

**TECHNOLOGICAL ADOPTION AND OPERATIONAL PERFORMANCE OF COMMERCIAL
BANKS IN YENAGOA, BAYELSA STATE**

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ABSTRACT

This study looked at how technology adoption and operational performance metrics, such as customer happiness, product/service quality, and new product introduction, relate to Bayelsa State's commercial banks. This study used a survey research design approach, which includes conducting interviews and using questionnaires. One hundred and five (105) people made up the study's sample size and population. They were drawn from 15 commercial banks in the state of Bayelsa and served as the study's respondents. The Spearman rank-order correlation coefficient was employed in the study to examine the data and evaluate the hypotheses. The findings indicated a strong and favorable correlation between Bayelsa State's commercial banks' operational performance and their use of new technologies. Accordingly, the research suggested that companies implementing new technology give their staff members' sufficient and pertinent training on how to use cutting-edge tools to improve productivity.

Keywords: *technological adoption and operational performance.*

INTRODUCTION

Numerous organizations have seen a significant transformation as a result of technology adoption. It is significant because most people were able to engage in a world that was changing quickly and where technology now plays a major role in daily life thanks to it. The financial and convenience benefits that come with technology will become more and more limited for people and organizations that are unable to embrace them. When deciding whether to implement new technology, an organization must consider the potential benefits of implementing new functional, technical, or aesthetic solutions to achieve its competitive positioning. The decision also takes into account the associated risks and costs (Skyrius, Nemitko, & Talocka 2018). The digital revolution that has sped up technological advancement has ushered in the modern banking era. The current wave of financial technology firms is simplifying banking services, offering a seamless client experience, and unbundling the banking paradigm (Goldberg, 2009; Henry & Hank, 2014). To combat competition and achieve sustainable development, banks are adopting new technologies and redefining customer service methods. The steady transition from brick-and-mortar systems to technology-enabled services that require less human interaction is the result of the technological transformation. Banks are being forced by these disruptive technologies to reevaluate their service delivery strategies, operational procedures, and technology portfolios. The workforce in the banking sector is about to undergo a radical change because of these new technological waves. Tellers will be replaced by ATMs, customer service representatives by chatbots, and branch banking will become less necessary thanks to blockchain technology and artificial intelligence. Specialized IT skills are now required due to the rapid use of technology-enabled procedures, including branchless banking, Internet and mobile banking, core banking solutions, and more. The banking industry is starting to appreciate how convenient data processing may be because of this state-of-the-art technology.

Statement of Problems

Studies, authorities, and global organizations in rich as well as emerging nations have shown a significant amount of interest in the literature on technological adoption that has been published during the past 20 years (Rajesh & Rakesh, 2012; Chen & Kamal, 2016; Magutu, 2013). There is

plenty of proof suggesting that contradicting results from different literature exist. In their research on the impact of information technology on organizational performance, Favaretto and Meirelles (2015) contend that ICT improves organizational performance in small and medium-sized enterprises in Indonesia. Steven (2017) concludes that technology has transformed the banking sector. Theresia, Ridwan, and Freddy (2019) conducted recent research on the impact of information technology, prospective investment, financial management, and business age on the financial performance of SMEs in Indonesia. The elements influencing financial results are also examined in the study. Information technology has been proven to have an impact on organizational performance. Nevertheless, the influence of technology deployment on the operational performance of Nigerian commercial banks was not a major focus of this research.

Aims and Objectives of the Study

This study aims to investigate the relationship between technological adoption and the operational performance of commercial banks in Yenagoa, Bayelsa State.

The objectives are:

1. To identify the relationship between technological adoption and new product introduction in commercial banks in Bayelsa State.
2. To identify the relationship between technological adoption and product or service quality in commercial banks in Bayelsa State.
3. To identify the relationship between technological adoption and customer satisfaction in commercial banks in Bayelsa State.

Hypotheses

The following hypotheses were tested in the course of this study:

Ho1 There is no significant relationship between technological adoption and new product introductions in commercial banks in Bayelsa State.

Ho2 There is no significant relationship between technological adoption and product or service quality in commercial banks in Bayelsa State.

Ho3 There is no significant relationship between technological adoption and product or service quality in commercial banks in Bayelsa State.

Conceptual framework

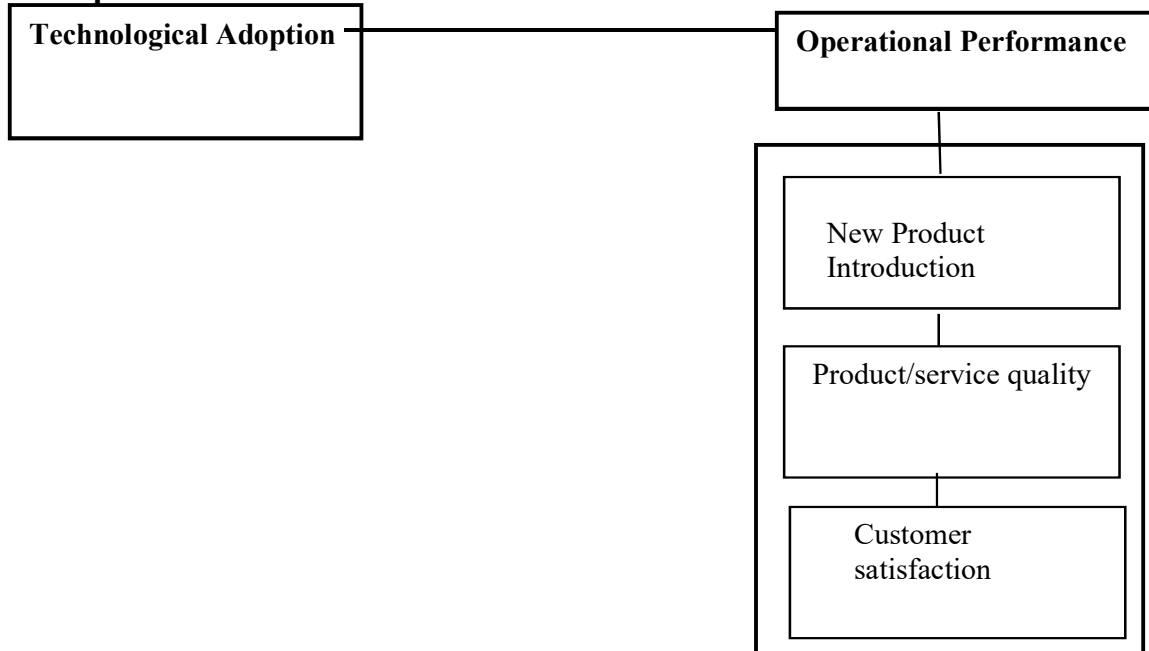


Figure 1.1: Conceptual framework of the relationship between technological adoption and operational performance.

Source: Researcher's desk.

Conceptual Review

The Concept of Technological Adoption

Technology acceptance and technology integration are the two concepts used in this study to conceptualize technological adoption.

The technological acceptability model (TAM), created by Davis in 1989, is one technique for gauging technological acceptability. The Theory of Reasoned Action (TRA), created by Ajzen (1991), was adapted into the Technology Acceptance Model (TAM) that was presented. The goal of TAM is to offer a condensed explanation of the factors that influence how information technology users behave and eventually come to embrace the usage of technology itself (Davis, 1989).

Given the aforementioned, Patel & Patel (2018) conveyed their sincere gratitude to mobile banking users, who may now use banking services around the clock without needing to visit a bank office for personal transactions. Mobile banking is a service that banks offer to help their clients complete a variety of transactions effectively and efficiently, as well as to facilitate simple and easy financial operations.

In contrast, technology integration comprises a series of knowledge-building exercises that investigate, assess, and improve new ideas to lay the groundwork for future product development (Park & Ghauri 2015). The project is framed by the technology integration process, which offers a crucial roadmap to direct design and development efforts.

The design and development of architecture, which facilitates corporate entrepreneurship and technologically inventive communication, is made possible by this technology integration (Zhao, Zhao, & Hou, 2010).

Top management support for technology drives the process of technological integration (Park & Ghauri, 2015). TMS acceptably guarantees technology integration to offer the proper basis for product development activities, in addition to being a result of successful strategic planning (Park & Ghauri 2015).

The Concept of Operational Performance

Any organization may improve its operational efficiency by making effective use of its technological platforms, such as websites, mobile phones, computer networks, hardware, ICT applications, and the Internet (Agbolade, 2011; Enu & Gberbi, 2015).

ICT adoption in the banking sector and other service organizations has shown a robust and positive link with operational performance over the past few decades (Kairu & Rugami, 2017; Omany, 2014). In this study, new product innovation, product/service quality, and consumer fulfillment are used to conceptualize operational performance.

New Product Introduction

One of Malaysia's most potential financial services sectors is the banking sector. Because of the intense competition, banks are eager to keep their customers satisfied by offering fresh, cutting-edge goods and services. Internet banking was therefore created as one of the inventions of banks (Sook-Fun, May-Chiun, & Ramayah, 2014). Thus, the secret to long-term success is fresh product creation. An organization's launch and management of new products play a crucial role in identifying and measuring opportunities and challenges within the market segment (Johnson, 2009). According to Fong, Lo, and Ramayah (2014), an organization's resources, such as staff expertise and technology, should not take precedence over the requirements and desires of its customers when introducing new products. Consequently, product management makes it possible for a business to meet the demands and desires of its clients. The resource-based paradigm divides sources of competitive advantage into two main categories: capabilities and resources. To begin with, resources are the assets under the company's control that are incorporated into organizational processes (Adamu, Hussain, & Ismail, 2020).

According to Akroush (2012), capability is a multifaceted combination of skills and knowledge that allows a business to leverage its resources to generate value and gain a competitive edge. According to resource-based theory, new product creation falls within the category of organizational competency (Garcia-Villarverde, Para-Requena, & Ruiz-Ortega, 2017). This is true because one organizational capability that helps a company establish and maintain a competitive edge in new products is new product management (Akroush, 2012). This capability is a marketing and internal integrative capability. Thus, an organization's ability to obtain a competitive edge is being enhanced by the implementation of an effective and efficient new product management plan.

Product/Service Quality

Quality can be divided into two categories: perceived quality and objective quality. According to Mishra and Shah (2009), viewed excellence is the customers' assessments of the product's overall performance, while objective quality is the product's actual technical excellence that is measurable and measured (Ali, Saleh, Akoi, Abdulraham, Muhammed, Noor & Anwar, 2021). An organization must identify and share with its members the purpose of the organization to produce high-quality products. This is because it has the potential to affect the values, conduct, and response of employees to changes connected to quality (Wittig, 2012).

According to Durmusoglu and Barczak (2011), an organization's image, customer loyalty, product attractiveness, product market share, and profitability may all be impacted by the quality of a new product. Therefore, it is impossible to overstate the value of new product management in a company.

Customer Satisfaction

According to Cravens and Piercy (2019), customer satisfaction measures how well the product-use experience matches the customer's value expectation. According to Awan, Bukhari, and Iqbai (2011), customer pleasure or discontent is determined by the discrepancy between their expectations and the perceived performance of the goods and services. The outcome is satisfying if the client's expectations are satisfied. However, disappointment arises if the consumers' expectations are not fulfilled. Customer satisfaction may be gauged by looking at factors including availability, responsiveness, timeliness, completeness, tangibility, empathy, dependability, and professionalism, as noted by Lindblom, Kajalo, and Mitronen (2016). Additionally, delivering a value offering that consumers appreciate, such as product innovation and quality that aligns with the value proposition, can increase customer satisfaction (Cravens & Piercy, 2019). As it has been demonstrated that service quality has a significant and positive influence on customer satisfaction, Ahmad, Rehman, and Saif (2010) recommended that an organization focus on service quality to please consumers. For an organization to maintain a competitive edge in this volatile business climate, client happiness is crucial. Similarly, by enabling clients to access their financial activities instantly without having to visit physical offices, operating costs may be decreased, which is why online banking has become so popular (Liu, 2008).

Bigger banks, which have to spend a lot of money maintaining physical branches, are now more at ease and profit from being able to handle clients more quickly and efficiently, which increases customer satisfaction. Furthermore, the introduction of online banking has altered the way financial institutions do business in several areas, including distribution, manufacturing, payment, and trade, transforming their business models (Mishra, 2016). Thanks to quick, easy, and trouble-free registration processes, a few technological mistakes, a variety of financing alternatives, and low account deposit requirements, online banking has been effective in increasing customer satisfaction (Maenpaa, 2017).

Conversely, maintaining positive customer relations is a critical component of enhancing an organization's business performance. Sustaining positive customer connections contributes to increased customer satisfaction, which improves business success (Lo, 2012). In Malaysia, the banking sector is one of the most promising financial services businesses. Because of the competitive landscape, banks are eager to keep their customers happy by offering fresh, cutting-edge goods

and services. Consequently, Internet banking was one of the innovations created by banks (Ragoobur, Ayriga, & Doomun 2010). Consequently, the creation of new products is essential to long-term success. Nonetheless, according to Marketa and Katerina (2012), satisfaction is defined as a combination of both positive and negative responses to a variety of factors and an emotional mindset. Customer prosperity and realization are correlated with satisfaction (Meesala & Paul, 2018). It is the assessment of whether the qualities of a good or service, including any supernatural or sub-realistic levels, have contributed to a pleasurable degree of comprehension and success associated with consumption. Service satisfaction is the result of understanding value or quality. Consumers evaluate businesses based on their expectations and level of service. According to Ahmed, Rezaul, and Rahman (2010), customer satisfaction is a key performance indicator for banks, and all banking channels nowadays need to have a plan in place to provide excellent customer service. This is so because happier customers are the result of higher perceived quality (Ayo, Oni, Adewoye, & Eweoya 2016). The simplicity of use, product qualities, consumer traits, situational circumstances, usefulness, enjoyment, trust, and prior online buying experiences are some of the elements that scholars have identified as impacting customer service (Inegbedion, 2018).

Technological Adoption and Operational Performance

Any organization may improve its operational performance by making effective use of its technological platforms, such as hardware, computer networks, mobile devices, websites, and ICT applications (Enu and Gberbi, 2015).

ICT adoption has shown a significant and favorable link with the banking industry's operational effectiveness over the past few decades (Kairu and Rugami, 2017; Omany, 2014; Agbolade, 2011). Research conducted in 2016 by Wasilwa and Omwenga showed that the use of ICT improved financial institution performance and allowed financial services to grow. Sonja (2019) recommended that the use of IT greatly improves the effectiveness of automatically calculating charges and consequences and recognizing whether a loan is past due. The adoption of point of sale (POS) technology in corporate operations improved the implementation plan and boosted outreach through higher staff efficiency, according to research by Musa and Khan (2020).

Because of its improved efficiency, effectiveness, service delivery, and improved relationships with suppliers and customers, ICT adoption is seen as a catalyst and enabler for banks and service organizations to compete on a worldwide scale (Alam & Noor, 2009; Dangolan, 2011). To improve the efficient and comprehensive supply of a wide variety of value-added goods and services, electronic banking replaces conventional banking and compels banks to adopt Internet technology (Oyewole, El-Maude, Gambo, & Abam 2013). Automation of loan application, approval, fund delivery, and loan repayment tracking is made possible by banks' well-established technology infrastructure and devices (Singh & Padhi, 2015; Sravani, 2013).

Arnaboldi and Claeys (2019) discovered in another study that information and communication technology (ICT) may cut loan origination expenses by 10% by expediting the loan approval process and using a scorecard to forecast client repayment behavior. ICT use in the service sector has been shown in studies by Oladejo and Adereti (2010) to enhance service delivery, reduce transaction costs, boost market performance, and increase savings.

IT capabilities are a resource to enable the efficient gathering and use of information, according to a large body of research on the subject (Bharadwaj, Keila, & Mahring, 2009).

According to Floyd and Wooldridge (2018), IT skills improve performance consistency, lower transaction mistakes, and improve service dependability. According to Quinn, Baily, Herbert, and Willett (2013), IT skills may also help to improve service quality by enabling more individualized or customized services and by establishing knowledge connections that facilitate the discovery and exchange of organizational expertise. According to Tippins and Sohi (2003), IT skills, often referred to as IT capabilities, enhance performance by removing inefficiencies, lowering long-term costs, enhancing service dependability, and lowering transaction mistakes.

The advantages of IT in banking were discovered in another study on the subject, which focused on a few Chandigarh banks. These advantages included increased operational efficiency,

productivity, and profitability; the provision of higher-quality customer services; multiple interfaces; real-time purchase processing; an enhanced management information system; governance and accountability; effective non-performing asset (NPA) and risk/credit management; and minimal transaction costs. The survey also found that bank staff's productivity has increased because of IT. The use of IT has also significantly improved the job performance of bank staff. Furthermore, it has been noted that employee awareness has increased and their understanding of the corporate environment has been updated as a result of training courses (Kaur, 2012).

Theoretical Framework

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Davis (1989) to highlight the value of embracing new technology in banks and other service organizations, as well as its benefits for improving operational efficiency. The theory aimed to comprehend the causal link between perceived system utility, simplicity of use, and the utilization of external factors in real-world applications. According to Davis (1989), perceived benefit is the extent to which someone believes that utilizing a particular application platform will improve their ability to perform their job, and perceived simplicity of operation is the extent to which a person believes that using a specific system will require no effort on their part.

TAM is helpful and is used in a variety of fields, including e-government (Chan, Thong, Venkatesh, Brown, Hu & Tam, 2010), telemedicine (Holden and Karsh, 2010), e-healthcare (Bacha, Celjoh & Zoroja, 2016), ICT (mobile phones, the internet, websites), and agriculture (Amin & Li, 2014).

METHODOLOGY

This study used a survey research design approach, which includes conducting interviews and using questionnaires. One hundred and five (105) people made up the study's sample size and population. They were drawn from 15 commercial banks in the state of Bayelsa and served as the study's respondents. There were one hundred (100) questionnaires returned.

The Spearman rank-order correlation coefficient was employed in the study to examine the data and evaluate the hypotheses.

RESULTS

Hypotheses 1-3

Analysis of Relationship between Technological adoption and Operational performance

		Independent		Dependent Variable	
ITEMS		Technological adoption	New product introduction	Product/service quality	Customer satisfaction
Technological adoption	Rho	1.000	.272**	.394**	.254*
	Sig.	.	.006	.000	.011
	Mean	2.92	2.49	3.00	2.87
	N	100	100	100	100
Remark			weak positive relationship	weak positive relationship	weak positive relationship

Source: SPSS Output from Field Data (2022)

Table 1.1 demonstrated that the use of technology produced rho values of 0.272 for the launch of new products, 0.394 for the quality of products and services, and 0.254 for customer satisfaction when compared to other metrics of operational performance. The findings indicated that there is a small but statistically significant positive correlation between the launch of new products and technology adoption ($\rho = 0.272$, $p < 0.05$). Additionally, research revealed a small but significant positive association ($\rho = .394$, $p < 0.05$) between the quality of products and services and technological adoption. Additionally, the findings indicated a small but statistically significant positive correlation between customer happiness and technological adoption ($\rho = 0.254$, $p < 0.05$).

The null hypotheses (Ho1, Ho2, and Ho3) were disproved in light of these findings. Thus, there is a strong correlation between the commercial banks in Bayelsa State's operational success and their use of new technologies.

Discussion of Findings

In commercial banks in Bayelsa State, the first three hypotheses looked at the link between technology adoption and metrics of operational success (new product launch, product/service quality, and customer happiness). According to the study, there is a favorable correlation between these three characteristics and the use of technology. This suggests that operational performance is positively impacted by the adoption of technology. The results indicate that technology adoption is unquestionably a reliable, effective, scalable, and adaptable technological shift that facilitates the pricing, computing, and data transmission of businesses.

This study supported Sonja's (2019) earlier findings, which suggested that decreased operating expenses are another benefit of technological adoption.

CONCLUSION AND RECOMMENDATIONS

The study looked at the connection between commercial banks in Bayelsa State's operational success and their use of new technologies. The findings indicated a strong and favorable correlation between Bayelsa State's commercial banks' operational performance and their use of new technologies. Accordingly, the report suggests that companies implementing new technology give their staff members' sufficient and pertinent training on how to use cutting-edge tools to improve productivity.

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