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The mediating Role of Service Quality on the Relationship between E – banking Services and Customer Satisfaction among Small and Medium Scale Enterprises in Adamawa State, Nigeria

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Abstract
The study explored the mediating role of service quality on the relationship between e – banking services and customer satisfaction among selected small and medium scale enterprises in Adamawa State. Two hypotheses were formulated and tested; to ascertain the mediating effect of services quality on the relationship between e – banking and customer satisfaction. The population of the study was 200 which consist of selected SMEs owners/managers in Adamawa State and the sample of 133 respondents was determined using Taro Yamane sampling technique questionnaires were utilized as an instrument for data collection and analysed using Hayes Process Macro via IBM Spss version 27. The results indicated that services quality significantly and positively mediates the relationship between e – banking services and customer satisfaction. It's also revealed that e – banking services predicts customer satisfaction both directly and indirectly through a mediator. The study recommended that e – banking service providers should improve their e – banking services quality and reliability, in order to attract more customers and earn brand loyalty.

Keywords: E – banking, Service Quality, Customer Satisfaction, SMEs

Introduction

The adoption of internet-based services has now penetrated most industries across developed, emerging and pre-emerging economies (Khan & Alhumoudi, 2022; Naeem & Ozuem, 2021). E – Banking is referred as the provision, delivery and consumption of financial services using the internet and web-based applications (Al-Hawari, 2014; Shankar & Jebarajakirthy, 2019). Building competitive advantage by enhancing customer relationships through digital services capes has been recently popularized due to rapid developments in electronic commerce and globalisation (Ezechirinum et al., 2020). However, the eruption of the COVID-19 pandemic also reinforced e-banking adoption especially in developing economies such as Nigeria (Chowdhury et al., 2022; Dangaiso et al., 2022). Most banks have since made concerted efforts to revamp their digital banking capabilities (Bala et al., 2021; Chavda, 2021; Sudarsono et al., 2020).

E – Banking has seen exponential growth in the recent decades marking a significant transformation in the delivery of financial services (Indrasari et al., 2022). According to the World Bank (2021), 51% of adults in developing countries owned e-bank accounts, rising to 68% in 2017 and 76% in 2021. The Global Findex 2021 database shows that 71% of all people in developing countries had bank accounts with digital services (World Bank, 2021). More so, digital payments saw the biggest growth in developing countries as two 2/3 (66.6%) make or receive digital payment (World Bank, 2021). Similarly in Nigeria more than 40 % of the Nigerian population makes use of digital payment for goods and services (Punch, 2025).

The number of digital banks worldwide has seen significant growth over the past decade, increasing nearly fivefold from 48 in 2014 to 235 in 2023, this surge reflect the rapid adoption of digital financial services and the changing landscape of the banking industry. The raise of neobanks, particularly in countries like USA and Brazil has been a singular driver of these trends; webank the Chinese digital bank dominated the neobank market in 2024 with unprecedented 399 million customers at the end of 2023, the bank robust growth extended to its financial performance with webank profit exceeding 10 billion Chinese Yuan in 2023. Rakuten followed with 145.4 million customers as of Sept. 2024. In 2024, South Korea had the highest E – banking penetration (Statista, 2025); as at 2020 the number of E – banking users worldwide reached 2.6 billion (Statista, 2023). Thus, in 2025 the number of people are using E – banking platforms rapidly rose to 3.6 billion and is expected to rise by 14.04% annually to reach 22.30 billion by 2030 (Mitic, 2025).

Service quality is a multidimensional concept that encompasses several variables that contribute to a customer overall perception of the service experience. In the context of E – banking, service quality can consist several aspect that include ease of use, security, reliability, speed, responsiveness and availability of customer support (Tedjokusumo & Murhadi, 2023; Khan et al., 2023; Sherwani et al., 2024). However, the quality of service provided through digital platforms plays significant role in shaping customers perception of the banking experience (Arora & Banerji, 2024; Shamil et al., 2023). Similarly, service quality indicates how well a service satisfies customers' expectations (Ghobadian, Speller, & Jones, 1994 Service quality is critical in the field of digital banking since it has a direct impact on satisfaction and loyalty (Ayinaddis, Taye, & Yirsaw, 2023). In today's highly competitive and digitized environment, a seamless digital banking experience serves as a key differentiator and assists in assuring customer retention (Al-Araj, Haddad, Shehadeh, Hasan, & Nawaiseh, 2022). Service quality significantly affects the sustainability and profitability of digital banking enterprises by bridging the gap between technological innovation and customer expectations.

Customer satisfaction is an essential concept in service quality assessment, and it is an important aspect of comprehending the delicate relationship between service quality dimensions, customer experience and subsequent customer loyalty (Nobar & Rostamzadeh, 2018). Customer satisfaction is the contentment and fulfillment that a customer obtains from their interactions with the services offered by a business (Wulandari, 2022). Customer satisfaction, as defined by Oliver (1980) is a reflective assessment that includes a customer's perceptions of the value obtained about their initial expectations. The relationship between perceived value and expectations is the foundation for customer satisfaction assessments, emphasizing the significance of service quality components in the formation of customers' opinions.

This study aim to explore on how service quality act as a mediating variable on the relationship between E – banking and customer satisfaction. Thus, service quality could potentially explain how e – banking components and services influence customer satisfaction with the banking experience. For instance, even if an E – banking platforms offer all the technological advancements and services, poor service quality such as slow responses time, security issues, difficulties in navigation could negative affect customer satisfaction. However, understanding the mediating role of service quality can aid banks and financial institutions in identifying critical areas for improvement in their digital services, by enhancing the aspect of service quality such as interface design, security measures and customer support can increase customer satisfaction leading to higher levels of customer retention, loyalty and overall success.

However, this study seeks to provide insight into how service quality mediates the relationship between E – banking and customer satisfaction, which could help bank optimize their digital service and strategies to attained customer expectations and enhance satisfaction in highly competitive banking sector.

Statement of the Problem

Despite the widespread adoption of E – banking among Small and medium Scale Enterprises (SMEs), many banks struggle to convert this digital engagement into higher levels of customer satisfaction, while E – banking offer convenience, speed and accessibility, these advantages do not always translate into positive customer experience (Bashir et al., 2023; Arora & Banerji, 2024). This consistency suggests that other variables may influence the relationship between E – banking and customer satisfaction and one of such critical variable is service, which comprises of responsiveness, reliability, security and assurance in service delivery (Khatoon et al., 2020; Kareem et al., 2023). Although research in the domain of internet banking service quality, customer satisfaction and retention has since developed rapidly, the World Bank (2021) reports that 1.4 billion people are still unbanked, due to low customer response rate has been attributed to poor service quality, poor technology infrastructure, lack of trust, high perceived risk, poor task-technology fit, constrained access to internet services, online customer disappointments, negative attitudes, low skill set, customer phobias and lack of financial resources (Chavda, 2021; Khan & Alhumoudi, 2022; Madziro & Ncube, 2021).

According to Harvey et al., (2024) Mobile money adoption amongst MSMEs is equally lagging behind, despite MSMEs employ over 80 per cent of the population and contribute about 46.3% per cent to Nigeria's Gross Domestic Product GDP (PwC Report, 2024). With only 16% of micro entrepreneurs having a e – banking account. A key driver of lack of adoption in Nigeria is awareness of the workings and the benefits of mobile and digital technologies. In the more mature e – banking markets of Ghana, Kenya and Senegal, awareness of e – banking among men and women micro entrepreneurs is almost universal. However, in Nigeria awareness is much lower at 62% on average, with a significant gap between men and women entrepreneurs.

Previous studies have predominantly focused on the direct relationship between E – banking and customer satisfaction, such studies include; Ijeoma et al., 2020; Kristian & Nugraha, 2021; Gonu et al., 2023; Dangaiso et al., 2024). Similarly, studies conducted by; Arora & Banerji, 2024; Thuy et al., 2024; Bashir et al., 2023; explored customer satisfaction as a mediating variable. Therefore, with limited studies has explored whether service quality mediate this relationship, especially among SMEs owners who have unique banking needs compared to ordinary individual customers. Understanding this mediating role is crucial for banks aiming to enhance the effectiveness of their E – banking platforms to improve satisfaction among SMEs owners is crucial. This study seeks to investigate whether and how service quality mediates the impact of E – banking on customer satisfaction among SMEs owners in Adamawa State, Nigeria.

Hypotheses of the Study

Null Hypotheses were formulated in order to achieve the objectives of the study as follows;

$H_0$1: service quality does not significantly mediate the relationship between e – banking services and customers satisfaction among selected SMEs owners/managers in Adamawa State.

$H_0$2: there is no significant direct effect of e – banking services on customer satisfaction among selected SMEs owners/managers in Adamawa State.

Literature Review

Customer Satisfaction

According to (Schiffman & Wisenbilt, 2019), customer satisfaction is the customer's perception of the performance of a product or service about customer expectations. Ayinaddis et al., (2023) states that customer satisfaction has a positive and significant influence on customer loyalty, suggesting that customer loyalty can be achieved through higher satisfaction levels (UI Haq & Awan, 2020). Satisfaction as a term can be defined as a post-consumption or evaluative approach that differs from the hedonic spectrum and focuses on the product (Glowa, 2014). Customer satisfaction or dissatisfaction is a cognitive or affective reaction that surfaces in the form of a response to a single or prolonged series of service experiences. Murad (2021) assumed that there were three key components of customer satisfaction, namely: cognitive, affective, or conative; the topic to which the response was directed; and the length of the assessment. In the literature, however, there are two main interpretations of satisfaction: satisfaction as a process and satisfaction as a result (Gustafsson et al., 2015). Satisfaction can therefore be characterized as an appraisal judgment of preference relating to a particular purchase decision

E – Banking Services

According to Mohammed (2019), E – banking is the systematic process comprised computers and telecommunications by which the process of banking can be done without direct human interaction. Several forms of services such as SMS banking, electronic alerts, online banking, and mobile banking have been included under e – banking (Das 2020). E – banking services is used to describe the activity of dealing with various monetary transactions via the internet, such as wire transfers data viewing on current accounts, bill payments, checking the balance of savings accounts, buying financial instruments and investing in Certificates of Deposit and Loans (Kashyap et al., 2024; Masud, Gazi, et al., 2023). The proliferation of online banking has changed the way people do their banking and provided new strategic directions for those who want to invest when it comes to ICT in the banking industry (Opara-Martins et al., 2016). Since it allows them to sell and deliver services or items online more affordably, quickly and simply, e-banking benefits both banks and their customers. Additionally, it permits users to do financial transactions online from anywhere in the world (Gupta et al., 2021; Masud, et al., 2023).

Service Quality

Service quality refers to the difference between what customers expect from a service and the actual performance of that service (Parasuraman et al., 1988). It serves as an effective tool for gaining a competitive edge in the service industry, like the banking sector (Woratschek et al., 2019). Customers see the standard of products and services the bank provides as a critical factor in their decision-making when choosing a bank. Customer loyalty is greatly influenced by the bank's continual provision of high-quality service. This perception is formed through the interactive process between clients and bank professionals. A competitive advantage arises from the ongoing enhancement of the quality and reliability of an organization's products (Bahadur et al., 2018; Iqbal et al., 2018). Consequently, when customers are pleased with the firm's service quality, they are likely to make repeat purchases. Banks distinguishes itself from its competitors by exceptional service quality (Garepasha et al., 2020).

E – Banking Services and Service Quality

Adepoju and Adeniji (2020) proposed that strongly desire banking services that are reliable and consistent, mainly when delivered through online platforms, reflecting the growing importance of digital channels in the banking industry. In the context of e-banking transactions specified by customers, efficiency is associated with completing the maximum number of transactions (Kashyap et al., 2024; Masud et al., 2013). Highlighting the online realm, Adepoju and Adeniji (2020) assert that establishing online credibility is pivotal in enhancing consumer loyalty and engagement with a business's offerings. Users in the online service domain prioritize platforms that demonstrate credibility, neutrality and robust privacy policies before entrusting sensitive information (Nabi, et al., 2022). As indicated by Sarstedt et al. (2014), empirical findings affirm the statistically significant relationship between efficiency, reliability, and customer satisfaction.

E – Banking services and Customer Satisfaction

Rahi and Ghani (2019) stated that time-saving and prompt need fulfillment make the customer engaging chances higher for satisfaction. The pressure of limited banking hours and the huge time taking process can be managed with the electronic banking process. Without a physical presence, customers can be linked with their bank services which increase their satisfaction level (Kumar 2022). Improved quality of electronic banking and their operational strategy make their service satisfying for their customers (Nazaritehrani & Mashali 2020). Further, customer satisfaction is a vital result of the excellence of e-banking services, indicating the degree to which buyer expectations are satisfied or exceeded. Studies have recognised a direct association between the superiority of e-banking services, customer happiness, and the loyalty of buyers (Alawneh et al., 2021). Sathiyavany and Shivany (2018), found that greater levels of e-banking service quality caused in higher levels of consumer satisfaction and loyalty.

Quality and Customer Satisfaction

Service quality dimensions precede customer satisfaction, and both responsiveness and assurance, along with direct evidence, reliability, and empathy, significantly affect customer satisfaction (Slack et al., 2020). The relationship between customer orientation and service quality is important, particularly for companies where services are standardized, inseparable, and low in complexity (Black et al., 2014). Effective service quality can attract customers to engage in online purchases, while subpar quality lead to customer dissatisfaction. Enhancing the service quality system is crucial for sustained success (Pradnyadewi & Giantari, 2022).

Electronic service quality showed a favorable impact on the satisfaction of customers, their intentions to repurchase, and their word-of-mouth recommendations among online shoppers (Blut et al., 2015). Tsao et al. (2016) examined the influence of e-service quality on loyalty through the lens of online shopping experience in Taiwan. Their findings revealed that system quality and electronic service quality exerted notable impacts on perceived value, and then which played a significant role in shaping online loyalty. The foundation of customer satisfaction in banking services lies in the initial trust between the bank and the consumer, with the aim of providing quality service at a lower transaction cost (Shankar & Jebarajakirthy, 2019).

Methodology

This study adopted descriptive survey research design. According to Newsted et al., (1998), the survey method is valuable for assessing opinions and trends by collecting quantitative data. The sample size consist of 133 respondents were selected using Taro Yamane sampling technique from the population of 200 SMEs owners/managers, that consist of 10 – Gas Filling stations Managers, 70 - PMS Filling Stations Managers, 20 – Hotels Managers, 30 – Restaurants owners, and 70 – Provisions Shops owners in Adamawa State. Questionnaires are the research instruments employed for the purpose of collecting primary data for the study. However, questions for the measurement of the variables of the study were adapted from previous studies. Thus, the study will adapted measurement instrument developed by Abualsauod & Othman (2020) and UI Hag & Awan (2020) to measure service quality and instruments developed by UI Hag & Awan (2020), Ijeoma et al., (2020) and Aslam et al., (2019) to measure E – banking, so also instruments developed by Zhao et al., (2021), Xu et al., and UI Hag & Awan (2020) will employed to measure customer satisfaction. The reliability of the instrument was measured using Cronbach Alpha Coefficient techniques and the reliability coefficients lies between 0.78 and 0.87. Data normality test was confirmed using histogram and scatter plots. However, data analysis was performed using Hayes Process Macro via IBM SPSS v. 27.

Result and Discussion

Table 4.1 Result

Relationship	Effect	Confidence Interval			
		LLCI	ULCI	$T_{Statistics}$	P_{value}
Total Effect	0.3801	0.2776	0.4825	7.324	0.0000
EB - SQ - CS	0.2291	0.1228	0.3616	-	-
EB - CS	0.1510	0.0408	0.2611	2.7054	0.0075

Source: Hayes Process via SPSS, 2025

Table 4.1: above summaries the direct and indirect effects of E – banking services on customer satisfaction among SMEs owners in Adamawa State through service quality; the total effect of e-banking services on customers satisfaction is significant (Effect = 0.3801, P_{Value} = 0.0000), with a confidence interval of 0.2776 to 0.4825. The direct effect of e – banking on customers satisfaction remains significant even when accounted for mediator (Effect = 0.1510, P_{Value} = 0.0075), suggesting that e – banking services enhances customers satisfaction both directly and indirectly through service quality as the mediating variable. However, the mediation is partial.

Hypothesis 1 (H_o1): Service quality as a mediator

Hypothesis 1(H_o1); state that service quality does not significantly mediate the relationship between e – banking services and customers satisfaction among selected SMEs owners/managers in Adamawa State; the finding revealed that service quality significantly and positively mediate the relationship between e – banking services and customers satisfaction (Effect = 0.2291 and CI = 0.1228 to 0.3616). However, e – banking services significantly influence services quality with effect of 0.4411, while service quality significantly and positively influences customer satisfaction with effect of 0.5194. Therefore, H_o1 is rejected in favour of alternate hypothesis (H_i). The finding is consistent with the findings of previous studies (Azhar, et al,. 2024; Tedjokusumo & Murhadi, 2023; Dangaiso et al,. 2024; Pradnyadewi & Giantain, 2022; Kumar, 2022)

Hypothesis 2 (H_o2): direct effect of e – banking services on customer's satisfaction

Hypothesis 2 (H_o2): posits that there is no significant direct effect of e – banking services on customer satisfaction among selected SMEs owners/managers in Adamawa State. The result revealed that there is positive significant direct effect of e – banking services on customer satisfaction (Effect = 0.1510, P_{Value} = 0.0075). Hence, $(\mathbf{H_o2})$ is rejected, this significant direct effect indicate that e - banking services directly enhances customer satisfaction. The findings indicate that e – banking services mediated by services quality enhances customer's satisfaction beyond the direct effect.

Conclusion

In conclusion, the study explored the mediating effect of service quality on the relationship between e – banking service and customers satisfaction and it revealed that e – banking services not only has a direct positive effect on customer satisfaction, but also exerts significant indirect effects through service quality. Furthermore, these finding emphases a vital way through which e – banking services impact customer's satisfaction, loyalty and patronage through reliable, efficient and effective services quality.

Suggestions for Future Studies

The study suggest that similar study should be conducted in a different context and sectors employing broader sample size in order to enhance the generality of study findings.

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