

Original Research Article

Influence of trust in the adoption of Digital banking Platforms: A case study of a public Ghanaian bank

Abstract

Digital banking has existed within the Ghanaian banking sector over the years and has evolved to incorporate more technological developments and are playing a more significant role in the development of the Ghanaian economy. The banking sector has been pursuing various policies to ensure that more customers adopt digital banking for their transactions. Despite the rapid rollout of numerous banking services in the country, adoption of digital banking has been generally slow. This present study seeks to examine the influence of trust on the adoption of digital banking services. The aim of the study was specifically to examine the influence of knowledge based trust on digital banking service adoption, to examine the influence of institution based trust on digital banking service adoption and to examine the influence of propensity to trust on digital banking service adoption. The positivism paradigm was the philosophical framework that guided the study and a quantitative approach. Data was obtained through the use of a survey and was analysed using simple linear regression. The population of the study consisted of customers of various banks within the Accra sub-metro. Using convenient sampling technique, 150 participant took part in the study. From the analysis of the data, the results showed propensity to trust had a positive relationship with adoption of digital banking platforms. Institution based trust had no significant relationship to adoption of digital banking platforms. Knowledge based trust had a positive relationship with adoption of digital banking platforms. The findings of the study can be applied to improve upon the adoption and use of digital banking platforms by banks. Particularly, banks can focus on providing quality banking experiences across its digital channels and physical banking channels. In addition, digital banking service providers need to highlight improving on their level of integrity, competence and benevolence in order to facilitate users' adoption and usage of mobile banking

Keywords: Africa, Digital Adoption, Ghana, Trust

Introduction

With the rapid improvements in digital technology services and the rise in the volumes of banking transactions, the traditional methods of payments such as cash and cheques have gradually been phasing out and is no longer ideal for transactions. Various advancements in information technology have provided more efficient means for banks to attend to the needs of their customers. Digital banking has become a 21st century reality that has shaped the conduct of various banking transactions such as deposits, transfer amongst others. Generally, banks have been empowered to pursue more cutting-edge digital banking solutions by the existence

of key drivers such as high-speed internet, increase in internet usage, low cost, profitability and convenience. Globally, the banking sector has been pursuing various policies to ensure that more customers adopt digital banking for their transactions. In this regard, the way and manner in which digital banking products have evolved with the focus on attracting more customers.

Digital banking has existed within the Ghanaian banking sector over the years with a series of innovative online banking and technology developments (BOG 2018). Digital solutions are playing a more significant role in the development of the Ghanaian economy (Boateng 2018). Presently, the scope of digital banking is widening into many areas of banking services. However, there has been a myriad of challenges associated with customer experiences with regards to the swift and prompt payment, receipt and reconciliation of banking procedures. Although some digital solutions have been introduced, the electronic banking systems as an evolving technology has experienced various bottlenecks in the area of acceptance, thus thwarting overall progress in the e-commerce sector. Generally, customer resistance to change has been cited as significant contributor to the problem of digital banking adoption. Overall, the resistance change on the part of customers has been alluded to in some studies as a manifestation of poor-quality relationship characterised by the absence of trust between banks and customers.

Throughout the discourse on digital banking service adoption, studies focusing on user perceptions towards digital banking service have emanated from North America and European countries. Although these studies have contributed immensely towards furthering the discourse on digital banking adoption, these studies have not been sensitive to significant cultural distinctions with other contexts. Therefore, generalisations of findings to other contexts such as Africa and Ghana are wide limitations to these studies. The issue of digital banking adoption remains relevant to the Ghanaian sector and therefore merits research attention.

Generally, the Ghana financial system is undergoing a period of technological innovations (Boateng et al 2018). The changes include a significant increase in the number of alternative formal channels for delivering financial services such as digital banking. Financial institutions are attracted to reach larger population by utilizing digital banking to bring financial services to undertake banking transactions such as account balance inquiries, monitor checking account transactions, pay utility bills, pay loans, fund transfer, receive and send remittances and payroll services (Peevers, Douglas & Jack 2018). Despite the rapid rollout of numerous banking services in the country, adoption of digital banking has been generally slow. In addition, studies within the Ghanaian sector exploring the issue of non-adoption of digital banking service is in short supply. Therefore, against this backdrop, this present study seeks to examine the influence of trust on the adoption of digital banking services. Specifically, the main objective of the study are as follows:

1. To examine the influence of knowledge based trust on digital banking service adoption
2. To examine the influence of institution based trust on digital banking service adoption
3. To examine the influence of propensity to trust on digital banking service adoption

Literature Review

Digital Banking

In recent times, banks have employed information systems for their business operations and the delivery of banking services to their clients (Agyapong, 2021; Boateng, 2020). The adoption of information systems in service delivery has made the dematerialization of the client relationships with the bank a subject of utmost importance within the banking sector (Chan, 2004; Kristensen, 2016). Despite significant efforts being made towards the adoption of digital banking service, banks are still facing challenges with fully maximizing the benefits of digital banking. Largely, the challenges in maximizing the benefits are due to the unwillingness of clients to make use of digital banking irrespective of the opportunities they present (Mbama & Ezepue, 2018; Yousafzai et al., 2010). Moreover, the adoption of digital banking by customers not only benefits the banks but it provides banks with the opportunity to attend to the needs of their clients.

The idea of digital banking has received various attention both in research and practice. Various attempts have been made towards defining digital banking. The variations in the definitions ascribed to digital banking is due to the variation in the area of research focus (NGUYEN, 2020; Pikkarainen et al., 2004; Wu et al., 2011). Digital banking can be conceptualized as a technology, a product or service. Based on this, various conceptualizations are needed to better examine the challenges, opportunities and services and the different digital banking levels. The variations in the definition of digital banking can also be attributed to the changes in time. In this regard, it can be difficult to arrive at a fixed definition of digital banking.

According to Mbama and Ezepue (2018) "digital banking is an internet-based portal that allows customers to perform different banking services, ranging from bill payment to making an investment" (p.23). Rathee and Yadav (2019) assert that "digital banking is the delivery of banking services through an open access computer network (the Internet) to offer a wider range of potential benefits to financial institutions due to more accessible and user-friendly use of the technology". In addition, Gbongli et al., (2020) opine that "digital banking provides a universal connection from any location worldwide and it is universally accessible from any internet linked computer". Digital banking can be conceptualized as the usage of an internet portal for the performance of various banking transaction such as accessing bank account information, bank products and services, payment of bills and investments. Abdul-Hamid et al., (2019) assert that with the exception of withdrawals, digital banking provides customers with the opportunity to make transactions at a click of a mouse. In essence, digital banking gives

universal access to clients on any internet-based computer and smart device irrespective of the location.

Based on the various conceptualizations of digital banking, this research considers digital banking as the utilization of a defined internet-based portal to provide various banking services and products which range from viewing and verification of transactions to checking account balance, paying bills and printing statements across both mobile, computer based and smart devices connected to the internet. This definition which reflects the definitions by Mbama and Ezepue (2018) and Rathee and Yadav (2019) is considered appropriate because it succinctly captures the key aspects and components of digital banking as evident and consistent across banks within the Ghanaian banking sector.

The Ghanaian banking sector and digital banking adoption

Banking service started in Ghana in 1953 during the colonial times of the Gold Coast. Banking service in Ghana started with the establishment of the Bank of England in the then Gold Coast (Taddeo, 2009; Vishik et al., 2011). During the country's drive towards independence, the level of optimism pushed the Bank of Ghana to pursue more proactive policies aimed at bolstering credit systems, creating financial systems as mechanisms for economic growth in addition to exercising basic oversight of the management of the country's currency. All these factors led to the establishment of the Bank of Ghana through the Bank of Ghana Ordinance (No. 34) of 1957. According to Kosiba et al., (2020) the changes in the conditions within the country had an influence on banking operations, policies and activities.

In the early 1990's, the banking sectors began to gradually respond to the changes in the global world through the invention of computers. The banking sector gradually began to use computerized technology in the internal banking activities. The popularity of the personal computer grew as did its usage and later on intensified competitions amongst the banks. Personal computers were introduced in the back-office operations of the bank and as time went on, personal computer was used by tellers to serve customers. According to Abor, (2005), the use of computers in banking became a significant strategic tool for competitive advantage. In addition, the introduction of the personal computers in the banking operations also led to the introduction of computer networks to link the personal computers in order to share resources. Banks employed this technology in computerizing its counter processes and networking of branches nationwide.

The first real attempt towards more customer-oriented banking services powered by computers came with the introduction of the Automated Teller Machines (ATM) in 1995 (Abor, 2005; Idun & Aboagye, 2014). The introduction of the ATM brought significant changes into the banking sectors such the use of smart and debit cards, telephone banking and digital banking. However, the use of these technology was initially restricted to the physical ATM which limited the scope of digital banking. Another important development was the presence and influence of the Bank of Ghana. The introduction of the Bank of Ghana Act (2002) gives the central bank

autonomy and this development empowered the Bank of Ghana to freely manage the monetary and financial programs within the country (Addai et al., 2015; Marfo-Yiadom & Ansong, 2012). In this regard, the Bank of Ghana permitted some boundaries concerning information systems in the banking sector with the intention of encouraging banks to catch up with developments within the global space. Consequently, most banks in the country made adopted and improved upon service delivery through the use of digital technologies. In the year 2007, seven banks offered digital banking services within the country. These services were basically to check account balance, print and download banks statements and make transfers internally. In 2009, the number of banks offering digital banking increased to 17 out of the 26 recognized banks (Idun & Aboagye, 2014; Marfo-Yiadom & Ansong, 2012). At the moment most banks within Ghana provide some form of digital banking. This is due to its versatility, speed, and cost and delivery time.

Although digital banking is still evolving, customers are gradually embracing digital banking services (Agyapong, 2021; Boateng, 2020). This is because digital banking offers communications on an interactive basis, without any time and geographic constraints in a multimedia context with sound, image, text transmission, and at relatively low costs. These benefits have encouraged some banks to add increased functionality such as bill paying ability, account deposit and withdrawal alerts, SMS/text cash service, and the ability to stop cheques.

The concept of Trust

The concept of trust has been studied within various disciplines such as accounting, sociology and information systems (Black et al., 2002; Chahal & Rani, 2017; Pikkarainen et al., 2004; Wu & Wang, 2005). Trust is thus considered as a diverse construct which can be difficult to conceptualize because of its ability to manifest in many forms. The difficulty in defining trust is first because trust is an abstract concept with similarities to terms such as reliability, credibility and confidence (Chahal & Rani, 2017; Mallat et al., 2008). The second reason is that the concept of trust is multifaceted which includes cognitive, affective and emotional elements (Taddeo, 2009; Vishik et al., 2011). According to Chahal and Rani (2017) trust refers to the "willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". From this definition, trust is conceptualised as consisting of risk and uncertainty and secondly of accepting vulnerability. In information systems, trust is generally involved individual's trust in the system. Trust is not only established between individual's and organisation but also between individuals and computing technologies.

Many scholars tend to confuse the term trust and trustworthiness and more often use them interchangeably. According to Pennanen (2011), "trust refers to the trustors'- specific concept which refers to trustors' psychological state of mind while trustworthiness refers to trustees' characteristics". Similarly, Ejdy and Gulc (2020) asserts that trust is the act of a trustor while

trustworthiness is a characteristic of someone or something that is the object of trust". From these definitions trust can be considered as emanating from the trustor (customers) while trustworthiness comes from the trustee (organisation, digital platform).

Digital Banking and Trust

Trust as an important component of numerous social interactions is made up of uncertainty and dependency. According to Chahal and Rani (2017) online transactions are characterised by "uncertainty, anonymity, inadequate control and risk" which makes trust all the more crucial. Customers may face various risks and uncertainties when performing various transactions which may minimise their intentions to patronise online banking services. Moreover, there is no guarantee that the consumer's online orders and transaction would be successful (Aboelmaged & Gebba, 2013; Benamati & Serva, 2007; Gbongli et al., 2020; Ntsiful et al., 2020). In this regard, consumers strive to minimise the uncertainty and complication associated with digital banking transactions by utilizing mental short cuts. One of such psychological shortcuts would be trust which is a mechanism utilised by humans to minimise the complexity that is linked with online transactions. Thus, trust serves as a significant factor that affects consumer usage and adoption of digital based banking platforms.

One of the widely cited factors that discourages consumers from using digital banking platforms is the lack of trust (Abdul-Hamid et al., 2019; Gbongli et al., 2020; Ntsiful et al., 2020). Practitioners and academics are becoming increasingly concerned with the initiation, building and maintenance of trust between organisation and consumers as significant drivers of successful digital banking (Kosiba et al., 2020; Marfo-Yiadom & Ansong, 2012). Conversely, trust will not be needed when actions could be performed in the absence of complete uncertainty and risk. Xiao et al., (2010) asserts that trust is needed in digital banking because in the virtual context, the level of uncertainty is higher than traditional banking systems. This is because digital banking operates using the internet which is widely associated with several risks as a result of the openness of the internet.

Methodology

This study adopted the positivism paradigm and a cross-sectional design. This was appropriate because the study sought to investigate the relationship between trust and the adoption of digital banking platforms. The population of this study consists of the customers of a public commercial bank in Ghana. Using convenience sampling technique, 150 participants took part in the study. Data was collected using a structured questionnaire that measured trust and adoption of digital banking platforms.

Findings

In order to ensure the accuracy of the findings, it was mandatory to ensure that the data collected for analysis was normally distributed (Lei & Lomax, 2005) . Both Skewness and Kurtosis were employed in determining the normality of the variables. The requirement for both Skewness and Kurtosis signifying normal distribution is that the absolute values of both Skewness and Kurtosis must be between -2 and 2. The findings are reported below”

Table 1 : Test for Normality

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Propensity To Trust	3.24	0.53	-0.635	-0.613
Institutional Based Trust	1.39	0.195	0.183	-0.439
Knowledge Based Trust	4.32	0.59	-0.347	0.482
Digital Banking Adoption	3.925	0.721	-1.235	0.865

Source: Field Survey Data (2021)

From table 1 above, the Skewness and kurtosis obtained for the various construct is between -2 and 2 which indicates that the data is normally distributed.

Hypothesis One

The first objective sought to examine the relationship between propensity to trust and digital banking adoption. The study hypothesised that there would be a positive relationship between propensity to trust and digital banking adoption. The summary of the results are presented in the table below:

Table 2 : Coefficients for Propensity to Trust

Model	Unstandardized Coefficients		Standardized Coefficients	t	sig
	B	Standard Error	Beta		
Constant	3.418	0.346		9.873	0.00
Propensity to Trust	0.5300	0.087	0.469	6.535	0.000

a. Dependent Variable: Digital Banking Adoption

b. $R^2 = 0.24$ $p < 0.01$

Source: Field Survey Data (2021)

The results of the analysis suggested that propensity to trust explained 22 percent of the variation in digital banking adoption, $R^2 = 0.24$, $F(1,149) = 41.79$, $p < 0.01$. Propensity to trust significantly predicted digital banking adoption, $\beta = 0.53$, $t = 6.54$, $p < 0.001$. Therefore hypothesis 1 was supported.

Hypothesis Two

The second objective sought to examine the relationship between institutional based trust and digital banking adoption. The study hypothesised that there would be a positive relationship between institutional based trust and digital banking adoption. The summary of the results are presented in the table below

Table 3 : Coefficients for Institutional Based Trust

Model	Unstandardized Coefficients		Standardized Coefficients	t	sig
	B	Standard Error	Beta		
Constant	5.965	0.414		14.394	0.00
Institutional Based Trust	-0.029	0.295	-0.008	-0.097	0.923

c. Dependent Variable: Digital Banking Adoption

d. $R^2 = 0.02$ $p > 0.05$

Source: Field Survey Data (2021)

The results of the analysis suggested that institutional based trust explained 2 percent of the variation in employee wellbeing, $R^2 = 0.02$, $F(1,148) = 0.09$, $p > 0.92$. However, the model was not significant. Institutional based trust did not significantly predicted digital banking adoption $\beta = -0.029$, $t = -0.10$, $p > 0.92$. Therefore hypothesis 2 was not supported.

Hypothesis Three

The third objective sought to examine the relationship between knowledge based trust and digital banking adoption. The study hypothesised that there would be a positive relationship between knowledge based trust and digital banking adoption. The summary of the results are presented in the table below:

Table 4.: Coefficients for Knowledge Based Trust

Model	Unstandardized Coefficients		Standardized Coefficients	t	sig
	B	Standard Error	Beta		
Constant	3.321	0.322		10.537	0.00
Knowledge Based Trust	0.624	0.074	0.530	7.475	0.001

e. Dependent Variable: Digital Banking Adoption
f. $R^2 = 0.252$ $p < 0.05$

Source: Field Survey Data (2021)

The results of the analysis suggested that knowledge based trust explained 27 percent of the variation in digital banking adoption, $R^2 = 0.252$, $F(1,149) = 54.57$, $p < 0.05$. Knowledge based trust significantly predicted digital banking adoption, $\beta = 0.624$, $t = 7.475$, $p < 0.001$. Therefore hypothesis 3 was supported.

Discussion of Findings

The first objective of the study explored the relationship between propensity to trust and digital adoption. This objective specifically investigated how the propensity to trust and trust influence digital banking users' attitude, intention, and behavior with regards adoption of mobile banking application. The findings of the first objective suggested that propensity to trust had a positive relationship with digital adoption. The results demonstrated that the propensity to trust leads to a higher level of trust, and this leads to favorable attitudes toward the adoption of digital banking platforms. The favorable attitude increases users' intention to use the app which culminates into a behaviour most desirable by the bank. This finding is consistent with studies by Alam et al., (2007); Bhatt and Bhatt (2016); Kosiba et al., (2020). These studies have found

that personality of the individual adopter has an important role to play in the adoption of a technology. In line with these studies, the current study has found that personality of individuals in terms of the disposition to trust determines whether an individual would make use of the digital banking platform. Individuals with a high propensity to trust exhibit high levels of trust without necessarily having any specific reason to do so. Propensity to trust has to do with the general willingness to trust others. When bank customer chooses to trust the bank another, this person becomes vulnerable to be harmed by the bank. When bank customers have a high propensity to trust, they can be induced to trust digital banking platforms because faith in the integrity of others and low risk aversion makes customers more susceptible to believe that the bank would do no harm on them. The trustworthiness of the bank is determined on the basis of the knowledge, skills and competencies exhibited by the bank through daily interactions with the bank. Thus, a person who chooses to trust another is likely to believe in the trustee's ability, benevolence, and integrity. When users have a higher propensity to trust, they may have a stronger desire to know more about the products/services of the bank. As a result, these users are less resistant to use the digital banking platform.

The second objective of the study explored the relationship between institution based trust and digital banking adoption. Specifically, this objective sought to understand how the security one feels about a situation because of guarantees, safety nets, and/or other trust structure influences their desire to adopt digital banking technologies. The findings of the second objective suggested that institution based trust did not influence customers desire to adopt digital banking platform of the bank. The findings of this study is contrary to the findings reported by Ejdy and Gulc (2020); Pennanen (2011) ; Xiao et al., (2010). These studies reported that institutional based trust which consists of situation normality beliefs and structural assurance beliefs have a tendency to influence adoption of digital banking platforms. Particularly, situational normality beliefs arise when the consumer believes that everything is normal and is in order. Within the context of digital technology adoption, making comparisons between the technology/bank against other similar technology/bank can be the basis for the formation of these beliefs. Structural assurance means that there exist legal and technological structures to ensure payment security. A potential reason why institutional based trust could not influence digital platform adoption could be due to absence of a standard of comparison. Most digital banking platform users do not pay attention to user security issues when making transactions on digital banking application. The lack of knowledge on security features coupled with the potential absence of standards of comparison could account for the insignificant relationship. Some scholars have also asserted that issues of institutional trust are more prominent at the building stage of trust development. The inclusion of the stage of trust development based on how long a customer has been with a bank can also explain the insignificant relationship. When a consumer makes a financial transaction in the physical world, there are many potential bases of trust such as the workers' professional appearances or an imposing bank building, bank reputation amongst others. These characteristics of the organisation may provide a sense of security for the customer even when performing

transaction outside of the bank using digital banking platforms. The implication is that spillovers from reputational impression of the bank may induce more adoption and act as a proxy for the actual security features of the application.

The third objective of the study sought to explore the relationship between knowledge-based trust and the adoption of digital banking platforms. The findings suggest that knowledge-based trust had a positive influence on the adoption of digital banking platform. The findings is consistent with studies by Addai et al. (2015); Chahal and Rani (2017); Choi and Mai (2018) which suggest that the individual perception of the bank's trustworthiness provides a sense of confidence that cause the individual to adopt digital banking technologies. Knowledge-based trust involves deliberate cognitive assessment of relevant attributes of the trustee such as perceived ability and integrity. If the trustor believes that the trustee is likely to do what he or she says he or she will do, trust will increase. Personal knowledge drives the formation of knowledge-based trust and additionally, prior trust judgments may influence the way in which the outcomes are perceived and personal knowledge is interpreted. In the context of mobile banking, the customer is able to form knowledge-based trust concerning whether or not digital banking have the ability to provide the banking services properly and conveniently and whether digital banking firms are willing to deliver benevolent services and make good-faith agreements (i.e., has integrity) regarding banking transactions. As demonstrated in this study, customer knowledge-based trust may play an essential role in explaining and solving the problems of adopting digital banking platforms.

Conclusion and Recommendation

Digital banking is a typical application of digital commerce which based on internet based devices and wireless networks. Mobile banking as an emerging service has not been widely adopted by users. By studying individual's intention to use digital banking platform and examining the role of trust, we can better know how to improve bank customer's trust and enable them to use digital banking platform. Also, we can gain some experience to improve the adoption of other mobile. Thus it is necessary to identify the factors affecting user adoption. Due to the high risk and low switching cost, building users' trust is critical for digital banking service providers. The purpose of this research is to examine the effect of initial trust on mobile banking user adoption. The results indicate knowledge based trust and propensity to trust are the main factors affecting adoption of digital banking platform. Thus mobile service providers need to highlight improving on their level of integrity, competence and benevolence in order to facilitate users' adoption and usage of mobile banking".

The findings of the study can be applied to improve upon the adoption and use of digital banking platforms by banks. Particularly, banks can focus on providing quality banking experiences across its digital channels and physical banking channels. Individuals with a high propensity to trust can easily be persuaded and so banks can utilise informative advertising campaigns to reach these target individuals. Future studies can replicate this research for other sectors such as insurance sector and hospitality sector or conduct a comparative study between

public and private banks or even between banking sector and hospitality sector. Different methodology could also be employed notably a mixed method approach in order to clarify the roles” of institutional based trust.

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