

Original Research Article

Electronic Banking and Customer Satisfaction: Empirical evidence from Ghana

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Authors' contributions:

This study was carried out in collaboration between all the authors. Bismark Addai designed the study and wrote the first draft of the manuscript including the literature searches.

Bismark Ameyaw and Eric Ashalley managed the input of the data for the analysis. Isaac Quaye managed the analysis and interpretation of the data. All authors read and approved the final manuscript.

ABSTRACT

The phase of the entire banking industry is rapidly changing in the 21st century. A focus-shift from traditional banking to new service delivery channels is paramount among many banks to provide customers with 24/7 (around-the-clock) access to banking services for improved customer service delivery. Herein, we investigate into the impact of electronic banking (e-banking) service delivery on customer satisfaction in Ghana. A purposive non-probability sampling technique was utilized in a 150 sample-size selection from e-banking customers of Trust Bank Ghana Limited, Ecobank Ghana Limited and Barclays Bank Ghana Limited (50 from each bank). SPSS Statistics version 21 was used to analyze the primary data. Multiple regression analysis was performed to determine the impact of e-banking service delivery on satisfaction of customers in the selected banks. For this study, a positive correlation between customer satisfaction and e-banking availability, reliability and convenience is established. It is therefore recommended that banks provide customers with uninterrupted, reliable and convenient e-banking services in order to satisfy and retain customers.

Keywords: *Electronic business, Electronic banking, Customer satisfaction, Availability, Convenience, Reliability.*

1. INTRODUCTION

The introduction of electronic business (e-business), one of the Information technology (IT) applications has changed the traditional way of conducting business transactions in many organizations and as such a growing number organizations launch new Internet-based business lines to improve their businesses [1]–[3]. Organizations in the banking industry have also launched an IT application known as electronic banking (e-banking) in order to meet the growing demands of their customers and to also meet the growing trend of technological advancement in recent years [4]–[7]. E-banking is now a key element for improving efficiency and productivity in both private and government banks in order to strengthen the national economy [8]–[11]. This presupposes that the benefit of E-banking does not only lie in enhancing the ability of banks to meet the demands of their customer but to also strengthen the national economy. An assessment of E-Banking and its related variables such as service delivery and customer satisfaction is therefore very crucial.

Banks have to provide an excellent service to customers with varied backgrounds and greater expectations who will also not accept any mean service. Therefore, service marketing in general, and particularly banking service has become one of the most significant and modern areas which has seen a substantial growth during the last years globally especially in the area of E-banking [12]–[15]. The considerable growth in banking service may accrue to the widening and variety that banking services are associated with.

Majority of banks in the developed world and some in the developing world are now offering E-banking services with various degrees of complexities [16]–[19]. This gives the indication that E-banking is gradually taking the place of traditional banking services even in developing countries like Jordan, India, Malaysia, Nigeria and Ghana. In developing countries, for example, some banks have adopted E-banking as a way of communicating to customers with regards to issues concerning bank statements whiles other banks use internet banking services to allow customers to access their bank accounts and perform other banking transactions [20]. In Ghana, the phase of the entire banking industry is rapidly changing and the focus is now on new delivery channels in order to improve customer service delivery and to provide customers with 24 hours a day access to banking services [17], [21]. E-Banking gives customers the opportunity to customers to access banking services from the comfort of their homes and offices and also be able to do most of the transactions which would have been done in the banking halls. With the use of personal computer (PC) or even mobile phone with an internet connection, customers are able to carry out transactions such as cash withdrawals, payments of utility bills, Transfers from one account to the other viewing and printing of statements, request for cheque books on their traditional accounts [22]. For example, banks such as United Bank for Africa, Merchant Bank Ghana, Ecobank Ghana, Barclays Bank Ghana, among others, provide their customers with a broad range of electronic services and some of these services allow customers to receive their monthly bank statements via e-mail, online checking of accounts balance, the use of electronic cash systems, online transfer of funds among others.

Despite the adaptation to E-banking by many banks in Ghana in their quest to meet the banking needs of their customers, the issue of service delivery and customer satisfaction with E-Banking service has not received much attention in literature [4], [23]–[28]. Most of the studies conducted on service delivery and customer satisfaction have looked at traditional services even when banking services were concerned. There is therefore the need to assess E-Banking and its impact on service delivery and customer satisfaction in the Ghanaian banking industry so as to have empirical evidence on it and to also provide feedback to the banking institutions on customers' satisfaction with their e-banking services.

This paper therefore seeks to investigate into e-banking service delivery in the Ghanaian banking industry and to also ascertain the impact of the phenomenon on customer satisfaction in the country.

2. RESEARCH OBJECTIVES

The main objective of conducting this research is to determine the impact of e-banking services delivery on the satisfaction customers in the Ghanaian banking industry. The two specific objectives to be considered are as follows:

- To assess the e-banking service availability, convenience and reliability in the Ghanaian banking industry.
- To analyse the impact of e-banking service delivery on the satisfaction of customers in the Ghanaian banking industry.

3. LITERATURE REVIEW

3.1 Concept of E-Banking

E-banking encompasses the provision of banking services and products by banks to their customers through electronic medium. This definition also extends to the use of information and communication technology (ICT) by banks to provide services and manage customer relationship more quickly and most satisfactorily. E-banking covers both computer and telephone banking [29], [30]. For many banks, inclination to e-banking services improves customer services while closely welding customers to the bank. The adoption of e-banking is also seen as a new method of expanding customer base and to also counteract the aggressive effort made by traditional banking institutions [31]. E-banking allows customers to inquire information and carry out most banking services such as account balance inquiry, bill-payment and inter-account transfers through the Internet. E-banking, therefore, includes systems that enable financial institutions, customers, individuals and businesses to access accounts, transact business, and obtain information on financial products and services through public or private networks. Customers access e-banking services using electronic device, such as a personal computer (PC), personal digital assistant (PDA), automated teller machine (ATM) and tele-communication routes. 'Closed' private networks restrict access to participant (financial institutions, customers, merchants, and third party service providers) bound by agreement on the terms of membership. On the other hand, 'open' public networks have no such membership requirements [22], [32].

In Ghana, e-banking has emerged as a new medium of delivering banking product/services to customers. This innovation in the Ghanaian banking industry is intended to provide customers with more valuable services including convenience and easy access to their money and other banking information they may need. Many institutions in the Ghanaian banking industry have inclined to e-banking in the broader sense which includes the use of smart cards for banking, ATMs and Tele-banking. However, few banks have actually adopted the use of the internet channel in their electronic banking systems. This presupposes that only a few have actually gone beyond the use smart cards, ATMs and tele-banking in their electronic banking services [21].

3.1 E-Banking service delivery and customer satisfaction

Recent growth in technology and innovation has fast-tracked the desire of customers of banks for exceptional services to meet the current trend of technological advancement. Contemporary studies on e-banking acknowledges that factors that drive customer satisfaction are security/trust, design, availability, convenience, reliability with availability, convenience and reliability being the most influential factors of e-banking on customer satisfaction [25], [26], [33]. Apparently this study concentrates on e-banking availability, convenience and reliability and the antecedent effect on customer satisfaction.

Convenience is a dimension of e-banking that enables customers to access internet bank at anytime and anywhere [34]. E-banking offers customers 24/7 banking services. E-banking customers are able to check their account balances, pay bills, apply for a loan, trade securities, and conduct other financial transactions [35]. Customers become satisfied when they are able to perform their banking transactions at any location and any time convenient for them [30], [34]. Previous studies have also empirically acknowledged a positive relationship between convenience and customer satisfaction and also explained convenience as critical dimension of e-banking [36]–[39]. It is therefore hypothesized in this study that convenience as a dimension of e-banking service has a positive impact on customer satisfaction.

Reliability explains the promptness of delivering e-banking service in an accurate way and in line with advertised attributes [23], [37]. Many studies argue that the success of electronic banking depends on e-banking service and reliability [40]–[42]. Reliability is established in some studies as a key factor that most customers consider before and even during usage of e-banking service [43], [44]. Prior researches have revealed reliable/prompt responses, attentiveness, and error-free e-banking platforms have a considerable impact on customer satisfaction [45], [46]. As a result, this study proposes that e-banking reliability has a positive impact on customer satisfaction.

E-banking availability is recognized as the ability of users to access banking information and services from the web [38]. Customers can access e-banking services only when the service is available. Recent studies conducted to assess customers' perception, satisfaction and reaction to e-banking products and services concluded that availability is a key driver of customer satisfaction in e-banking service delivery [47]–[49]. Other studies also reported the relationship between e-banking service availability and customer quite differently by stating that satisfaction level of e-banking users is directly related to the availability [34], [50]. This presupposes that there exist a positive relationship between e-banking availability and customer satisfaction.

The conceptual framework

In the light of the literatures reviewed, this study conceptualizes that e-banking availability, convenience and reliability positively affects customer satisfaction. The conceptual framework including the hypothesized relationships between e-banking availability, convenience, customer satisfaction is depicted in figure 1.

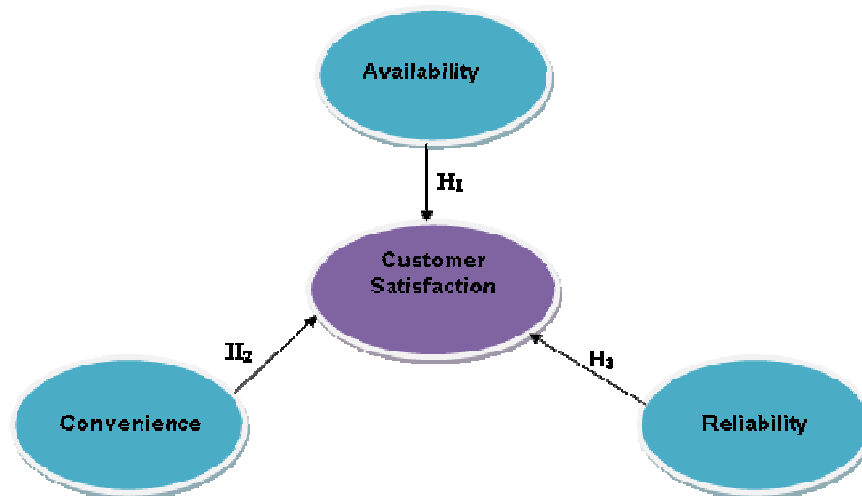


Figure 1: Conceptual framework
Source: Authors' Construct

4. HYPOTHESES

This study proposes the following hypothesis in achieving the research objectives.

H_0 : X_i does not have positive impact on customer satisfaction.

H_a : X_i has a positive impact on customer satisfaction.

For $i = 1, 2, 3$ and X_1, X_2 , and X_3 , represent e-banking availability, convenience and reliability respectively.

5. METHODOLOGY

Data for this study were gathered from both primary and secondary sources. The secondary data were gathered through internet web pages, journals and books. Primary data were gathered through questionnaires. The population of the study was customers of Guaranty Trust Bank Ghana Limited, Ecobank Ghana Limited and Barclays Bank Ghana Limited. Purposive sampling was utilized in a 150 sample-size selection (50 from each bank). The sample size is based on judgmental sampling approach since the population is infinite. This is because banks are not willing to disclose the number of their customers due to competition and other reasons. SPSS Statistics version 21 was used to analyze the primary data. Multiple regression analysis was performed to determine the impact of e-banking service delivery on satisfaction of customers in the selected banks.

6. RESULTS AND DISCUSSION

The following interpretations and discussions were based on the analysis and findings of the study.

Table 1 shows an R-square value of 0.725 which indicates that the predictors (convenience, availability and reliability) account for approximately 72% of the variation in customer satisfaction. The R value of 0.851 also signifies a strong positive correlation between convenience, availability, reliability and customer satisfaction. This implies that convenience,

availability and reliability of e-banking services have a strong relationship customer satisfaction with e-banking services in the selected banks.

Table 1. Regression Model Summary

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851 ^a	.725	.719	.64198

a. Predictors: (Constant), Convenience, Availability and Reliability.

Table 2 shows an ANOVA Table of regression model. At $\alpha=0.05$, $P < .000$ indicate statistically significant predictors (convenience, availability and reliability) for the dependent variable (customer satisfaction). Additionally, $P = .05$ suggests a good fit data for the regression model. As a result, there is enough evidence against the null hypothesis (X_1 has no significant impact on customer satisfaction).

Table 2. ANOVA^a

Model		Sum of squares	Df	Mean Square	F	Sig
1	Regression	158.601	3	52.867	128.276	.000 ^b
	Residual	60.172	146	.412		
	Total	218.773	149			

a. Dependent Variable: Customer satisfaction

b. Predictors: (Constant), Convenience, Availability and Reliability.

6.1 Determining the regression equation

Table 3. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.057	.139		-.410	.682
	Availability	.103	.042	.115	2.476	.014
	Reliability	.259	.122	.257	2.127	.035
	Convenience	.663	.142	.559	4.683	.000

a. Dependent Variable: Customer satisfaction

Significant at 0.05 level

From Table 3, it is evident that availability, reliability and convenience are all significant at $\alpha=0.05$. The coefficients table has the first column containing the beta coefficients (β_0 , β_2 , and β_3). From the table, $\beta_0 = -0.057$, $\beta_1 = 0.103$, $\beta_2 = 0.259$, $\beta_3 = 0.663$

The regression equation becomes:

$$R = -0.057 + 0.103X_1 + 0.259X_2 + 0.663X_3$$

Thus for every 1 unit change in customer satisfaction the banks must improve upon e-banking availability by 0.103 holding all other variables constant; for every 1 unit change in customer satisfaction the banks must improve e-banking reliability by 0.259 holding all the other variables constant and for every 1 unit change in customer satisfaction the banks must improve e-banking convenience by 0.663 holding all the other variables constant. From the equation a positive correlation between customer satisfaction and e-banking availability, reliability and convenience is glaring. This is an indication that improved e-banking service could be used to enhance customer satisfaction in the selected banks.

7. CONCLUSION

Most banks in first world countries and even some banks in second world countries like Ghana are now offering e-banking services in diverse ways. Despite the adaptation to e-banking by many banks in Ghana the issue of service delivery and customer satisfaction with e-banking service has not received much attention in literature. Consequently, this paper investigates into e-banking service along three factors, namely; availability, reliability and convenience in Ghana and also ascertain the impact of the three factors on customer satisfaction in the country. The impact of e-banking service delivery on satisfaction of customers in Guaranty Trust Bank Ghana Limited, Ecobank Ghana Limited and Barclays Bank Ghana Limited have been analyzed in this study. Based on the data analysis and findings, a positive correlation between e-banking availability, reliability and convenience and customer satisfaction is established. It is evident that improved e-banking service delivery heightens customer satisfaction. Additionally, location and time-bound restrictions on banking service accessibility are thus eliminated. It is therefore recommended that banks provide customers with uninterrupted, reliable and convenient e-banking services so as to satisfy customers in order to retain them. Future research could also be engineered to consider e-banking related issues such as security, privacy and trust and how they influence customer satisfaction.

COMPETING INTEREST

Authors have declared that no competing interests exist.

CONSENT

Not Applicable.

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DEFINITIONS, ACRONYMS, ABBREVIATIONS.

ATM: Automated Teller Machine

E-banking: Electronic Banking

E-business: Electronic Business

PC: Personal Computer

ICT: Information and Communication Technology

IT: Information Technology

24/7: Around-the-clock