

Mobile Payment Innovation and Performance of Micro and Small Enterprises in Kwale County, Kenya

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Abstract

Mobile payment innovation has emerged as an important tool for improving the performance of micro and small enterprises (MSEs) by streamlining transactions, record keeping, customer interactions, and time management. However, its specific contribution is often overlooked because it is commonly studied as part of the broader mobile money ecosystem. This study isolated mobile payment innovation and examined its effect on MSE performance in Kwale County, Kenya, a semi-rural coastal county with the country's lowest business survival rate and uneven adoption of digital payment technologies. Guided by Technology Acceptance Model and Resource-Based View, the study proposed that mobile payment innovation enhances enterprise performance when it is perceived as useful, easy to use, secure, and reliable. Using a positivist philosophy and an explanatory cross-sectional design, data were collected through structured questionnaires from 401 MSE operators selected across Kwale County's five sub-counties, achieving a 97.8% response rate. The results indicated a strong positive perception of mobile payment innovation (mean = 4.35, SD = 0.49) and a strong positive correlation with MSE performance ($r = .836$, $p < .001$). Regression analysis further showed that mobile payment innovation significantly and positively influences MSE performance ($B = .764$, $\beta = .836$, $p < .001$), explaining 69.8% of performance variation ($R^2 = .698$). Consequently, the null hypothesis was rejected. The study concludes that mobile payment innovation is more than a convenient transaction method; it enhances performance by reducing cash-handling risks, improving operational efficiency, increasing customer satisfaction, and supporting business growth. The study recommends strengthening digital payment literacy and expanding merchant-focused payment infrastructure, especially in coastal counties.

Keywords: Mobile payment innovation; Micro and Small Enterprises; MSE performance; Resource-Based View; Technology Acceptance Model, Kwale County, Kenya

1. Introduction

Micro and small enterprises (MSEs) are the backbone of the informal and semi-formal economy and are responsible for generating jobs and contributing about 34 percent of gross domestic product (GDP) in Kenya, with more than 80 percent of the workforce employed in such enterprises (Micro and Small Enterprises Authority [MSEA], 2024; Federation of Kenyan Employers [FKE], 2021). Despite this structural significance, MSEs work in an environment of chronic financial fragility: almost 46 percent end up shutting down during their first year of operation, due to persistent financial constraints in accessing

affordable credit, administrative and record keeping limitations, low cash buffers, and ongoing risks from cash based transaction systems that allow revenue leakage (FKE, 2021; MSEA, 2024; Balboa et al., 2024). Digital payment innovation has become a viable, cost effective, and infrastructurally convenient way for MSEs to restructure payment flows, records, and customer engagement without demanding the existing physical banking infrastructure, which is thin on the ground in semi-rural and coastal operating environments (Calderon, 2025; Global System for Mobile Communications Association [GSMA], 2025).

Mobile payment innovation (MPI), which refers to the use of mobile devices and mobile money platforms for value exchange in transactions involving the reception of payment receipts, supplier payment, bill settlement, and payment verification, has increased at an impressive rate in Sub-Saharan Africa (SSA), with Kenya being a global leader in this area (Central Bank of Kenya [CBK], 2025; GSMA, 2025). In March 2007, the mobile money services M-Pesa was introduced, and as of February 2025, Kenya is the most developed mobile money market in the world with 95 percent penetration and over 84 million registered mobile money accounts (CBK, 2025; GSMA, 2025). Since then, the Kenyan mobile money system has grown to include mobile money payments to merchants, mobile money business to business transactions and mobile money bill payment applications that are integral to the operation of small businesses (Communication Authority of Kenya [CAK] 2025; Wachira & Njuguna, 2023).

In this context, mobile payment has emerged as a separate and very significant facet of mobile money for MSEs. Lipa na M-Pesa, which includes Buy Goods till numbers and Pay Bill numbers, has given mobile payment a new face, from a tool for remittance between peers to a tool for business transactions. According to the Communications Authority of Kenya (CAK, 2025), mobile commerce transactions, largely through merchant payment systems, have now become a significant and significant portion of the total mobile money value. Apart from being a medium through which payment is received, the benefits of the mobile payment for MSE operators in Kwale County are not only receiving payment but also real-time payment confirmation, digital record keeping and supplier payment settlement activities, besides the reduction in cash handling risks that characterizes trading in open market and road side environments. While mobile payment's potential utility ultimately becomes measurable enterprise performance, it is an empirical question that is of central importance, especially in the coastal counties that have not been digitally served, and mobile payment adoption does not equate with strategic use of the service in all counties.

However, the empirical literature on the performance of mobile money and MSEs in Kenya has two important shortcomings. First, it lacks in methodological precision as it treats mobile money as a single entity, which encompasses mobile banking, mobile payment, mobile lending, mobile savings, and mobile transfers making the results obtained less interpretive of the individual contribution of each functional dimension (Makhandia et al., 2022; Khorow, 2023; Waris et al., 2024). Second, it is geographically underrepresented, as existing Kenyan studies have been conducted in Nairobi, Kakamega, Kericho, Garissa and Kajiado, all of which are inland and urban, compared to the semi-rural coastal counties that host a significant share of Kenya's MSE population but which are under-represented in the empirical literature (Khorow, 2023; Makhandia et al., 2022; Mutiso & Reuben, 2021). The article directly addresses both these limitations by isolating the concept of mobile payment innovation as the only explanatory construct and examining how it affects the performance of MSEs in Kwale County.

Micro and Small Enterprises in Kwale County, Kenya

Kwale County, located along Kenya's coast, has an estimated 103,944 micro and small enterprises (MSEs) distributed across the five sub-counties: Msambweni, Matuga, Lunga Lunga, Kinango, and Samburu. These enterprises operate within a diverse economic landscape encompassing agriculture, retail trade, accommodation and food services, transport, fishing, and small scale manufacturing (Kenya Institute for Public Policy Research and Analysis [KIPPRA], 2021 to 2022; Kwale County Government, 2025). Despite their economic significance, MSEs in the county operate within a highly constrained business environment. KIPPRA (2019) reports that Kwale records the lowest MSE survival rate in Kenya at only 0.87 percent, a situation attributed to limited access to affordable long term finance, inadequate banking infrastructure, low agent banking density in the interior sub counties, and comparatively weak digital financial access and technological readiness. Although mobile money penetration broadly reflects national trends, evidence from the Small Firm Diaries (2023) indicates that most MSE operators use mobile payment services for only a small proportion of their business transactions, suggesting that widespread access has not translated into the strategic utilization required to realize meaningful enterprise performance gains.

Kwale County also differs from the urban and inland settings that dominate existing Kenyan research on mobile payment innovation in several important respects. First, physical financial infrastructure, including bank branches, agent banking outlets, and point of sale facilities, remains relatively sparse in the interior sub-counties of Kinango and Samburu, making mobile payment the principal mechanism through which many enterprises access formal financial services. Second, the county's economy is largely driven by tourism related services, agriculture, fisheries, and informal trade, sectors in which rapid, secure, and verifiable digital payments have the potential to enhance operational efficiency and strengthen business performance. Third, relatively low levels of financial and digital literacy among sections of the MSE population suggest that the ease of using mobile payment technologies may be a critical determinant of whether adoption translates into sustained business value. These contextual characteristics distinguish Kwale from counties that have received greater scholarly attention and provide a compelling setting for examining the performance implications of mobile payment innovation under conditions of limited financial infrastructure and constrained digital capability.

Problem Statement

MSEs in Kenya are structurally vulnerable, with 46 percent closure rate during the first year of operation at national level, and a business survival rate of only 0.87 percent in Kwale County, attributable to a bundle of constraints including high cost of finance, weak record keeping systems, cash handling risks, and weak digital financial infrastructure (KIPPRA, 2019; FKE, 2021; MSEA, 2024). Mobile payment innovation has been touted as a viable tool to address some of these limitations; however, there is a lack of evidence that is methodologically precise and geographically representative of coastal counties in Kenya (Khorow, 2023; Makhandia et al., 2022). When mobile money is clustered together as a composite service combining banking, payments, lending, savings, and transfers, it is difficult to tie performance outcomes to any single dimension of mobile money usage, and this accounts for the mixed results observed in county level studies in Kenya (Mugalo, 2021; Waris et al., 2024). Additionally, no previous study has investigated the isolated contribution of mobile payment innovation among MSEs in Kwale County, which is characterized by a coastal and semi-rural economy, limited physical banking facilities, and the lowest rate

of MSE survival in the country, as documented by KIPPRA (2019, 2022). The research problem this article addresses is precisely these contextual, methodological, and evidentiary gaps.

Objective of the Study

Determine the effect of mobile payment innovation on the performance of micro and small enterprises in Kwale County, Kenya.

Research Hypothesis

H₀: Mobile payment innovation has no statistically significant effect on the performance of micro and small enterprises in Kwale County, Kenya.

Scope of the Study

The study was conducted among operators of micro and small enterprises across the five sub-counties of Kwale County: Msambweni, Matuga, Lunga Lungu, Kinango, and Samburu. These sub counties span a diverse economic base that includes agro-processing, retail trade, food and beverages, transport, accommodation and tourism related services, fishing, and small scale manufacturing. The study targeted MSE operators who had used mobile money services in at least one core business function, including receiving customer payments, paying suppliers, or settling bills. Data was collected in March 2026 and reflect the mobile payment landscape and MSE performance outcomes prevailing at that time.

Significance of the Study

Theoretically, the study contributes by extending the Technology Acceptance Model beyond adoption intention to enterprise performance outcomes, and by demonstrating the applicability of the Resource Based View to mobile payment as a strategically valuable enterprise capability in digitally underserved coastal environments. For policy, the findings provide county specific evidence that can guide the Kwale County Government and national digital economy agencies in prioritizing merchant focused mobile payment infrastructure and digital literacy programming in coastal sub-counties. For practice, the findings enable MSE operators to understand the performance pathways through which mobile payment innovation delivers measurable business growth, transaction efficiency, and customer satisfaction gains. For the academic field, the study contributes the first dimension specific quantitative analysis of mobile payment innovation and MSE performance in a coastal Kenyan county, filling a geographic and methodological gap in the mobile money literature.

Theoretical Framework

Technology Acceptance Model

The Technology Acceptance Model (TAM), proposed by Davis (1989), posits two core cognitive constructs: perceived usefulness, which is the belief that a technology will improve one's performance, and perceived ease of use, which is the belief that using the technology will require little effort. TAM has been extensively applied to the adoption of information systems, financial technology, and digital payment platforms (Kitigin, 2025; Sadeck, 2022). From the MSE perspective, TAM implies that mobile payment innovation becomes embedded in business operations when operators perceive that it effectively facilitates customer transactions, is simple and does not require specialized training, is secure for conducting

business transactions, and is reliable for verifying payments, precisely the dimensions through which mobile payment innovation is operationalized in the present study (Al-Ghunaimi et al., 2025; Jinkyung et al., 2024).

This article extends TAM to enterprise performance outcomes by treating adoption as an intermediate stage on the pathway to enterprise results. The dependent variable in this study encompasses transaction efficiency improvements, customer satisfaction gains, and business growth outcomes that follow from operators', customers', and suppliers' perception of mobile payment as useful and easy to use (Calderon, 2025; Prihatiningtias & Wipraganang, 2021; Ridhwan et al., 2024). This study extends TAM beyond its conventional focus on individual level adoption intentions to organizational performance consequences by combining it with the Resource Based View, which provides the logic of sustained competitive advantage from digital capabilities.

Resource-Based View Theory

The Resource-Based View (RBV) of Barney (1991) and Wernerfelt (1984) posits that a firm's sustained competitive advantage derives from its ability to acquire and deploy resources that are valuable, rare, imperfectly imitable, and non-substitutable. Applied to the MSE context, RBV shifts analytical focus from market position alone to the internal digital capabilities that generate performance differentials among enterprises operating within otherwise similar market environments (Barney, 1991; Wernerfelt, 1984). Mobile payment innovation satisfies all four RBV resource conditions in the context of Kwale County. It is valuable because it reduces transaction costs, eliminates cash handling risks, extends the enterprise's reach to customers regardless of location and time, and generates digital payment records that support creditworthiness with formal lenders. It is relatively rare in Kwale County's interior sub counties, where consistent mobile network access and digital payment literacy are unevenly distributed and where the majority of enterprises continue to rely on cash based transactions. It is imperfectly imitable because the performance benefits of mobile payment accumulate through consistent and strategically embedded use that builds digital transaction histories, customer payment records, and financial management routines that competitors cannot replicate simply by downloading an application, particularly where adoption is constrained by literacy and infrastructure gaps. And it resists substitution in settings where physical financial infrastructure, including bank branches, agent outlets, and point of sale terminals, is insufficient to provide comparable transaction cost and convenience benefits.

Empirical Review

Mobile Payment Innovation

Mobile payment innovation involves the application of mobile technologies and digital platforms to trigger, verify, and document cashless payments for goods and services, which can replace or complement cash based payment systems (Jinkyung et al., 2024; Kimathi et al., 2025). Thanks to this invention, consumers can use their mobile phones to make purchases, pay bills, and send and receive money (Kimathi et al., 2025). Examples of mobile payments include peer-to-peer, bill payment, and purchasing of goods and services. For this study, mobile payment innovation is defined as having three main functional aspects: ease of use, security and verifiability, which are discussed below, as well as other dimensions that go beyond the core operationalization.

The usability is defined as the simplicity, convenience and effectiveness of a mobile payment system to the enterprise payment systems and their users (Belmonte et al., 2024; Indrijawati et al., 2024; Prasetyo et al., 2025). Ease of use is especially important for MSEs operating in semi-rural, coastal environments, as it will impact both operator and consumer digital literacy levels, and confidence, or lack thereof, in using the system as well as to the continuity of the operations. The operators of MSEs who are not allowed to afford payment failures or downtime will be most likely to accept and use mobile payment platforms that involve the least number of steps, are very transparent with the feedback they provide at each stage of a payment and work reliably on low-end handsets.

Security is the degree to which the mobile payment systems reduce the risks of using cash payments such as theft, counterfeit money, and handling losses (Odeh et al., 2024). These are the problems of cash handling that are common in these types of trading markets including open market and roadside trading in Kwale County which are sources of robbery, revenue leakage due to dishonesty of staff and receipt of fake money by MSE operators. Directly each of these risks is reduced by mobile payment, which provides a cashless transaction record, eliminates the need to carry large amounts and produces a real-time confirmation that the cash has been moved to the mobile account of the merchant.

Verifiability refers to the ability of mobile payment systems to provide receipts, digital transaction records, and confirmations, all of which enable businesses to verify payments, track funds, and be held accountable for financial transactions (Djossou et al., 2024; Li, 2024). Verifiable digital records are an informal bookkeeping system for MSEs that don't maintain any formal financial records, allowing operators to keep a record of transactions that mobile financial service providers can check when reviewing loan applications, and to facilitate reconciliation of transactions, dispute resolution and tracking payments from suppliers.

The empirical literature outlines three key mechanisms through which these wider benefits translate into enterprise performance gains: firstly, by making it easier and more secure for enterprises to receive payment quickly, regardless of location, and eliminating the restrictions on payment that comes with cash-based transactions, it enables faster revenue collection and cash flow (Alshebami, 2026); secondly, by providing digital confirmation and electronic records of financial transactions, it increases the security, traceability and accountability of transactions, reducing the risks of loss from theft, counterfeit currency and payment disputes (Djossou et al., 2024); finally, by making payment more convenient, reliable, and timely to customers according to their preferences, it boosts customer satisfaction, repeat purchases, and long-term business relationships (Calderon, 2025).

Performance of Micro and Small Enterprises

Enterprise performance is a multidimensional construct that reflects the extent to which a firm achieves its operational and strategic objectives through the effective deployment of its resources and capabilities (Sakyi et al., 2025). In the management and entrepreneurship literature, performance is understood as the aggregate outcome of an enterprise's resource acquisition, transformation, and utilization processes, evaluated against financial and operational benchmarks that reflect the firm's capacity to generate sustainable value (World Bank, 2022; Hitt et al., 2023; OECD, 2023). For micro and small enterprises, the measurement of performance carries particular conceptual significance because MSEs operate as the primary engines of job creation, income distribution, and poverty reduction in developing economies, meaning that improvements in MSE performance have welfare implications that extend well beyond the

individual firm (MSEA, 2024; FKE, 2021). Scholars have consistently noted that accurately capturing MSE performance requires sensitivity to the structural realities of informal and semi-formal enterprise environments, which differ fundamentally from those of large formal firms in terms of resource endowments, market access, and record keeping capacity (Arjunan et al., 2020; Mugalo, 2021).

Within the context of MSEs, conventional financial indicators alone provide an incomplete assessment of performance because many enterprises operate informally and maintain limited or inconsistent financial records. Consequently, enterprise performance is more appropriately evaluated using a combination of financial and non-financial indicators that capture business growth, operational efficiency, and market responsiveness (Abrokwah-Larbi, 2024; Sakyi et al., 2025). Research in developing economies has demonstrated that composite performance measures that integrate growth trajectories, operational efficiency outcomes, and customer facing service quality indicators alongside revenue and profit measures provide a more valid and reliable picture of MSE performance than any single financial metric (Mutiso and Reuben 2021; Mustapha et al. 2025). This is particularly important in the Kwale County context, where many MSE operators maintain informal records, and where the performance of an enterprise may be more accurately reflected in the consistency of its customer relationships, the speed and reliability of its payment processing, and its ability to grow its transaction base than in a formal income statement. Consistent with this perspective, the present study operationalizes MSE performance using three complementary dimensions: business growth, transaction efficiency, and customer satisfaction.

Mobile Payment Innovation and Performance of Micro and Small Enterprises

At the global level, the evidence on mobile payment innovation and enterprise performance is both consistent and instructive about the methodological choices that shape findings. Al-Ghunaimi et al. (2025) conducted a study of mobile payment adoption among small and medium enterprises in Oman and found a significant positive relationship between mobile payment use and operational efficiency, reporting that enterprises that strategically embedded mobile payments into their transaction workflows experienced measurable improvements in processing time and customer transaction management. Prasad and Jahnvi (2025) investigated trends in cashless payments among street vendors in India and documented that cashless payments enhanced their access to small loans and banking services, reduced the risks associated with handling large sums of money, and brought them closer to the formal economy. Dalton et al. (2022) employed a randomized controlled trial in a developing country context and demonstrated that e-payment technology, including mobile money, significantly improved enterprise financial administration, transaction tracking, and business planning capacity relative to the control group. Despite their rigor, most global studies have examined mobile payment as part of broader fintech or digital finance composites rather than as an isolated construct, making it difficult to attribute observed performance effects specifically to the payment dimension rather than to lending, savings, or banking functions. Additionally, the majority of global studies are conducted in contexts with considerably stronger digital payment infrastructure than the semi-rural coastal setting of Kwale County, limiting the direct transferability of their findings to the present study context.

At the regional level across Sub-Saharan Africa, the evidence similarly supports a positive relationship between mobile payment and enterprise performance, while highlighting important contextual and methodological dependencies. Awuah (2025) documents a strong positive relationship between the frequency of mobile money transfers and SME sales income in Ghana, indicating that enterprises that use

mobile money more frequently may see a boost in income due to the ease of use and effectiveness of digital payment systems. Kazaara and Nancy (2024) reported positive effects of mobile money use on performance of informal traders in Wakiso District, Uganda, highlighting the critical role that mobile payment systems play in enabling quicker transactions and reducing costs. In Nigeria, Mustapha et al. (2025) show that SMEs' operational effectiveness and return on investment are greatly enhanced by electronic payment solutions, while Effiom and Edet (2022) found that financial innovation positively influenced SME productivity, but noted that the magnitude of these effects depended critically on network reliability and institutional support, factors that are unevenly available across Kwale County's sub counties. A persistent limitation in regional studies is the conflation of mobile payment with broader mobile money services including lending and savings, which obscures the specific performance contribution of payment functions and makes it difficult to isolate the mechanisms through which payment innovation drives enterprise outcomes, a gap that the present study's construct specific approach directly addresses.

At the local level in Kenya, the evidence is predominantly supportive but has been concentrated in inland and urban counties with significantly stronger digital payment ecosystems than Kwale County. Kimathi et al. (2025) isolated mobile payment as a distinct digital financial innovation and demonstrated its significant positive effect on the financial performance of MSEs in Kirinyaga County, providing the methodologically closest antecedent to the present study in the Kenyan literature. Hope (2021) reported a significant positive relationship between mobile payment solutions and the performance of small and medium enterprises in Nairobi's Kamukunji Trading Centre, where enterprise density, network reliability, and customer digital literacy are substantially higher than in Kwale County. Makhandia et al. (2022) found that mobile money services positively influenced the financial growth of MSEs in Kakamega Town, though mobile money was examined as a composite construct rather than through its individual functional dimensions, limiting the interpretive precision of the findings. Mutiso and Reuben (2021) reported a significant positive relationship between mobile payment and mobile money transfer and the performance of micro, small, and medium enterprises in Kajiado County, providing partial evidence of mobile payment's distinct contribution but without full disaggregation. Collectively, these Kenyan studies confirm the directional relationship between mobile payment and MSE performance but reveal two persistent gaps that justify the present study: the near total absence of evidence from semi-rural coastal counties such as Kwale, and the continued operationalization of mobile money as a composite construct that masks the specific performance signal of the payment dimension.

2. Research Methodology

Research Philosophy and Design

This study was guided by the positivist research philosophy, which assumes that the relationship between mobile payment innovation and MSE performance can be objectively measured and statistically tested using observable and quantifiable data collected from a representative sample of enterprise operators (Creswell & Creswell, 2023; Schindler & Cooper, 2018). Positivism is founded on the premise that knowledge is derived from observable and measurable phenomena that can be objectively analyzed using statistical techniques (Madden, 2021). Consistent with this philosophical orientation, the study adopted an explanatory cross sectional research design to examine the causal relationship between mobile payment innovation and MSE performance at a single point in time (Creswell & Creswell, 2023).

Target Population and Sampling

The target population comprised operators of registered and unregistered micro and small enterprises located in the major trading centres across the five sub counties of Kwale County, namely Msambweni, Matuga, Lunga Lunga, Kinango, and Samburu. According to the Department of Tourism, Trade and Enterprise Development of the Kwale County Government, the county had 91,195 MSEs at the time of the study (Kwale County Government, 2026). A sample of 410 respondents was determined using the Yamane (1967) formula at a 95 percent confidence level and a 5 percent margin of error. Stratified random sampling was employed in Ukunda, where the concentration of MSEs was highest, with enterprises classified into ten strata according to business sector. Purposive sampling was used in the remaining trading centres to ensure proportional representation across sectors and geographical locations. Respondents were enterprise owners, managers, or supervisors who possessed adequate knowledge of their businesses' use of mobile payment services. To qualify for inclusion, enterprises were required to have used mobile payment services for at least one core business function, including receiving customer payments, paying suppliers, or settling business related bills.

Instrumentation and Measures

Primary data were collected using a structured questionnaire administered through the drop and pick method by five trained research assistants who were proficient in Kiswahili. Their familiarity with the local language enhanced respondents' understanding of the questionnaire and encouraged accurate and candid responses. Mobile payment innovation was operationalized using three dimensions, namely ease of use, security, and verifiability, and measured using nine items on a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement items were adapted from Davis (1989), Jinkyung et al. (2024), and Kitigin (2025). MSE performance was operationalized through three dimensions, namely business growth, transaction efficiency, and customer satisfaction, and measured using eighteen Likert scale items adapted from Cheruto and Kyalo (2021), Kitigin (2025), and Mutiso and Reuben (2021). Content validity was established through expert review, yielding a Content Validity Index of 1.00. Construct validity was confirmed through principal component analysis, with all factor loadings exceeding 0.70. Internal consistency was assessed using Cronbach's alpha, producing a coefficient of .787 (standardized $\alpha = .819$) for the mobile payment innovation scale and .850 (standardized $\alpha = .852$) for the MSE performance scale. Both coefficients exceeded the recommended threshold of .70, demonstrating satisfactory reliability of the measurement instruments (Taherdoost, 2020).

3. Data Analytical Models

Descriptive statistics comprising item level and composite means and standard deviations were computed for both constructs. Pearson's product moment correlation coefficient was computed to establish the bivariate relationship between mobile payment innovation and MSE performance. Simple linear regression analysis was applied to test the null hypothesis, using the following model specification:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Where Y represents MSE performance, X represents mobile payment innovation, β_0 is the constant term, β_1 is the regression coefficient capturing the effect of mobile payment innovation on MSE performance, and ε is the error term. The null hypothesis was rejected where the associated probability value was less than .05. Prior to regression estimation, diagnostic tests were conducted to confirm the assumptions

underlying ordinary least squares regression. Normality was assessed using the Kolmogorov-Smirnov test. Homoscedasticity was confirmed using the Breusch-Pagan test. Linearity was confirmed through visual inspection of standardized residual scatterplots. All required conditions were met, confirming the robustness of the regression findings.

4. Results and Findings

i. Questionnaire Response Rate

Of the 410 questionnaires distributed to MSE operators across the five sub counties of Kwale County, 401 were returned in usable condition, with 9 questionnaires either unreturned or excluded due to incompleteness. This yielded a response rate of 97.8 percent, substantially exceeding the 70 percent threshold conventionally regarded as adequate for inferential statistical analysis (Creswell & Creswell, 2023; Schindler & Cooper, 2018). The high response rate reflects the effectiveness of the face to face drop and pick data collection methodology and the role of trained, Kiswahili proficient research assistants in facilitating comprehension and completion. The results are displayed in Table 1.

Table 1: Questionnaire Response Rate

Return Rate	Frequency	Percent (%)
Returned Questionnaires	401	97.8
Unreturned / Unusable Questionnaires	9	2.2
Total Distributed	410	100.0

Note. N = 410. Source: Survey data (2026).

ii. Mobile Payment Innovation

Respondents rated their level of agreement with nine statements measuring mobile payment innovation across three dimensions: ease of use, security, and verifiability. Responses were interpreted against the following scale bands: 1.00 to 1.79 (strongly disagree), 1.80 to 2.59 (disagree), 2.60 to 3.39 (neutral), 3.40 to 4.19 (agree), and 4.20 to 5.00 (strongly agree). Results are presented in Table 2.

Table 2: Descriptive Statistics for Mobile Payment Innovation

Item	M	SD
Ease of Use		
Mobile payment facilitates making purchases	4.33	0.67
Mobile payment facilitates receiving money from customers	4.42	0.61
Mobile payment makes it easy for the business to transact	4.38	0.64
The process of making payment using mobile money is simple, hence easy to use	4.27	0.70
Mobile payment enables paying for goods or services from anywhere at any time	4.45	0.59
Security		
Mobile payment helps reduce the risk of receiving fake money	4.18	0.79

Item	M	SD
Mobile payment helps reduce the risk of theft of cash	4.31	0.72
Verifiability		
Mobile payment enables confirmation of payment	4.39	0.63
Mobile payment provides a record for future reference	4.36	0.65
Composite Mean / SD	4.35	0.49

Note. N = 401. Scale: 1.00 to 1.79 = strongly disagree; 1.80 to 2.59 = disagree; 2.60 to 3.39 = neutral; 3.40 to 4.19 = agree; 4.20 to 5.00 = strongly agree. M = mean; SD = standard deviation. Source: Survey data (2026).

The composite mean for mobile payment innovation was 4.35 (SD = 0.49), placing the construct firmly within the strong agreement band and indicating that MSE operators in Kwale County broadly and strongly endorsed mobile payment as a useful, secure, and verifiable operational tool. The highest rated item was the ability to pay for goods or services from anywhere at any time (M = 4.45, SD = 0.59), underscoring the particular value that spatial and temporal payment flexibility holds for enterprises operating in a semi-rural coastal environment where physical commercial infrastructure is unevenly distributed. The second highest rated item was receiving money from customers (M = 4.42, SD = 0.61), confirming that MSE operators primarily value mobile payment as a revenue collection mechanism. Confirming payment (M = 4.39, SD = 0.63) and providing a record for future reference (M = 4.36, SD = 0.65) recorded the highest scores in the verifiability dimension, reflecting the recognized importance of transaction documentation for enterprises that lack formal bookkeeping systems. The lowest rated item was the reduction of the risk of receiving fake money (M = 4.18, SD = 0.79), which, while still within the agreement band, recorded the highest response variability, indicating that counterfeit currency risk mitigation is perceived as a benefit of mobile payment but with less universal conviction than the convenience and verifiability dimensions. Low standard deviations across items confirm a high degree of respondent consensus.

iii. Performance of Micro and Small Enterprises

Respondents rated their level of agreement with eighteen statements measuring MSE performance across three dimensions: business growth, transaction efficiency, and customer satisfaction. Results are presented in Table 3.

Table 3: Descriptive Statistics for MSE Performance

Item	M	SD
Business Growth		
Use of mobile money has increased sales in our business	4.02	0.83
Use of mobile money has reduced expenses in our business	3.96	0.87
Use of mobile money has increased growth of our business	4.08	0.80
Use of mobile money has improved our management of cash and other business resources	4.14	0.77
Use of mobile money has increased our business savings	3.98	0.85

Item	M	SD
Use of mobile money has improved our management of risk of loss of cash	4.11	0.79
Transaction Efficiency		
Use of mobile money has reduced the time taken to carry out money transactions	4.19	0.73
Use of mobile money has reduced transaction cost in carrying out daily operations	4.24	0.70
Use of mobile money has reduced the overall cost of carrying out business operations	4.17	0.75
Use of mobile money has reduced waste and delays in business operations	4.09	0.80
Use of mobile money has improved the effectiveness of business processes	4.21	0.72
Use of mobile money has improved the overall productivity of employees	4.05	0.82
Customer Satisfaction		
Use of mobile money has improved business-customer relationship management	4.18	0.74
Use of mobile money has improved response to customer inquiries, requests, and needs	4.22	0.71
Use of mobile money has increased repeat purchase by customers	4.07	0.81
Use of mobile money has reduced negative feedback from customers	3.99	0.85
Use of mobile money has enabled the business to address customer feedback promptly	4.15	0.76
Use of mobile money has enabled the enterprise to offer improved services to customers	4.20	0.73
Composite Mean / SD	4.12	0.59

Note. N = 401. Scale: 1.00 to 1.79 = strongly disagree; 1.80 to 2.59 = disagree; 2.60 to 3.39 = neutral; 3.40 to 4.19 = agree; 4.20 to 5.00 = strongly agree. M = mean; SD = standard deviation. Source: Survey data (2026).

The composite mean for MSE performance was 4.12 (SD = 0.59), indicating strong agreement across all three dimensions. The highest rated item was the reduction in transaction costs in daily operations (M = 4.24, SD = 0.70), followed by improved response to customer inquiries and needs (M = 4.22, SD = 0.71), and improved effectiveness of business processes (M = 4.21, SD = 0.72). Within the business growth dimension, the highest score was recorded for improved management of cash and other business resources (M = 4.14, SD = 0.77), and the lowest was for reduced expenses (M = 3.96, SD = 0.87), though both remained within the agreement band. The consistently positive ratings across all eighteen items confirm that MSE operators in Kwale County perceive mobile money use as broadly supportive of enterprise performance across growth, efficiency, and customer satisfaction outcomes.

5. Hypothesis Testing

Using simple linear regression analysis, the study tested the null hypothesis that mobile payment innovation has no statistically significant effect on the performance of micro and small enterprises in Kwale County, Kenya. Prior to regression, Pearson's product moment correlation confirmed a strong,

positive, and statistically significant bivariate relationship between mobile payment innovation and MSE performance, $r(399) = .836$, $p < .001$, indicating that enterprises reporting higher levels of mobile payment adoption consistently reported higher performance outcomes. The regression results are presented in Table 4.

Table 4: Coefficients: Mobile Payment Innovation and MSE Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.836	.698	.698	.32512

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	97.688	1	97.688	924.183	.000
Residual	42.175	399	.106		
Total	139.863	400			

Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
(Constant)	.834	.090		9.262	.000
Mobile Payment Innovation	.764	.025	.836	30.400	.000

Note. N = 401. Dependent variable: MSE performance. $R = .836$; $R^2 = .698$; Adjusted $R^2 = .698$; SE of estimate = .325; $F(1, 399) = 924.183$, $p < .001$. *** $p < .001$. Source: Survey data (2026).

The regression model indicates an R value of .836, confirming a strong positive relationship between mobile payment innovation and MSE performance. The model explained 69.8 percent of the variance in MSE performance ($R^2 = .698$, adjusted $R^2 = .698$, SE = .325). The identical values of R^2 and adjusted R^2 indicate that the model is stable and not over-fitted, suggesting that it generalizes well to the broader MSE population in Kwale County. The analysis of variance further confirmed that the overall regression model was statistically significant, $F(1, 399) = 924.183$, $p < .001$, with the regression sum of squares (97.688) substantially exceeding the residual sum of squares (42.175) out of a total of 139.863.

The fitted regression equation was $Y = 0.834 + 0.764X$. Mobile payment innovation was a statistically significant positive predictor of MSE performance, $B = .764$, $\beta = .836$, $t(399) = 30.400$, $p < .001$, indicating that for every one-unit increase in mobile payment innovation, MSE performance increased by 0.764 units, holding all other factors constant. The constant term was also statistically significant, $B = .834$, $t(399) = 9.262$, $p < .001$, confirming a positive baseline level of MSE performance independent of mobile payment innovation. On the basis of these findings, the null hypothesis was rejected, leading to the conclusion that

mobile payment innovation has a statistically significant positive effect on the performance of micro and small enterprises in Kwale County, Kenya.

6. Discussion of Findings

The contribution of the statistically significant positive relationship between mobile payment innovation and MSE performance ($B = .764$, $\beta = .836$, $R^2 = .698$, $p < .001$) to the empirical literature, which has been geographically constrained to an inland and urban county context, and methodologically imprecise in defining mobile payment within a larger composite variable, is substantive. The bivariate correlation coefficient $r = .836$ and the proportion of variance explained in the single predictor model of 69.8 percent support the idea that mobile payment innovation does not just constitute one among several minor influence factors on MSE performance, but is a significant performance determinant with an economically meaningful and statistically well-substantiated contribution to performance.

The regression results are similar to the global and Sub-Saharan Africa evidence base. The findings of Al-Ghunaimi et al. (2025) confirmed that the acceptance of mobile payment positively impacted on the operational efficiency and transaction processing of SMEs in Oman, while Priyadi (2020) in Indonesia verified that mobile money use and MSME financial performance are positively correlated. Kazaara and Nancy (2024) findings indicate that using mobile money greatly increases the operational efficiency of Ugandan informal businesses, highlighting the critical role that mobile payment systems play in enabling quicker transactions and reducing costs. According to Kingu and Kiwango (2021), mobile payment services enabled microbusinesses in Tanzania to reduce transaction costs and increase sales turnover, resulting in financial performance, growth and sustainability. Kimathi et al. (2025) found that mobile payments is positively associated with financial performance of SMEs in Kirinyaga County, Kenya, whereas Hope (2021) concluded that mobile payment solutions and financial performance of MSEs in Nairobi, Kenya are significantly related. The R^2 of .698 for the present study is higher than variance explained in similar Kenyan studies that measure mobile money as a single construct lends credibility to the methodological argument that mobile payment is a unique construct that produces a stronger and more interpretable performance signal.

The results coincide with the two theory models being used. The high ratings on ease of use, security and verifiability, the perceived usefulness and ease of use dimensions that predict adoption and continued use, support the TAM framework (Davis, 1989). The output of the regression also shows that when the operator sees the mobile payment as useful then it can be integrated into their transaction routines, which can be measured by the performance of the enterprise, namely business growth, transaction efficiency, and customer satisfaction. The finding that the performance value of mobile payment is greatest in Kwale County where there is limited alternative payment options, limited infrastructure substitutes and that mobile payment is a genuine source of competitive difference that can be leveraged in the environment of the county confirms the RBV framework (Barney, 1991; Wernerfelt, 1984).

7. Conclusion

The results of this study are consistent with that of other recent studies showing that innovation in mobile payment has a positive and statistically significant impact on the performance of the micro and small businesses in Kwale County, Kenya ($B = .764$, $\beta = .836$, $R^2 = .698$, $p < .001$). The results reveal that the ease of use, security and verifiability of mobile payment represent a pathway of innovation to which MSEs

in the coastal semi-rural environment are oriented to reduce the risks of cash handling, speed up cash collection, make transactions more efficient and improve the customer experience, which can be measured in terms of business growth, transaction efficiency and customer satisfaction.

The study is based on the Technology Acceptance Model (TAM) of Davis (1989) and the Resource Based View (RBV) of Barney (1991), which shows that the performance value of mobile payment innovation to the MSEs in Kwale County is not incidental but important because of the structural conditions of the operating environment which lacks physical financial infrastructure and where mobile payment supplies the documentation, security, and transaction verification functions which formal financial infrastructure would otherwise provide. Mobile payment innovation for MSEs in Kwale County is not merely a transactional ease, but a vital enterprise capability, offering strategic advantages which are hard to replicate for those without similar digital payment integration.

8. Recommendations

Mobile money service providers should develop and promote merchant oriented payment service functionalities based on the requirements of small businesses in the semi-rural coastal environments, such as convenience at small value payments, reduced cost for small transactions, effective security communication and simplified confirmation interface at small value payment. Further, the Kwale County Government, with the support of the national digital economy agencies and licensed mobile network operators, should design and implement a digital payment inclusion policy, focusing on investments in mobile networks in the interior sub-counties of Kinango and Samburu where Mobile network density is low which affects the reliability of mobile payment services.

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