly related to service efficiency ($\beta = 0.207$, $p = 0.002$). Thus, H7 is accepted. The finding indicates that, if digital financial services are reliable, fast, convenient, and secure,

SMEs are more likely to shift to digital financial services instead of manual and paper-based financial services. This will help sustainability by improving the discipline of the processes, minimizing transaction delay and optimizing utilization of resources (Ahmed *et al.*, 2024).

Digital adoption rate is not significantly correlated to sustainable practices, however ($\beta = 0.032$, $p = 0.536$). As a result, the H8 is not supported. This finding indicates that the use of digital finance is not always a prerequisite for the adoption of practices that aim to sustainability, but digital tools must be included in business routines in an appropriate and meaningful way. The result confirms the difference between what is adopted and what is integrated. Although SMEs can use digital finance for simple payments, the benefits of the technology may be more likely to come about if digital finance supports better record keeping, traceability, management of cash flows and control of operations, all of which are relevant to the sustainability of SMEs (Hasan *et al.*, 2024; Quintiliani, 2025).

Overall, both models support the central argument of this study. Digital finance is more useful when it serves as a capability than as an adoption metric. For SMEs, it is not only about how often they adopt digital finance, but about the quality and usefulness of digital finance and how well it integrates into their businesses. This finding adds to the literature of digital finance by demonstrating that mobile application services and internet

banking services and service efficiency are relevant to understand the SME growth and sustainable practices in the context of Sri Lanka.

6. IMPLICATIONS

6.1. Theoretical implications

The results of this study have several implications for theory: in the field of digital finance and in the field of SME research. First, the results do not fit neatly into the digital finance as technology adoption problem. It was found that certain functional dimensions, namely Mobile application services, Internet banking services, and Service efficiency, were significantly related to SME growth as well as sustainable practices; digital adoption rate was not significant after the inclusion of these functional dimensions. This indicates that the worth of digital finance goes beyond only the frequency of adoption; it is also about the quality and utility of the digital finance services.

Second, the results demonstrate that digital finance can act as a firm-level resource, when it is integrated into business practices. Digital finance is of greater value when used as a tool for collecting from customers, paying suppliers, transaction tracking, cash flow monitoring, and financial control for SMEs. Third, the findings favour dynamic capabilities view as efficient digital finance services seem to enable the SMEs to adapt to the pressure on liquidity, transaction delays and changing business circumstances. Fourth, the negligible impact of digital adoption rate corroborates the institutional theory by indicating that this adoption can be symbolic if it is external as opposed to

internal. Finally, positive relationships between digital finance dimensions and sustainable practices further broadens the triple bottom line approach as it demonstrates that regular digital financial practices relate to transparency, traceability, record discipline, and resource efficiency.

6.2. Practical implications for SMEs

The overall results pointed out that SMEs need to pay attention to the use of digital finance tools or even to the embedding of digital finance in daily business. Mobile application services seem to be especially handy since they are closely tied to customer payments, supplier settlements, account monitoring and frequent small-value transactions. For this reason, mobile financial apps should become a regular part of SME owners' and managers' cash-flow management, not a tool for occasional payments.

The results also indicate that internet banking services can facilitate more formal financial management. Internet banking could be advantageous for SMEs for scheduled payments, payroll, transaction history, bill payments, and documentation. These can help to better manage finances and minimise reliance on informal records. SMEs should also consider the efficiency of services when choosing the digital finance providers. Reliability, transaction speed, accessibility, ease of use and security are important as it may discourage frequent use and decrease the utility of digital finance if the services are ineffective.

6.3. Implications for financial institutions and fintech providers

The results indicate a need for the banks and the fintech companies to go beyond the level of adoption and think in terms of service quality and business integration. Even if digital finance services are available, more SME users might not be enough if services are not reliable, convenient, affordable, and fit to SME workflow. Financial institutions should build digital finance products to facilitate customers' collection and suppliers' payment, record automation, downloading the statement, transaction alerts, and be compatible with basic accounting practices for SMEs.

A special focus should be given to mobile application services as they exhibited the highest correlation with SME development and sustainable practices. Banks and fintech can enhance SME value through simplifying onboarding, reducing transaction failures, enhancing user support, and providing low-cost digital solutions for SMEs. Service providers should also offer guidance and training to enable SMEs to make use of digital finance to plan for their businesses and manage records, not just payments.

6.4. Policy implications

The results are relevant to the policy makers and SME development agencies in Sri Lanka. Digital finance policy should not be just about pushing the uptake of digital finance. Nonetheless, policy support should also be strengthened in terms of digital financial education, reliability of platforms, interoperability, cybersecurity awareness and capability building for the

SMEs. Programmes which include digital payment promotion and cash-flow management, digital record keeping, online banking security and business documentation training could yield greater SME outcomes.

Digital finance is linked to sustainable practices, so SMEs could be incentivized to adopt digital finance and electronic records as a wider part of their sustainability and formalization drive. Potential supportive measures include training programmes, support for digital documentation and eased compliance procedures, and incentives for SMEs to use transparent and traceable digital financial practices. This can contribute to strengthening the business resilience and the practices of SMEs in the field of sustainability.

7. CONCLUSION

The relationship between digital finance dimensions to SME growth and sustainable practices was investigated in Colombo District of Sri Lanka. The results show that mobile application services, internet banking services and the efficiency of services have a positive relationship with SME growth and sustainable practices. Of these dimensions, mobile application services was the strongest predictor of both outcomes, with internet banking services and service efficiency following. However, once the functional and efficiency related dimensions were added in the regression models, digital adoption rate was not statistically significant.

The results indicate that digital finance is more valuable to SMEs when it is part of their daily business activities as opposed to a simple transaction tool. Mobile applications can enable SMEs to speed up customer collections, pay suppliers,

monitor customer accounts and other day-to-day cash-flow management. Internet banking services might help in structured financial administration with fund transfer, bill payments, transaction history and documentation. Service efficiency can also help SMEs by reducing transaction time, enhancing transaction security, simplifying the service and increasing trust in digital financial services.

This finding of the insignificant effect of digital adoption rate is crucial. It implies that the mere rate of adoption cannot be used to explain the growth of SMEs or sustainable practices. While SMEs might be using digital finance extensively, the positive effects seem to be more related to the extent of embedding digital finance into financial routines, record keeping, transaction monitoring and operational control. Thus, Digital finance is not only a technology adoption indicator but also a capability in operation, as concluded in the study.

Limitations

There are a number of drawbacks that must be recognized. The first was a cross sectional survey design. Thus, the results reveal a correlation between the dimensions of digital finance and SME outcomes and not necessarily strong causalities. Longitudinal data would be necessary to analyze how the use of digital finance impacts SMEs growth and sustainable practices over time. Secondly, only registered SMEs at Colombo District was taken. Colombo is a relevant context due to its greater access to formal banking, payment systems and competition. But, SMEs in other districts may be at varying stages of digital readiness, access to infrastructure, market conditions and financial constraints. Hence, the results might

not be fully generalizable to all Sri Lankan SMEs. Third, the study used only self-reported questionnaire data. The respondents included business owners, managers, or senior personnel who were knowledgeable about the business operations but self-reported data may be prone to perception bias, recall bias or social desirability bias. Finally, of the 200 questionnaires returned, 163 were usable for the final regression analysis. While the usable sample was sufficient to develop the regression models, future research with larger sample sizes may yield more evidence. Fifth, the research limited the dimensions of digital finance to mobile banking application services, internet banking services, service efficiency and digital adoption rate. Other digital finance channels, like fintech credit, digital lending platforms, embedded finance, point-of-sale, digital wallets, and accounting software integration, were not explored in detail. Consideration of these dimensions could offer a wider base of digital finance use among SMEs.

Future research

This study could be extended in a number of ways in the future. First, longitudinal studies can be carried out to observe the changes over time that can be seen in the use of digital finance and its impact on SME growth and sustainability. The studies would help ascertain if the adoption and integration of digital finance results in sustained improvement in business outcomes. Secondly, the geographic area could be extended and cover SMEs in rural, semi urban and other provincial areas in Sri Lanka in future research. This would allow to compare the different impact of digital finance as a function of infrastructure, digital literacy, market access and financial inclusion at regional level. Third, other digital finance channels like

fintech lending, point-of-sale, digital accounting, online marketplace payments, and AI-based credit scoring can be explored in future studies. These tools can impact SME outcomes in various ways. Fourth, future research can be used to test mediating and moderating mechanisms. Financial literacy, digital literacy, access to finance, managerial capability, firm size, business age, and sector, for instance, could affect the correlation between digital finance and SME outcomes. Additional research into these mechanisms would help to explain the differences between SMEs that are better served by digital finance and those that are not. Finally, future research can be done through mixed methods, which will include survey analysis and interviews with SME owners, bank officers, fintech providers and policy makers. This would give fuller insights into the actual use of digital finance in SME day-to-day operations and what are the factors that limit the use of digital finance as an SME business capability.

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