

DIGITAL WALLET ADOPTION AND ECONOMIC SUSTAINABILITY OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN DEVELOPING ECONOMY

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Abstract

This study examined digital wallet and economic sustainability of small and medium enterprises (SMEs) in a developing economy, with focus on south east Nigeria. The main thrusts of the study were to investigate the impact of quick teller e-wallet on competitiveness of SMEs and to ascertain the effect of Opay e-wallet on cost reduction of SMEs. A sample of 367 was obtained from a population of 7,992 gotten from the number of SMEs registered with the Corporate Affairs Commission. The data obtained through the utilization of a structured questionnaire was evaluated and displayed in descriptive tables, illustrating the frequency and percentage of replies from the participants. Regression was used to examine the hypotheses, and the statistical package for social sciences (SPSS) version 26 for the analysis. The findings indicate that the quick teller e-wallet and Opay e-wallet impact positively on the operations of SMEs in South East, Nigeria. The study concludes that Digital wallets play crucial roles in transforming the business landscape for SMEs in South East, Nigeria, and recommends that, embracing such digital financial solutions is vital for SMEs to adapt to changing market dynamics, improve operational efficiency, and achieve sustainable economic growth in the South East region of Nigeria.

Keywords: Digital wallet, Economic, Sustainability, SMEs, Developing economy

1 INTRODUCTION

In today's rapidly evolving digital landscape, digital wallets have emerged as a transformative tool that is reshaping the way individuals and businesses conduct financial transactions. A digital wallet, sometimes referred to as a mobile wallet or e-wallet, refers to a virtual container that allows users to store payment card information, loyalty cards, and other digital assets securely on their electronic devices. With the widespread adoption of smart phones and the increasing availability of internet connectivity, digital wallets have gained significant popularity, particularly in developing economies where traditional banking infrastructure may be limited (Mishra & Joshi, 2020). Small and medium-sized enterprises (SMEs) form the core support of developing economies, contributing to economic growth, employment generation, and poverty reduction. However, these enterprises often face significant challenges related to access to finance, operational inefficiencies, and limited resources (Banerjee et al., 2018). The adoption of digital wallets

among SMEs in developing economies holds the potential to address some of these challenges and enhance their economic sustainability.

The economic sustainability of SMEs in a developing economy refers to their ability to maintain and improve their financial performance, competitiveness, and overall viability over the long term (Gokhale et al., 2019). By leveraging digital wallets, SMEs can enjoy several benefits, including improved efficiency in payment processing, reduced transaction costs, enhanced security, and increased customer convenience (Mishra & Joshi, 2020). Furthermore, digital wallets can enable SMEs to reach a wider customer base by tapping into the growing number of digitally connected consumers in developing economies. This expanded market access can contribute to increased sales and revenue for SMEs, thereby promoting their economic sustainability (Karakaya & Ozturk, 2019). Africa as a continent is one with most of its countries' economies referred as under-developed and developing economies. This case study explores digital wallets' impact on economic sustainability of SMEs in South Eastern part of Nigeria.

When digital wallets are effectively in use by SMEs it will result to wide adoption, enhanced financial efficiency, increased sales and market access, cost reduction, security and trust, seamless integration, and a supportive regulatory environment. Achieving these conditions can empower SMEs in developing economies, enabling them to thrive and contribute to sustainable economic growth. However, the absence of digital wallets in SMEs' payment systems can result in limited payment options, inefficiencies in financial operations, missed sales opportunities, higher transaction costs, lower security, limited market reach, missed integration opportunities, and lagging behind industry trends. Embracing digital wallets can address these challenges, improve operational efficiency, enhance customer satisfaction, and foster growth for SMEs in the evolving digital landscape.

The widespread availability of the internet and the widespread usage of mobile phones in the modern digital age have created significant opportunities for payment systems to expand. However, it is imperative to acknowledge and address the challenges that come with the use of digital wallets, given their importance in enhancing the performances of SMEs. If not adequately addressed, these challenges could lead to reduced competitiveness and increased cost for SMEs. Thus, the present study tends to evaluate the digital wallets and economic sustainability of SMEs in South East, Nigeria.

2 LITERATURE REVIEW

2.1.1 Digital Wallet

A financial transaction app that runs on any connected device is called a digital wallet. Your passwords and payment details are safely kept in a cloud-based storage system. Financial applications on devices such as smartphones and tablets enable individuals to save money, conduct transactions, and monitor previous payments. Digital wallets aim to enhance the availability of financial products and services by using the functionalities of mobile devices. With digital wallets, customers can save all of their payment details conveniently and securely, doing away with the need to carry about a physical wallet (Kagan, Khartit, and Jiwon, 2023). Digital wallets have enabled previously underserved individuals to have access to financial services. Banking mobile applications and payment platforms such as PayPal or AliPay may incorporate digital wallets. As stated by CFI (2022), a digital wallet is any application, devices, or internet resource that allows online transactions for individuals or organizations. In addition to gift cards and driver's licenses, it also stores users' payment information for several payment methods across many websites. E-wallets are synonymous with digital wallets. Digital wallets aim to enhance the availability of financial products and services by using the functionalities of mobile devices. They eliminate the necessity of carrying a conventional wallet by securely and conveniently storing all of a user's payment information. Digital wallets facilitate global transactions for organizations and

individuals, enabling them to accept payments, receive cash, and send or receive remittances from international contacts (Kagan, Khartit and Jiwon, 2023).

A digital wallet is an advanced technological system that allows its user to engage in online commerce, such as making payments for services, buying products from online merchants, and accessing personal bank accounts using a mobile device. An e-wallet, which is an electronic card, is utilized for making online purchases using a computer or a smart phone. It fulfils the identical function as a credit or debit card. In order to facilitate transactions, it is imperative that an individual's bank account be connected to their digital wallet (Economic, 2023). Electronic Commerce Modeling Language is utilized to generate digital wallets.

2.1.2 Economic Sustainability

Economic sustainability entails implementing measures that foster enduring economic development while preventing any detrimental consequences on the community's social, environmental, and cultural facets. Management science scholars have recently shown that economic indicators in a nation have a distinct viewpoint on economic performance. Economic sustainability is the process of protecting natural and financial resources in order to attain long-term financial stability. A system that is sustainable possesses the ability to endure over an extended period of time, with minimum adverse effects (Indeed, 2022). Economic sustainability refers to the consistent and long-term growth in key economic indices such as employment, human capital development, and job creation within a country. The formation of stable communities functioning within healthy settings relies on economic sustainability. Contributing to economic sustainable development may be achieved through several means, such as enhancing the value of existing industries, establishing robust criteria for their sustainable expansion, or improving their overall efficiency. According to Master (2022), economic sustainability involves assessing the ecological consequences of economic actions and establishing goals for sustainability in order to foster a more habitable future. Economic sustainability encompasses a wide range of business strategies and decision-making concepts that aim to accomplish economic expansion without harming the environment that have historically accompanied such expansion. The goal of sustainable development is to create functional systems that make use of natural resources, or capital, at a rate that allows for their continued usage by future generations. Sustainable practices can address the issue of people's cumulative ecological impact through many means. They have the option to prioritize the mitigation of environmental degradation or approach the problem by seeking methods to minimize waste, restrict carbon emissions, and harness solar energy. The fundamental concept behind economic sustainability is the refusal of inefficient short-term practices and the acceptance of the long-term welfare of the earth (Master, 2022).

2.1.3 Small and Medium Scale Enterprises (SMEs)

Small and Medium Scale Enterprises (SMEs) are organizations that fit within a specific size range, usually determined by characteristics such as the number of workers, yearly revenue, and total assets. SMEs exhibit variations in their definition across different countries or regions. However, they often encompass firms that are of a lesser magnitude when compared to bigger organizations (OECD, 2021).

SMEs have a substantial influence on the worldwide economies because they create jobs, encourage innovation, and propel economic expansion (World Bank, 2021). Small businesses are frequently regarded as the fundamental support system for several countries, since they offer job prospects, encourage entrepreneurial activities, and stimulate local and regional growth (OECD, 2021).

One key characteristic of SMEs is their relatively smaller size, which may result in certain advantages and challenges. For instance, SMEs are often known for their flexibility and ability to adapt to changing market conditions quickly (World Bank, 2021). They can respond to market demands, introduce new products or

services, and operate with lower overhead costs compared to larger businesses. SMEs can also foster innovation through their agility and creativity in addressing market needs.

Small and Medium Scale Enterprises (SMEs) are firms that operate within a specific size range and have a notable impact on the global economy. They are known for their flexibility and agility, but also face challenges such as limited access to finance and regulatory burdens. Supporting SMEs through targeted policies and initiatives can foster their growth and contribute to economic development.

2.1.4 Developing Economy

The term "developing economy" refers to a classification of countries that are characterized by their relatively reduced degree of economic advancement, infrastructure, and industrial development in comparison with advanced economies. These economies as a whole exhibit certain common characteristics, which help distinguish them from developed economies. While there is no universally accepted definition or criteria for developing economies, several indicators and frameworks are commonly used to conceptualize this category. The World Bank's income categorization, which is based on Gross National Income (GNI) per capita, is a widely used paradigm for categorizing emerging nations. A country is considered low-income by the World Bank if its Gross National Income (GNI) per person is \$1,045 or less. An economy is regarded lower-middle-income if its GNI per capita falls between \$1,046 and \$4,095, and upper-middle-income if it falls between \$4,096 and \$12,695 (World Bank, 2021).

Moreover, the Human Development Index (HDI), created by the United Nations Development Programme (UNDP), is an often employed measure for understanding emerging countries. A composite indicator called the HDI assesses the holistic advancement of a nation by including indicators such as income, education, and life expectancy. Countries with lower Human Development Index (HDI) scores are commonly categorized as developing economies (UNDP, 2020).

2.1.5 Competitiveness

Competitiveness in business refers to capacity to achieve a harmonious equilibrium of a company's goods and services in terms of quality as well as price. In the business context, competitiveness is the capacity of an organization to outperform its rivals in terms of revenue or clients' retention due to superior quality, price, or a mix of both (Indeed, 2023). Attaining a lasting competitive edge is an essential aspect of any business endeavours, with marketing playing a prominent part. Competition incentivizes organizations to reduce costs and operate with maximum profitability. Moreover, competition facilitates the entry of individuals into the market, enabling them to establish new businesses. It generates employment opportunities and provides individuals with a range of companies and work environments. Commercial regulation serves to reduce the necessity for governmental involvement by fostering competitiveness. A competitive free market benefits customers, society, and safeguards individual liberty. Organizational competitiveness is the ability of an organization to efficiently utilize its resources in order to deliver goods and services that exceed consumer expectations. It refers to a company's ability to effectively handle its market position in terms of both products and services, while also achieving its corporate goals. As a persistent capability, it consistently involves the efficient allocation and utilization of resources to achieve organizational goals. Hurtado (2023) defines competitiveness as the ability of enterprises to offer goods or services with a favourable quality-price ratio, resulting in high profitability and consumer preference over competitors. The company's long-term viability is ensured by its competitiveness. Various aspects must be taken into account to cultivate and evaluate competitiveness. This necessitates the firm to formulate a comprehensive strategy that integrates continuous optimization of several components in order to get the desired outcome.

2.1.6 Cost Reduction

When firms face difficulties in achieving profitability, they start accumulating debt. If this situation continues, the firm will go bankrupt before the owners become aware of it. While profitability is crucial, several organizations are apprehensive about their survival during the ongoing global economic crisis. Cost reduction, commonly referred to as cost savings or 'hard' cost savings, refers to the reductions that directly affect the company's financial performance, namely its profit or loss. Cost-saving enables a fair allocation of resources. Implementing this strategy will enable you to effectively attain your company's objectives and address any potential duplication that may arise in the future. Additionally, it will enhance operational efficiency and financial gains while mitigating its ecological impact (Fyle, 2021). The measurable nature of these cost reductions makes them very noticeable and significant, as they align with the notion that one cannot effectively manage anything that cannot be measured. Cost savings refers to the benefit obtained by implementing measures to reduce an organization's total spending on assets, which directly impacts its financial performance. Possible cost-saving strategies might involve enhancing production and securing lower procurement expenses. Oyerogba, Olaleye & Solomon (2016) concluded that in order to attain the objectives of profit maximization and wealth creation in an organization, it is necessary to implement a cost reduction plan that focuses on reducing production overhead costs and administrative overhead costs. The primary focus of strategic cost reduction is allocating resources to areas where they may provide the highest return, rather than only focusing on cost reduction.

Long-term cost reductions can be achieved through targeted initiatives and lean methodologies that identify and eliminate expenses stemming from cost drivers. These savings are referred to as sustained cost savings. Sustainable cost-reduction programmes prioritize the implementation of methods that enable ongoing enhancement in an organization's cost management, as opposed to temporary cost-saving strategies that may result in negative consequences instead of actual savings. Anticipated cost-cutting initiatives are expected to be performed without compromising either profitability or a company's ability to fulfil long-term goals. The present challenge is in effectively reducing superfluous expenses while maintaining a thriving organization (Dikko, 2020).

2.2 Theoretical Framework

2.2.1 Technology Acceptance Model (TAM)

The appropriate theoretical framework for this study is the Technology Acceptance Model (TAM) developed by Davis in 1989. TAM is a widely known theoretical model that clarifies the elements influencing people's adoption and usage of technology. This theory suggests that the perceived utility and simplicity of a technology have a substantial impact on users' willingness to accept and use it. Within the framework of digital wallets, including SMEs in a developing economy, Technology adoption Model (TAM) may be employed to comprehend the elements that impact the adoption and usage of digital wallets by SMEs.. The theory suggests that if SMEs perceive digital wallets as useful in terms of improving their financial operations, enhancing customer experience, and accessing new markets, they are more likely to adopt and utilize this technology. Similarly, if SMEs perceive digital wallets as easy to use, with minimal barriers and complexities, they are more likely to embrace and integrate this payment system into their business operation (Davis, 1989).

2.2.2 Implication

The adoption of TAM to the topic of digital wallet adoption and economic sustainability of SMEs in a developing economy has several implications such as: promoting awareness and education, user-friendly design, demonstrating value proposition, addressing trust and security concerns, enabling infrastructure and

connectivity as well as tailored support and training. By considering the implications of the Technology Acceptance Model, stakeholders can foster a favorable environment for SMEs in developing economies to embrace digital wallets, leading to improved economic sustainability, operational efficiency, and market competitiveness.

2.3 Empirical Review

Abdullahi, and Fakunmoju, (2017) conducted a research on the contribution of small and medium-sized businesses and financial inclusion to sustainable economic growth in Nigeria. The Ordinary Least Squares method was used on the data. According to the study, financial additions have a favorable impact but have little bearing on 5% sustained economic development. In accordance with the results of the study, SMEs have a strong likelihood of boosting sustainable growth provided the monetary authorities properly implement all the financial inclusion measures.

In their 2021 study, Kwabena, Qiang, Ghumro, Wenyan, and Erusalkina examined the impact of a technological-organizational-environmental (TOE) factor on adoption of mobile payment system (MPS). This study utilized a closed-ended survey to gather data throughout the period of January 2020 to April 2020. This work employed a structural equation modelling (SEM) technique, specifically employing Smart PLS 3.0 software, to conduct route analysis on a dataset consisting of 145 answers. The study's results indicate that variables such as technology advantages (relative advantage and compatibility), organizational support (top management support and workforce readiness), and environmental factors (social impact and competitive pressure) all have statistically significant impacts on the adoption of MPS. This study has also demonstrated the advantageous and considerable influence of MPS on the performance of SMEs. It was also found that the TOE factor explains 70% of the variation in MPS adoption.

Hardioko, Titalessy, and Krisanta (2021) did a study on the motivation behind the use of digital wallets among the younger generation during the Covid-19 pandemic. A total of 394 participants that utilize e-wallets in Yogyakarta and fall between the ages of 16 to 30 were enlisted for this study. The findings of the structural equation modelling (SEM) test indicate that perceived usefulness and behavioural intention have a significant influence. However, the adoption of e-wallets is minimally affected by factors such as perceived ease of use, privacy and security, and promotional programmes.

Vinod and Jayadatta (2020) did a theoretical research on the impact of technology on the digitization of the economy, with a particular focus on digital wallets and digital payments in the current situation. The growth of mobile commerce, which involves buying goods or services via mobile technology, in today's technologically advanced and digitally empowered world, heavily relies on the acceptance, accessibility, and reliability of mobile wallet systems. Major philanthropic organizations such as the Bill & Melinda Gates Foundation, the United States Agency for International Development and Mercy Corps utilize mobile payments. Mobile payment solutions have been used to offer financial services to the population in developing nations, particularly in India, who are either unable or have restricted access to standard financial services. The study aims to emphasize different mobile payment methods, capacities as well as difficulties, and potential expansion and prospects of digital wallets and mobile payments in relation to technological advancements and breakthroughs.

3 METHODOLOGY

The study utilised a descriptive survey research approach, which involved collecting data from both primary and secondary sources. Southeast Nigeria, which lies between latitudes 4°20' and 7°25' north of the equator and longitudes 6°37' and 8°28' east of the Greenwich Meridian, is where the research was conducted. This

geographic region encompasses the states of Abia, Anambra, Ebonyi, Enugu, and Imo, with their respective capital cities being Umuahia, Awka, Abakaliki, Enugu, and Owerri. Ibo is the primary language used by the inhabitants of South East Nigeria. The region's states are closely connected on a social, cultural, and economic level. The southernmost region of Nigeria is known as South East Nigeria. It is one of Nigeria's six geopolitical regions. South South, South West, North West, North East, and North Central are the other geopolitical zones.

Population of the study is seven thousand, nine hundred and ninety-two (7,992) operators of registered SMEs with the Corporate Affairs Commission in states. This population was made the focal study group because they operate different electronic wallets and therefore sufficiently knowledgeable to attend to the questionnaire. Three hundred and sixty-seven (367) respondents were determined as the sample for the study using the Freund and William's statistic formula. The data gotten with the use of structured questionnaire was analysed and presented in descriptive tables to show the frequency and percentage of responses from the respondents. The study employed linear regression analysis to examine the hypotheses. The analysis used the statistical package for social sciences (SPSS) version 26 as the statistical instrument.

4 ANALYSIS

4.1 Data Presentation

Objective One

To Examine the Impact of Quick Teller-Wallet on Competitiveness of SMEs in South East, Nigeria.

Table 4.1.1

Options	SA Freq(%)	A Freq(%)	U Freq(%)	D Freq(%)	SD Freq(%)	Mean	Std
Quick Teller e-wallet has affected the competitiveness of my firm in terms of transaction efficiency and speed	174(53.7)	125(38.6)	15(4.6)	3(0.9)	7(2.2)	1.59	0.81
Quick Teller e-wallet positively influenced the accessibility of financial services for my firm, enabling us to compete more effectively in the market	168(51.9)	123(38.0)	7(2.2)	17(5.2)	9(2.8)	1.69	0.95
Quick Teller e-wallet positively influenced the accessibility of financial services for my firm, enabling us to compete more effectively in the market	192(59.3)	115(35.5)	10(3.1)	2(0.6)	5(1.5)	1.50	0.73

Source: Field Survey, 2023.

Table 4.1.1 shows the response of the respondents on the impact of quick teller e-wallet on competitiveness of SMEs in South East, Nigeria. 174(53.7%) of the respondents strongly agree that quick Teller e-wallet has affected the competitiveness of their firm in terms of transaction efficiency and speed, 125(38.6%) of them agree, while 15(4.6%) of them were undecided to the assertion, 3(0.9%) of them disagreed and 7(2.2%) of them strongly disagree. With the mean and standard deviation of 1.59 ± 0.81 , it implies that majority of the respondents strongly disagree that quick Teller e-wallet has affected the competitiveness of

their firm in terms of transaction efficiency and speed. Also, the table show that 168(51.9%) of the respondents strongly agree that quick teller e-wallet positively influenced the accessibility of financial services for their firm, enabling us to compete more effectively in the market, 123(38.0%) of them agree, whereas 7(2.2%) of them were undecided to the assertion, 17(5.2%) of them disagreed and 9(2.8%) of them strongly disagree. With the mean and standard deviation of 1.69 ± 0.95 , it implies that majority of the respondents strongly agree that quick teller e-wallet positively influenced the accessibility of financial services for their firm, enabling us to compete more effectively in the market. Furthermore, the table show that 192(59.3%) of the respondents strongly agree that quick teller e-wallet positively influenced the accessibility of financial services for their firm, enabling us to compete more effectively in the market, 115(35.5%) of them agree to this, while, 10(3.1%) of them were undecided to this assertion and 2(0.6%) of them disagree, 5(1.5%) strongly disagree. With the mean and standard deviation of 1.50 ± 0.73 , it implies that majority of the respondents strongly agree that quick teller e-wallet positively influenced the accessibility of financial services for their firm, enabling us to compete more effectively in the market.

Objective Two

To ascertain the effect of Opay e-wallet on cost reduction of SMEs in South East, Nigeria

Table 4.1.2

Options	SA Freq(%)	A Freq(%)	U Freq(%)	D Freq(%)	SD Freq(%)	Mean	Std
The utilization of Opay e-wallet has contributed to cost reduction within my firm's operations, particularly in terms of transaction fees and processing expenses	189(58.3)	105(32.4)	15(4.6)	9(2.8)	6(1.9)	1.57	0.85
The introduction of Opay e-wallet has enabled my firm to streamline financial processes, reduce manual tasks, and subsequently decrease operational costs	182(56.2)	111(34.3)	10(3.1)	6(1.9)	15(4.6)	1.65	0.98
The integration of Opay e-wallet has impacted the overall financial efficiency of my firm, resulting in reduced expenses and increased cost-effectiveness	162(50.0)	135(41.2)	11(3.4)	12(3.7)	4(1.2)	1.65	0.82

Source: Field Survey, 2023.

Table 4.1.2 shows the response of the respondents on the effect of Opay e-wallet on cost reduction of SMEs in South East, Nigeria. It shows that 189(58.3%) of the respondents strongly agree that the utilization of Opay e-wallet has contributed to cost reduction within their firm's operations, particularly in terms of transaction fees and processing expenses, 105(32.4%) of them agree to this, whereas 15(4.6%) of them were undecided to this assertion and 9(2.8%), 6(1.9%) of them strongly disagree. With the mean and standard deviation of 1.57 ± 0.85 , it implies that majority of the respondent strongly agree that the utilization of Opay e-wallet has contributed to cost reduction within their firm's operations, particularly in terms of transaction fees and processing expenses. Also, the table show that 182(56.2%) of the respondents strongly agree that the introduction of Opay e-wallet has enabled their firm to streamline financial processes, reduce

manual tasks, and subsequently decrease operational costs, 111(34.3%) of them strongly agree, while 10(3.1%) were undecided to this assertion and 6(1.9%) of them disagreed, 15(4.6%) of them strongly disagreed. With the mean and standard deviation of 1.65 ± 0.98 , it implies that majority of the respondents strongly disagree that the introduction of Opay e-wallet has enabled their firm to streamline financial processes, reduce manual tasks, and subsequently decrease operational costs. Finally, the table shows that 162(50.0%) of the respondents strongly agree that the integration of Opay e-wallet has impacted the overall financial efficiency of their firm, resulting in reduced expenses and increased cost-effectiveness, 135(41.2%) of them agree, whereas 11(3.4%) of them were undecided to this assertion and 12(3.7%) of them disagreed, 4(1.2%) strongly disagreed. With the mean and standard deviation of 1.65 ± 0.82 , it implies that majority of the respondents strongly agree that the integration of Opay e-wallet has impacted the overall financial efficiency of their firm, resulting in reduced expenses and increased cost-effectiveness.

4.2 Testing of Hypotheses

Hypothesis One

H₁: Quick teller e-wallet does have a significant effect the competitiveness of SMEs in South East, Nigeria

H₀: Quick teller e-wallet does not have a significant effect the competitiveness of SMEs in South East, Nigeria.

Table 4.2.1. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.801 ^a	.642	.641	.57084	.587

Source: SPSS Version 26

a. Predictors: (Constant), Quick Teller e-wallet

b. Dependent Variable: Competitiveness

Table 4.2.2. ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	188.210	1	188.210	577.589	.000 ^b
	Residual	104.925	322	.326		
	Total	293.136	323			

Source: SPSS Version 26

a. Dependent Variable: Competitiveness

b. Predictors: (Constant), Quick Teller e-wallet

Table 4.2.3. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.283	.067		4.253	.000
	Quick Teller e-wallet	.895	.037	.801	24.033	.000

Source: SPSS Version 26

a. Dependent Variable: Competitiveness

Result Summary

$R = .801$, $R^2 = .642$, $F = 577.589$, $T = 24.033$, $DW = .587$

Interpretation of the Result

A linear regression study was conducted to examine the impact of the quick teller e-wallet on the competitiveness of small and medium-sized firms (SMEs) in the South East area of Nigeria. The results shown in tables 4.2.4 – 4.2.6 demonstrate a strong and positive association between the utilization of quick teller e-wallet and the competitiveness of small and medium-sized firms (SMEs), as evidenced by an R-coefficient of .801. The R square, or coefficient of determination, signifies that 64.2% of the variance in the competitiveness of SMEs can be explained by the utilization of quick teller e-wallet. Furthermore, the absence of autocorrelation is evident from the Durbin-Watson statistic of 0.587, which is below the threshold of 2. The linear regression model exhibits a relatively low error of estimate, namely about .57084. The regression sum of squares, 188.210, is more than the residual sum of squares, 104.925, indicating that the observed variation is mostly due to random causes. The F-statistic of 577.589 demonstrates that the model has a high level of statistical significance. The investigation demonstrates a significant and positive link (with a correlation coefficient of .801) between the utilization of quick teller e-wallet and the competitiveness of small and medium-sized firms (SMEs). The association is statistically significant, as evidenced by a t-value of 42.420 and a p-value of .000, both of which are below the significance level of 0.05.

Decision Rule

Reject null hypothesis (H_0) if P-Value < 0.05 and do not reject H_0 if otherwise

Decision

Since the P-Value $.000 < 0.05$, we reject the null hypothesis (H_0) and then conclude that quick teller e-wallet does have a significantly affect the competitiveness of SMEs in South East, Nigeria.

Hypothesis Two

H₁: Opay e-wallet does have a significant effect on cost reduction of SMEs in South East, Nigeria.

H₀: Opay e-wallet does not have significant effect on cost reduction of SMEs in South East, Nigeria.

Table 4.2.4. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.797 ^a	.636	.635	.51911	.815

Source: SPSS Version 26

a. Predictors: (Constant), Opay e-wallet

b. Dependent Variable: Cost reduction

Table 4.2.5. ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	151.485	1	151.485	562.148	.000 ^b

Residual	86.771	322	.269		
Total	238.256	323			

Source: SPSS Version 26

a. Dependent Variable: Cost reduction

b. Predictors: (Constant), Opay e-wallet

Table 4.2.6. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.475	.058		8.126	.000
	Opay e-wallet	.735	.031	.797	23.710	.000

Source: SPSS Version 26

a. Dependent Variable: Cost reduction

Result Summary

$R = .797$, $R^2 = .635$, $F = 562.148$, $T = 23.710$, $DW = .815$

Interpretation of the Result

A linear regression analysis was performed to determine the impact of Opay e-wallet on the reduction of costs for small and medium-sized enterprises (SMEs) in the South East region of Nigeria. The data shown in tables 4.2.4 - 4.2.6 demonstrates a significant and positive correlation between the use of Opay e-wallet and the decrease of costs for small and medium-sized enterprises (with an R-coefficient of .797). The R square, or coefficient of determination, indicates that 63.5% of the variability in cost reduction of SMEs can be attributed to Opay e-wallet. Additionally, there is no autocorrelation, as seen by the Durbin-Watson statistic of 0.815, which is less than 2. The linear regression model has a modest error of estimation, around .51911. The regression sum of squares, which is 151.485, exceeds the residual sum of squares, which is 86.771, suggesting that the observed variance is primarily attributed to random chance. The F-statistic of 562.148 indicates that the model is statistically significant. The study found a strong positive association between the distribution of Opay e-wallet and the cost reduction of SMEs. The statistical analysis showed a significant correlation ($t = 42.420$) with a p-value of .000, which is lower than the significance level of 0.05.

Decision Rule

Reject null hypothesis (H_0) if P-Value < 0.05 and do not reject H_0 if otherwise

Decision

Since the P-Value $.000 < 0.05$, we reject the null hypothesis (H_0) and then conclude that opay e-wallet does have a significantly effect on cost reduction of SMEs in South East, Nigeria.

5 DISCUSSION

The first objective was to examine the impact of quick teller e-wallet on competitiveness of SMEs in South East, Nigeria. To achieve this objective, regression analysis was carried out between quick teller e-wallet and competitiveness of SMEs. The result revealed that quick teller e-wallet have a significant affect the competitiveness of SMEs in South East, Nigeria ($r = .801$; f-statistics = 577.589; $t = 42.420$; $p = .000 < 0.05$). This outcome aligns with the research done by Kwabena, Qiang, Ghumro, Wenyan, and Erusalkina (2021) on the impact of a Technological-Organizational-Environmental Factor on the acceptance of the

Mobile Payment System. The study revealed that many factors, including technology aspects such as relative advantage and compatibility, organizational elements such as top management support and staff readiness, and environmental factors such as societal impact and competitive pressure, all had statistically significant impacts on the adoption of MPS. The second objective was to ascertain the effect of opay e-wallet on cost reduction of SMEs in South East, Nigeria. To achieve the objective, regression analysis was also carried out between opay e-wallet and cost reduction of SMEs. The result show that opay e-wallet have a significantly effect on cost reduction of SMEs in South East, Nigeria ($r = 797$; $f\text{-statistics} = 562.148$; $t = 42.420$; $p = .000 < 0.05$). This discovery aligns with the research undertaken by Herdioko, Titalessy, and Krisanta (2021) on the motivation behind the use of digital wallets among the younger population during the Covid-19 pandemic. The findings of the structural equation modelling (SEM) test indicate that perceived usefulness and behavioural intention have a significant influence. However, the adoption of e-wallets is minimally affected by factors such as perceived ease of use, privacy and security, and promotional programmes.

6 CONCLUSION AND IMPLICATIONS

The study concludes that both Quickteller e-wallet and Opay e-wallet have a substantial influence on enhancing the competitiveness and minimizing costs for SMEs in South East, Nigeria. Digital wallets play crucial roles in transforming the business landscape for SMEs in South East, Nigeria. These e-wallet platforms provide SMEs with enhanced competitiveness and cost reduction opportunities, empowering them to thrive in a rapidly evolving digital economy. Embracing such digital financial solutions is vital for SMEs to adapt to changing market dynamics, improve operational efficiency, and achieve sustainable economic growth in the South East region of Nigeria. However, other digital platforms like Palpal, Alipay, dotpay, monie point, etc. should be equally be investigated.

7 LIMITATIONS AND FURTHER STUDIES

This study focused primarily on digital wallet adoption and economic sustainability of SMEs in developing economy, using South East Nigeria as a study area. Future studies can be carried out in other regions of Nigeria.

AUTHOR DECLARATIONS

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Applicable.

Authors' Data Availability Statement: The qualitative data utilized for this study will be made available upon reasonable request.

Conflicts of Interest: The authors declare no conflict of interest.

Declarations: All authors have read and agreed to the published version of the manuscript.

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