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Digital Payment Adoption and Business Performance of Retail SMEs: A Mediation–Moderation Analysis

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Abstract: The study examines the impact of digital payment system use in retail small and medium-sized enterprises (SMEs) its effectiveness, with particular attention given to financial digital literacy as a moderator and operational efficiency as a mediator. The quantitative approach is applied to this study, in which a structured questionnaire related to retail SME stakeholders is used to collect considerable aspects in conditions of digital payment system use and organizational performance. The results of this research unequivocally affirm and demonstrate a robust association exists between the use of digital payment systems and company performance is further amplified through improvements in operational efficiency. Besides that, financial digital literacy is considered a significant and important aspect for gaining maximum benefits from digital payment methods should be used appropriately that is effective and efficient in maximizing the benefits and performance.

Keywords: Digital Payment adoption, Retail SME, Business performance, Operational efficiency, Digital Financial literacy.

INTRODUCTION

A new digital economy signals the onset of a revolutionary change that affects every aspect of human life. The transformation is a result of the digitalization process. It calls for major changes in the economic structure, namely, changes in the structure of the marketplace, business, and delivery services. The large component of this change is the growth of the FinTech sector, which increases the accessibility of finance services by reducing physical restriction and lessening the need for conventional mediators, thus bringing a radical change in the banking sector. Of the major developments, Electronic Payment Services (EPS) play a pivotal role, having become a major part of contemporary payment systems, indicating the increasing need for a diverse array of electronic payment solutions, including contactless technologies and digital currencies. These new systems demand new technological tools and applications, interconnecting many people and ensuring the utilization of state-of-the-art technological capabilities in handling a large amount of data and electronic payments. It is, therefore, the need of the hour to meet the difficulties arising in the context of a sustainable electronic payment system, not only bringing major advantages to the PayTech companies but also ensuring the provision of quality services to the customers, adhering to legal requirements

and security specifications. Growing as a new sector in the international marketplace, it becomes essential to improve the economic efficiency of EPS fully to explore the potentialities of the electronic payment systems in the global digital economy (Khanin et al., 2022).

The development of digital payment systems among Indians is impeded by many things such as costs associated with infrastructure development, lack of financial literacy among business people, and high usage of money among households. In many parts of rural India, there is no high-speed internet connectivity to enable people to take part in digital payment systems. Additionally, despite efforts by the Indian government to promote digital money among Indians, people still love using money because of its familiarity and security. In many aspects, there are 352 million internet users from rural India; however, many of them lack literacy about the digital universe. Additionally, internet speed and availability of resources are key issues. Additionally, shop owners refuse to take part in digital money systems for fear of taxation and regulation. They love using money for financial security (Trivedi & Sanchiher, 2023).

Small and Medium-sized Enterprises (SMEs) benefit significantly financially by implementing electronic payment services. Looking at reports by the European Central Bank and World Bank, SMEs that implement these services have increased sales earnings, reduced transaction charges, and enhanced cash flow management services. There are three methods of organizational performance measurement, encompassing financial performance measures, organizational performance measures based on effectiveness and efficiency measures of performance. Additionally, financial performance measures profitability while measures of performance and effectiveness and efficiency may be carried out by performance measures. Among the basic primary components of financially-successful SMEs include sales earnings, transaction operations based on sales, and financial services delivery. Mobile banking services have continued progressing with enhanced banking merged with mobile technical services; mobile banking increases bank access, particularly for the unbanked population (Awale, 2023), Electronic payment systems empower SMEs through an embossing of a bigger customer base, better customer services, and simplified costs, particularly for customers, and through an easy purchasing process.

LITERATURE REVIEW

(Lansita et al., 2024) investigated the correlation between human capital and financial performance in Micro, Small, and Medium-Sized Enterprises (MSMEs) and emphasized the moderating role of payment gateways. This descriptive quantitative research was conducted by

randomly surveying 100 MSMEs situated in the city of Surabaya by collecting primary data with the help of WarpPLS 7.0 software. The important roles of human capital and payment gateways were emphasized in enhancing financial performance for MSMEs.

(Phatak, 2023) investigated the impacts of digital payment systems on small businesses in Pune City, Maharashtra, are analyzed in a rapidly shifting paradigm of financial technology. By a structured questionnaire survey of 300 small businesses, sale volume, cost per transaction, customer satisfaction, and implementation hassles are explored in this research. This study proves that digital payment systems raise sales, customer satisfaction, efficacy, and reduce cost but face tech-related hassles in terms of security.

(Najib & Fahma, 2020) researched the antecedents that lead to the adoption of digital payments in the context of the proposed extension of the Technology Acceptance Model (TAM). This research proposal adopted the survey approach with the questionnaire technique for the study involving 120 SME restaurant owner/managers in the city of Bogor, Indonesia for the proposed study using SEM-PLS. It was concluded that the perceived utility and simplicity of usage, attitudes towards online payments, and trust significantly and directly influence the desire to embrace digital payment methods.

In consideration of the evidence regarding the growth of digital payment adoption in the Indian market, this research tries to explore variables that play key roles in their adoption and perception by customers such as gender, age, income, and education. An online survey was conducted on 386 respondents, and evidence shows that variables such as perceived risk, trust, subjective norms, perceived usefulness, and convenience play key roles in adopting digital payment services. In line with that, scale non-invariance was identified using factors like education and gender. This research work will play a significant role in helping service providers and policymakers facilitate the adoption of digital payment systems (Banerjee & Pradhan, 2022).

(Affandi et al., 2024) involved 5,035 Umkm or Micro, Small, and Medium-sized Enterprises. In this study, it was revealed that digital adoption is affected by, inter alia, demographics, firm-specific factors, business environment, infrastructure factors, and culture variables, where a favourable correlation exists between digital adoption and company success.

This study aims to quickly assess the elements driving adoption of digital technologies in small local retail establishments, referred to as "Kirana Shops" within the framework of a rising

economy. The theoretical framework designed in the research work is based on UTAUT2 and Technology Adoption Model. The model is proved to be accurate by a survey test among 285 unorganized retail shops in India. The work has been carried out using Structural Equation Model. The outcome indicates that the factors of "Perceived usefulness," "Affordability," "Compatibility," and "Ease of use" influence the individual's motive of adopting the concept of digitalization. The manuscript finds its place in a meager research literature domain perturbing the unorganized sections of the economies in developing nations post the occurrence of a pandemic outbreak (Bhattacharjee et al., 2024).

(Jacob & Jacob, 2024) studied factors that shape the intention of low-income class consumers in India in terms of adopting the usage of the Unified Payment Interface (UPI) mobile application. The results showed that Performance expectation, effort expectancy, facilitating circumstances, and hazards exert both positive and negative influences on the inclination to use the UPI mobile application, whereas social influence has insignificant impacts on the intention to usage. The findings addressed that the digital divide in India can be closed by policymakers through efforts concerning the usage of the UPI mobile application.

For the proposed research, an integrated/comprehensive approach was required for the study of determinants affecting customer behavioural intentions towards using M-wallet for payment. For this, a total of 600 survey papers were distributed, from which 482 papers were analyzed for structural equation modeling, confirming the stability of the proposed mode, with factors influencing the behavioral intention being value, trust, compatibility, and social factors, where trust was a dominant factor. The proposed research was done on people of a certain demographic, individuals residing in a particular urban area, and six M-wallets. For M-wallet service providers, recommendations for improvement include the importance of understanding factors of behavioral intention for enhanced customer trust, allowing people to use M-wallet for payment on a constant basis (Hasan et al., 2024).

(Journal et al., 2024) studied the acceptance of the Unified Payments Interface (UPI) among hawkers in Mangalore, India, to provide clarity to discussions surrounding financial inclusion and the digital economy. This study involved a sample population of 180 street vendors who were selected using convenience sampling. The study also employed a standardized questionnaire adapted to fit the context to obtain data. The role of Structural Equation Modeling (SEM) using AMOS software underscored the relationships among the variables, with special focus on ATU's interim relevance. The results of the investigation showed that PU is a crucial

precursor to hikers' acceptance of UPI, which improves consumer satisfaction and efficiencies, respectively, meditated by ATU in BIU. Dimensions related to FC, for example, internet facilities, are essential in enabling the decrease in of barriers to acceptance, whereas PEOU is critical to those who belong to this group and lack skills to access the internet effectively.

A research was undertaken to examine the parameters influencing the persistent using electronic payment methods. systems as a result of having of empirical studies related to digital payment systems. Results indicated that perceived repute, perceived security, and perceived structural certainty favourably impacted trust and the desire to persist in using digital payment services. Such findings were important in aiding banks and the government in India in the modification of their approaches in the digital payment environment (Goel & Nath, 2020).

Digital payment systems are being accepted gradually but steadily by the customers, and it is expected to rise from $6.6 trillion to $10.5 trillion in 2025 in the cashless system. The reason for such rising acceptance is that different types of digital payment systems are available like debit cards, credit cards, NEFT, RTGS, and UPI. The pandemic situation caused by COVID-19 has boosted this trend among young technophiles to shift towards a paperless system. Digital payments are perceived by the customers as more secured, faster, transparent, and easily accessible. The basis behind conducting this research is to portray a picture of the current scenario of digital payments in India while exploring the possibilities and problems related to the digital payment system of India (Thakur & Kumar, 2023).

(Jain & Raja, 2025) studied the impact of these technologies on the operational efficiency of small businesses in Delhi, Noida, and Greater Noida. Using a quantitative approach, the authors collected data from 150 small business owners where 94% adopted digital payments which was part of over half of the transactional activities for 84.7 percent of the respondents. The study findings indicated that digital payments deployment has significantly enhanced transaction speed as reported by 89.3%, customer satisfaction as shown by 90%, and stock / Sales monitoring at 69.3%. Some of the discouraging factors towards the technology adoption include system breakdowns, customer resistance, and no internet connectivity. The study thus provided the effectiveness of automated the influence of payment mechanisms on operational efficiency of the small enterprises while calling for further improvement of the related government policies, training, and infrastructure.

Research gap

There are various gaps in research in the correlation between retail small and medium-sized businesses and the usage of digital payments, notwithstanding considerable knowledge has already been circulated in the prior investigations concerning the introduction of digital payment systems. The prior research confined their attention only to the acceptance aspects on a general scale or to the functioning/acceptance aspects. The previous studies did not examine the holistic interconnection the connection between using digital payments and enhancements in performance among retail SMEs. Very limited research studies have already been conducted in this scenario of retail enterprises that depend to a considerable extent on the efficiency of transactions and enterprise performance. The role of digital payments in performance enhancements is stated to be vaguely explained in the overall state of the existing state of the art in this particular scenario. The previous existing studies on the topic focused on standalone theories and did not have a deficit in formulating overall models in this scenario of different aspects of digital payments in retail enterprises in this relation of modulating aspects of behavioural features, in addition to performance enhancements in retail enterprises. There is an attempt to be made to form a firm model in this overall understanding of modulation implications of this discussed topic in this particular retail scenario of enterprises.

METHODOLOGY

Research Design

This research examined the uptake of digital payments using a quantitative technique and the business performance of retail SMEs: A Mediation–Moderation Analysis. A total sample of 384, managers, store in charge, finance staff, customers, retail SEMs and any small retail business who are planning to adopt the banking payments that effect on their business performance are used for collecting the data pertaining to the research. Data were collected with a standardised questionnaire that included 5-point Likert scale questions, covering five main constructs: Adoption of Digital Payments, Business Performance, Operational Efficiency, and Digital Financial Literacy.

Conceptual Framework

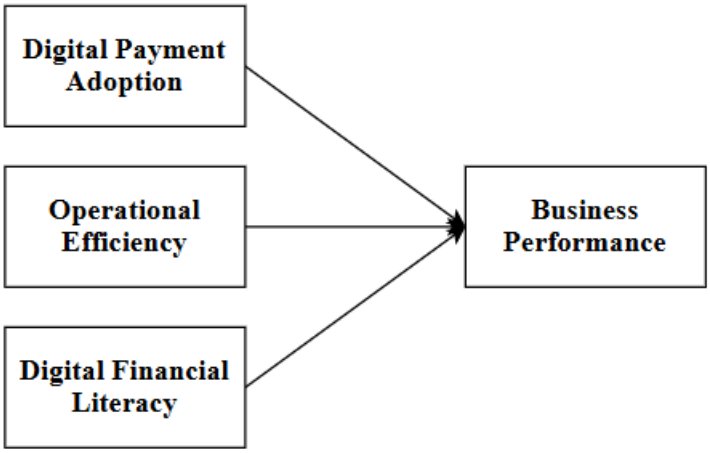


Figure 0.1 Conceptual framework

Research Objectives

- To assess the impact of digital payment adoption on the business performance of retail SMEs.
- To find out whether operational efficiency mediates the link between digital payment adoption and business performance.
- To examine whether digital financial literacy moderates the relationship between digital payment adoption and business performance.

Hypothesis

- **H1:** Digital payment adoption has a positive effect on the business performance of retail SMEs.
- **H2:** Operational efficiency mediates the relationship between digital payment adoption and business performance of retail SMEs.
- **H3:** Digital financial literacy moderates the relationship between digital payment adoption and business performance.

Sample selection and data collection

The study sample consisted of managers, store in charge, finance staff, customers, retail SEMs and any small retail business who are planning to adopt the banking payments. A purposive sampling strategy was used to identify individuals who fit the inclusion criteria. A total of 384 individuals were chosen according to statistically determined sample size criteria. The data collection process included securing informed consent and thereafter distributing a self-constructed questionnaire.

Inclusion and Exclusion Criteria

Inclusion Criteria:

- Indian retail SMEs that fall under the MSME (micro, small, or medium enterprises) classification.
- Organizations that currently employ or have previously employed a minimum of one digital payment mechanism (such as a payment gateway, mobile wallet, POS, UPI, etc.).
- Proprietors, managers, or supervisors with a minimum of six months' experience running a retail small business

Exclusion Criteria:

- Businesses that don't operate in retail, including MSMEs in manufacturing, agriculture, hospitality, or services.
- Retail locations that only accept cash payments or don't employ any kind of digital payment system.
- Respondents who lack decision-making authority in the company, are unwilling to participate, or give insufficient information.

Measures

Data has been gathered with a standardised questionnaire. A questionnaire using a 5-point Likert scale has been created to solicit respondents' thoughts on different research subjects being examined. The questionnaire has a collection of both open-ended and closed-ended

questions. Questions have been meticulously designed to elicit significant information on specified study factors. The details of the variables and the corresponding measurement items used for the analysis are presented below.

S.No.	Constructs	Statements
1	Digital Payment Adoption	6
2	Business Performance	6
3	Operational Efficiency	6
4	Digital Financial Literacy	5

- **Digital Payment Adoption:** Digital payment options include mobile payment systems, e-wallet payment systems, e-payment systems, and QR code payment systems. They can be categorized into two categories. These categories encompass mobile payment systems and systems that improve the use of web services on computers. QR Code systems have become popular owing to increased readability and storage capacity by comparison with Bar Code systems. “E-payment” represents electronic transfer of funds from entities, and these entities include but are not limited to banks or individuals acquiring services (Susanto et al., 2022).

- **Business Performance:** Opportunities in marketplaces exist based on the nature of the marketplace, which allows the entrepreneur to foresee prospective opportunities. Alertness to entrepreneurial opportunities involves scanning the environment because of marketplace failures.

- **Operational Efficiency:** Operational efficiency is a process where managers use inputs to produce products and services in an efficient way to maximize output and at a minimal rate. The effective implementation of an efficient process maximizes an organization's value (Keya, 2021).

- **Digital Financial Literacy:** Financial literacy (FL) is considered essential for improving financial inclusion and general financial well-being. The aim of conducting the research is to determine people’s requirements regarding more effective financial planning and educational interventions through financial counselling sessions.

RESULTS

Introduction

The results obtained from how crucial it is to do a thorough statistical analysis of the uptake of digital payments and retail SME business performance and include the mediating variables of efficiency and financial literacy. Several tests for reliability and validity were conducted for the results of this study and ensuring the results were valid and reliable for analysis. This study provides results with the importance of establishing the fit determination of the measuring model's validity and the establishment of connections for hypothesis testing. The study's findings provide reliable empirical support for the strategic roles played by digital technology and financial literacy for enhanced performance for retail SMEs.

Table 1 Demographic variables

Demographic	Groups	Frequency	Percent
Type of Retail Business	Grocery / Supermarket	116	30.2
	Clothing & Apparel	80	20.8
	Electronics & Mobile Stores	96	25.0
	Pharmacy / Medical Shops	60	15.6
	General & Other Retail Outlets	32	8.3
	Total	384	100.0
Business Experience	Less than 2 years	172	44.8
	2 – 5 years	90	23.4

	5 – 10 years	62	16.1
	Above 10 years	60	15.6
	Total	384	100.0
Number of Employees	1 – 5 employees	84	21.9
	6 – 10 employees	156	40.6
	11 – 20 employees	119	31.0
	More than 20 employees	25	6.5
	Total	384	100.0
Monthly Sales Turnover	Below ₹1,00,000	181	47.1
	1,00,000 – 5,00,000	124	32.3
	5,00,000 – 10,00,000	51	13.3
	Above 10,00,000	28	7.3
	Total	384	100.0
Experience with Digital Payment Usage	Less than 1 year	224	58.3
	1 – 3 years	68	17.7

	3 – 5 years	46	12.0
	More than 5 years	46	12.0
	Total	384	100.0

The demographic composition of the respondents indicates a varied representation of retail SMEs. Grocery and supermarket stores occupied the highest share of 30.2%, followed by electronics and mobile stores of 25.0%, clothes and apparel stores of 20.8%, pharmacy and medical stores of 15.6%, and general and other types of stores of 8.3% of the sample population. A considerable number of businesses were relatively young, and among these, 44.8% have been in operation for less than two years, 23.4% 16.1% for a duration of five to ten years, 15.6% for a period beyond ten years, and a range of two to five years existence in the market. There was diversity regarding company size, and among these, businesses employing 6 to 10 persons constituted the highest of 40.6%, followed by 11 to 20 persons of 31.0%, 1 to 5 persons of 21.9%, and more than 20 persons of 6.5%. In terms of business performance, more than half of all businesses or 47.1% had sales turnover of less than ₹1,00,000, 32.3% had ₹1,00,000 to ₹5,00,000, 13.3% had ₹5,00,000 to ₹10,00,000, and 7.3% had more than ₹10,00,000. The exposure to digital payment systems varied considerably, with 58.3% of enterprises having implemented such systems 17.7% 12.0% for durations under one year, 12.0% for three to five years, 12.0% for more than five years, and 12.0% for one to three years. The demographic distribution indicates that the sample mostly consists of young, small-to-medium-sized retail companies exhibiting diverse levels of digital payment expertise and financial success.

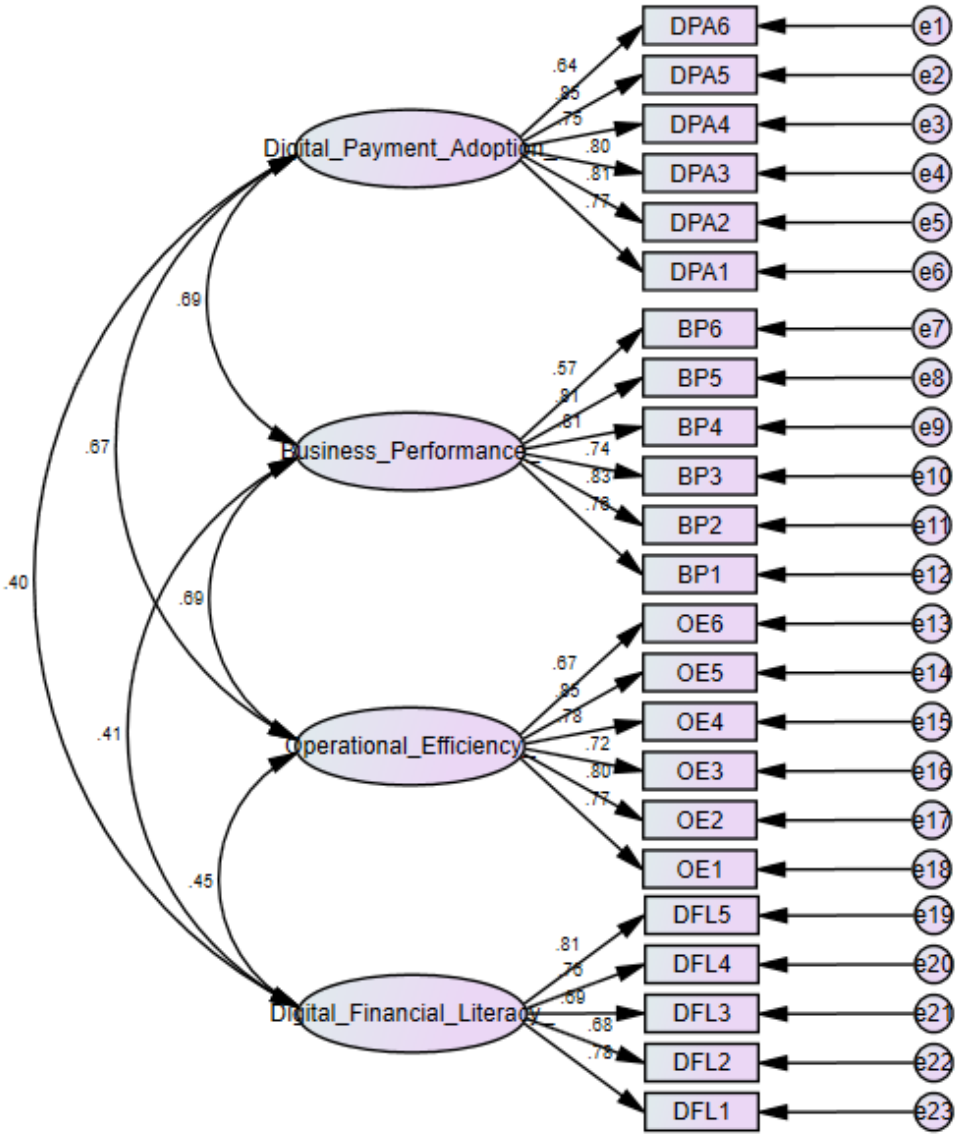


Figure 2 CFA model

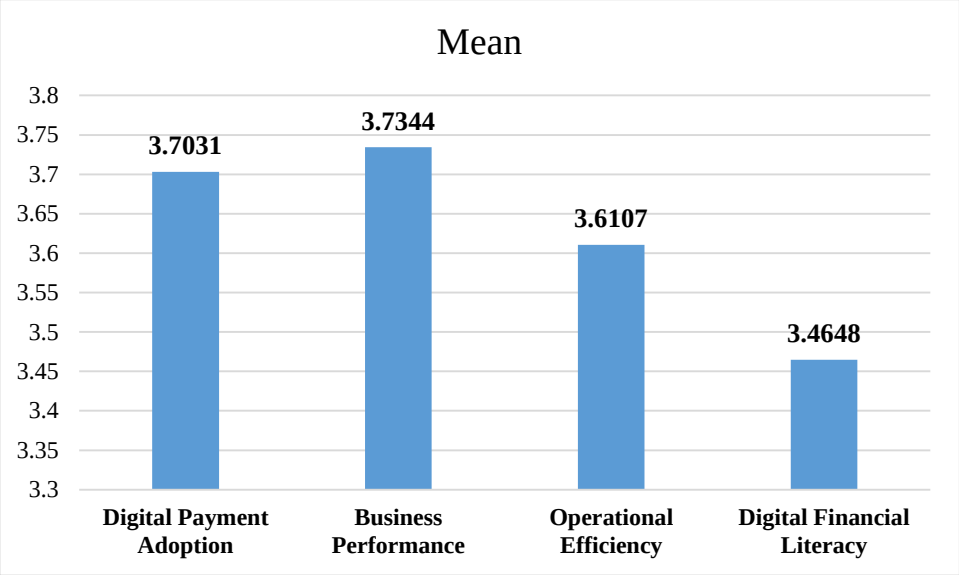
The measurement model of Digital Payment Adoption, Business Performance, Operational Efficiency, and Digital Financial Literacy shows good psychometric qualities in the confirmatory factor analysis. Every observed indicator has standardised factor loadings more than 0.60, demonstrating convergent validity and verifying that every item is a reliable and significant representation of the corresponding latent construct. Increased usage of digital payments is connected with enhanced corporate performance, more operational efficiency, and elevated digital financial literacy, as shown by the evident and favourable correlations across

the latent constructs and the four latent variables and their indicators. Furthermore, the overall model fit indices are within the generally recognised ranges for a well-fitting model, suggesting that the suggested measurement structure well reflects the underlying connections between the constructs. These findings taken together demonstrate that the measurement model is valid, dependable, and appropriate for further structural equation modelling and hypothesis testing.

Table 2 Descriptive Statistics, Reliability, and Inter-Variable Correlations

	Mean	Cronbach's Alpha	Digital Payment Adoption	Business Performance	Operational Efficiency	Digital Financial Literacy
Digital Payment Adoption	3.7031	.897				
Business Performance	3.7344	.873	.678			
Operational Efficiency	3.6107	.861	.601	.691		
Digital Financial Literacy	3.4648	.827	.414	.457	.565	

**. Correlation is significant at the 0.01 level (2-tailed).



The reliability, inter-variable correlations, and descriptive statistics show that all constructs are seen favourably overall, and the scales utilised have a high degree of internal consistency. The mean scores for Operational Efficiency (3.61), Business Performance (3.73), Digital Payment Adoption (3.70), and Digital Financial Literacy (3.46) are all above the midpoint of the scale, indicating that respondents moderately to strongly agree that these outcomes and practices exist in their companies. High reliability for all four constructs is shown by Cronbach's alpha values, which fall ranging from 0.827 to 0.897. This indicates that the items on each scale reliably evaluate the same fundamental concept. A strong positive correlation exists in the correlation matrix for Digital Payment Adoption and Business Performance, which is 0.678, and Business Performance and Operational Efficiency, which is 0.691. These two correlations signify that digital payment adoption affects business performance in a strongly positive manner. Additionally, the correlation coefficient for Operational Efficiency and Digital Payment Adoption is 0.601, which signifies that this relationship is strongly positive. Digital payment adoption, business performance, and operational efficiency have a moderately positive relationship with digital financial literacy, which is 0.414, 0.457, and 0.565, respectively. These signify that high financial literacy results in positive results in both operational efficiency and business performance but results in neither operational efficiency nor digital payment adoption. All of the above findings in combination signify that positive results in operational efficiency and business performance are strongly related to positive digital payment adoption influenced by financial literacy.

Table 3 Multicolinearity Diagnostics

Model	Collinearity Statistics	
	Tolerance	VIF
Digital Payment Adoption	.631	1.586
Operational Efficiency	.519	1.929
Digital Financial Literacy	.672	1.487
a. Dependent Variable: Business Performance		

The Multicolinearity diagnostics reveal that the independent variables Digital Payment Adoption, Operational Efficiency, and Digital Financial Literacy do not represent any Multicolinearity danger to the regression model predicting Business Performance. All tolerance values vary between 0.519 and 0.672, which are significantly over the frequently recognised minimum criterion of 0.10, showing that each predictor has a large amount of unique variation and is not unduly reliant on the others. Similarly, all Variance Inflation Factor values range between 1.487 and 1.929, much below the crucial benchmark of 5 (and even the more cautious criterion of 3), demonstrating that inflation in the regression coefficient estimates due to intercorrelation across predictors is minor. Together, these statistics demonstrate that Digital Payment Adoption, Operational Efficiency, and Digital Financial Literacy can be simultaneously included in the regression model without concern for Multicolinearity, ensuring stable and reliable estimation of their individual contributions to Business Performance.

Table 4 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.940
Bartlett's Test of Sphericity	Approx. Chi-Square	5247.231
	df	253

	Sig.	.000

The KMO and Bartlett's Test findings show that the dataset is appropriate for factor analysis. By significantly above the suggested minimal threshold of 0.60, the Kaiser–Meyer–Olkin (KMO) score of 0.940 signifies an exceptional degree of sampling adequacy and validates that the correlations between variables are adequately constrained to provide distinct and reliable outcomes factors. Furthermore, Bartlett's Test of Sphericity is very significant ($\chi^2 = 5247.231$, df = 253, $p < .001$), indicating robust correlations across the variables and confirming the correlation matrix is not a matrix of identities. When evaluated together, these studies indicate that the dataset is suitable for component extraction and that factor analysis may be carried out with assurance to uncover the fundamental aspects of the research topics.

Table 5 Reliability Validity Test

Variables	AVE	CR
Digital Payment Adoption	0.7705	0.884
Business Performance	0.75216667	0.87973994
Operational Efficiency	0.76666667	0.88372195
Digital Financial Literacy	0.7424	0.8522138

All four conceptions have good convergent validity and internal consistency, according to the reliability and validity findings based on Average Variance Extracted (AVE) and Composite Reliability (CR). AVE values for Digital Payment Adoption (AVE = 0.7705, CR = 0.884), Business Performance (AVE ≈ 0.7522, CR ≈ 0.880), Operational Efficiency (AVE ≈ 0.7667, CR ≈ 0.884), and Digital Financial Literacy (AVE ≈ 0.7424, CR ≈ 0.8522) are significantly higher than the suggested threshold of 0.50. In a similar vein, every CR score is higher than the generally recognised standard of 0.70, demonstrating a significant degree of internal consistency among the items evaluating each concept. When taken as a whole, these data provide compelling proof of the measurement model's validity and dependability as well as

the accuracy and coherence of the constructs tested in the research for further structural analysis.

Table 6 Proposed Hypothesis

S. No	Hypothesis	Co-efficient Value	P-value	Results
1	Digital payments positively influenced the commercial performance of retail SMEs.	.692	.000	Hypothesis Accepted
2	Operational efficiency mediates the relationship among digital payment adoption and business performance of retail SMEs			
	Operational Efficiency <--- Digital Payment Adoption	.601	.000	Hypothesis Accepted
	Business Performance <--- Operational Efficiency	.443	.000	
	Business Performance <--- Digital Payment Adoption	.412	.000	
3	Digital financial literacy influences the correlation between digital payment uptake and company success.			
	ZBusiness Performance <--- ZDigital Payment Adoption	.632	.000	Hypothesis Accepted
	ZBusiness Performance <--- ZDigital Financial Literacy	.229	.000	
	ZBusiness Performance <--- Interaction(Zscore(Digital Financial Literacy* ZDigital Payment Adoption))	.080	.000	

The use of digital payments positively influences retail SMEs' company success, according to Hypothesis 1. A standardised a coefficient of 0.692 and a p-value of 0.000, indicating a very significant result and considerable positive connection, provide strong support for this hypothesis. According to this, retail SMEs who use digital payments are more likely to have better company outcomes, most likely as a result of quicker transactions, more convenient customer service, and better record-keeping, and better cash flow management. Digital payments are strategically important in today's retail business contexts, as shown by the fact that SMEs who aggressively embrace and integrate digital payment systems often have better performance results than those that depend less on such technology.

Hypothesis 2 postulated that there was a correlation between digital payment use and the commercial efficacy of retail SMEs that was facilitated/mediated by operational efficiency. The data confirms hypothesis 2. Therefore, due to the use of digital payments, there is greater efficiency in operations. The relationship between operational efficiency and company performance increases by a multiple of an increase in operational efficiency ($\beta = 0.443$, $p = 0.000$); therefore, better company performance is achieved due to greater efficiency. Notably, the use of digital payments correlates favourably with corporate performance and significantly correlated, even when operational efficiency is taken into account ($\beta = 0.412$, $p = 0.000$). Partial mediation is shown by this pattern, indicating the use of digital payments improves operational efficiency and, indirectly, corporate performance. Therefore, digital payments not only improve performance on their own, but also increase the efficiency of internal procedures.

The connection between using digital payments and corporate performance is moderated by digital financial literacy, according to hypothesis 3. In support of this notion is the moderation analysis. Z-standardized digital payment use has a significant beneficial impact on standardised company performance ($\beta = 0.632$, $p = 0.000$), according to the standardised findings. Digital financial literacy also has a favourable independent contribution ($\beta = 0.229$, $p = 0.000$). Importantly, standardised digital financial literacy and standardised digital payment uptake have an interaction term that is both positive and statistically significant ($\beta = 0.080$, $p < 0.001$). This indicates that the use of digital payments has a greater substantial beneficial effect on corporate performance compared to traditional financial methods literacy rises. Stated differently, SMEs possessing greater levels of digital financial literacy are more equipped to use digital payment systems efficiently, minimise mistakes or hazards, and convert digital adoption into measurable performance improvements. This demonstrates that the

association between digital payments and performance is strengthened (enhanced) by digital financial literacy.

DISCUSSION

The results of the study, entitled "Digital Payment Adoption and Business Performance of Retail SMEs," strongly support the theories postulated and underpin the key role technologies, particularly digital payments, play in enhancing retail businesses. It is further evident that the results validate the idea that the adoption of cashless transactions helps to manage better cash flow, speed up services, increase competitiveness, and benefit consumers because it clearly states that the implementation of digital payments positively influences company performance in retail SMEs. It has also been revealed that operational efficiency acts as the mediating variable because digital payments complement overall businesses by improving rapid cycles, minimal handling, and smooth internal procedures apart from enhancing performance outcomes themselves. Finally, the moderating effect revealed in the study clearly identifies that the use of digital payments advantages SMEs possessing elevated digital financial literacy because those businesses or organizations possess higher levels of awareness to effectively use digital payment systems efficiently, minimize errors, and take informed financial decisions.

Overall, the discussion reflects that, indeed, digital payment modes function well with advanced operations and sound financial awareness; digital preparedness is a prime factor to continue successful outcome performance in retail industry SMEs.

CONCLUSION

This study provides ample empirical evidence for proving the validity and truth for the three hypotheses proposed for conducting this study. With a highly significant standardised coefficient value of .692 and a p-value of 0.000 confirms the validity of the first hypothesis, leading to the conclusion that adopting digital payments positively affects the performance of businesses. This is adequate enough to prove that digital payments system is highly effective for enhancing retail SMEs' performance. According to the second hypothesis, the adoption of digital payments is facilitated and explained by operational effectiveness achieving business success, is also proved correct. This is because the direct connection between company success and the use of digital payments is still strong and highly positive even after the inclusion of the variables for mediation and is still positively influenced by the adoption of digital payments

(.412), with a p-value of .000), but operating effectiveness is highly and significantly affected by adopting digital payments (.601), with a p-value of .000), and the operating effectiveness is highly and significantly affected by the performance of businesses (.443), with a p-value of .000), thereby indicating this partial mediation is also valid and correct. Finally, the third hypothesis is also proved correct by getting highly strong and significant values for the interaction effect variables .080 and highly significant and strongly positive independent values for adopting the digital payments system (.632), with a p-value of .000), and financial literacy for digital payments system .229), with a p-value .000), and proving that financial literacy for the digital payments system is a strong and highly significant moderating factor for the effective adoption and usage of digital payments and thereby still indirectly and positively influencing the performance of businesses. Essentially, what is proved by this study is that the operating effectiveness is increased due to the usage and acceptance of electronic payments and the enhancement of operational efficiency as the financial literacy about the digital payments system may greatly enhance its efficacy and positively impacting and affecting the performance of businesses and that retail SMEs can still relate the beneficial factor of digital capability for the success and advancement of retail SMEs even within the highly competitive retail market.

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