Internet Banking in Ghana: Challenges and Benefits

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Abstract- One of the most important competitive tools and strategic strengths of banks today is information technology. Technological investments in banks enhance customer experience and satisfaction through operational excellence, improved and convenient product and service offerings. This notwithstanding, customers face some challenges with these technological innovations. The ability of banks to compete effectively on these technological innovations depends largely on ensuring that the benefits outweigh the challenges faced by customers. This study used both qualitative and quantitative approach to investigate the benefits and challenges of internet banking in Ghana, with specific emphasis to a commercial bank. The study employed Kendall's Coefficient of Concordance to establish the degree of agreement among the respondents on internet banking challenges. Kruskal-Wallis ranking method was also employed to analyse respondents rating of reduction in banking hall transactions, as a result of using internet banking services. The results of the study revealed frequent breakdown of websites, high service charges, low limit on funds transfer and slowness of transactions as key challenges facing internet banking customers in Ghana. On the other hand, customers will be more satisfied when internet banking platforms are enhanced with other banking services. The study concluded that there was a significant effect of the use of internet banking services on the volume of banking hall transactions. In addition, there was a weak-to-moderate level of evidence of agreement among the respondents on the internet banking challenges. It was therefore recommended for banks in Ghana to invest in alternate banking channels in order to remain competitive, satisfy and retain their customers and reduce the long queues that often characterise the banking halls. Equally, banks need to take steps to mitigate challenges affecting customers in the use of internet banking services.

Index Terms— Banking, Innovation, Service, Technology.

I. INTRODUCTION

Technological advancement has contributed significantly to service industries, particularly, the banking industry. The bank as a service industry is constantly introducing innovative banking channels to render effective and efficient services to its cherished customers. These modern and innovative ways of banking is gradually eliminating the traditional method of banking. This is supported by [1] that information and communication applications are of paramount concern to banks in today's business environment and the internet has become the major platform for all financial, banking and commercial transactions. The introduction of IT services by the banks has positively impacted the rate at which customers visit banking halls [2]. In the past decades, customers must necessarily have to be in the traditional banking halls to be offered basic banking services such as bank account statement generation and balance enquiry. "One of the biggest advantages of internet banking consists of complex banking solutions" [3]. Today, growth in information technology has made it possible for customers to perform even complex banking transactions without being physically present in the banking halls. These electronic transactions, especially through the internet, however present benefits and at the same time pose challenges to both customers and the bank as a whole. This is supported by [4] indicating that "while electronic banking can provide a number of benefits for customers and new business opportunities for banks, it exacerbates traditional banking risks". It is therefore beneficial to understand the challenges and benefits of internet banking services.

A. Banking in Ghana

"The financial sector, of which banking sector is the largest player, plays a dominant role in building the economy of an individual as well as a nation" [5]. This is not different from developing economies such as Ghana. There are currently 30 banks in the Ghanaian banking industry with over 904 branches [6]. The industry has been more liberalised and very competitive. In a bid to effectively compete and improve efficiency, most of the banks have deployed at least one form of electronic banking channel. One such channel for providing electronic banking services is the internet banking platform. Most banks in Ghana today, have implemented internet banking with minimum level of self-service such as checking bank account balance, generating bank account statement and fund transfers between accounts within the same bank. Some banks have automated clearing house (ACH) functionality which allows for transfer of funds between two banks through an intermediary, Ghana Interbank Payment and Settlement Systems (GhIPSS). This transfer of funds however does not happen instantly. This limitation is being eliminated with the introduction of an instant bank transfer system known as the GhIPSS Instant Pay (GIP) which is expected to drive Ghana's economy closer to a cashless society.

B. Internet Banking in Ghana

In a bid to improve service quality, gain competitive advantage and to move with global technological advancements, banks in Ghana have implemented some form of internet banking platform for their customers. This is to enable the customers perform online transactions such as balance enquiries, chequebook requisitions and fund transfers. Aside these, banks are now moving a step ahead in integrating payment systems with their internet banking platforms. This is to expand the online transactional services to enable customers make payments for fees and utility bills.

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In the Ghanaian banking sector, more than 70% of banks are currently offering internet banking services to their customers. This significant number has revealed the high rate at which internet banking is penetrating the Ghanaian economy.

II. PROBLEM STATEMENT

The banking industry is constantly introducing new electronic products and services in response to customers' preferences and as a result of competition within the industry. Banks have introduced products and services that enable users to perform several banking transactions without necessarily contacting the traditional brick-and-mortar banking halls. These electronic services are intended to enhance operational efficiency and customer convenience. One such service is the internet banking service. Internet banking is an electronic channel that enables banking customers to perform electronic transactions such as balance enquiry, requisition of chequebooks, electronic fund transfers etc. through system interactions. As long as the interactions are with systems, there are bound to be some challenges militating against the use of these services. Data security is one of the main concerns by customers in the consumption of internet banking. This is in agreement with a study conducted by [7] which concluded that online customers are concerned with lack of security features. "An important security requirement for an internet banking application is to ensure efficient protection against identity substitution and information transmission under false identity" [8]. Notwithstanding the challenges, these electronic services offer a number of benefits to both customers and the banks. Whilst some banks introduce these services in a bid to decongest the traditional banking halls, subscribers of internet banking services still congest the banking halls with long queues. It is against this background that the study has been conducted to unravel the challenges and prospects associated with internet banking services in Ghana. Ghana is among the most dynamic countries in the ICT Development Index (IDI) 2011, registering a 23 per cent increase in its IDI, from 1.81 in 2010 to 2.23 in 2011, making it the country with the highest relative IDI change in 2011.This shows a rapid growth in ICT performance in Ghana [9].

III. OBJECTIVES OF THE STUDY

The main objective of the study is to investigate internet banking services in the Ghanaian economy.

The study further seeks to:

1) Determine the challenges facing internet banking customers in Ghana.
2) Determine whether the use of internet banking services reduces the volume of banking hall transactions.
3) Reveal the benefits derived from the use of internet banking services in Ghana.

IV. SIGNIFICANCE OF THE STUDY

The findings from this study will contribute to the service quality literature in the area of internet banking in emerging economies. The findings can also enable banks make better decisions that help improve their internet banking service offerings. This can be achieved through the study of the factors that contribute to the success or failure of internet banking services. The study is also expected to serve as a platform for further research in Information Technology service management.

V. LITERATURE REVIEW

The internet does not only change the service delivery culture within the banks but rather the mechanism by which customers access banking services. The high pace of growth of information technology has given rise to technologically innovative products and services within the banking industry. "The term internet banking is used to describe the case where banks' customers conduct banking transactions on the internet" [10]. According to [11], "the internet banking phenomenon has transformed the way banks across the world carry out banking transactions and has brought about new strategic directions for investment in banking information and communication technologies". Banking services have traditionally been a "human interactive service" in which customers will have to directly interact with humans or employees of the banks. In this traditional approach, service was delivered through the combined relationship between the banks, customers and the service delivery officers such as bank tellers or customer service officers. This interrelationship among these key players in the delivery of the banking service is termed the service marketing triangle as shown in "Fig 1" below;

"Fig.1" The services marketing triangle. Adapted from [12]

The key players in the delivery of internet banking services are as below;

- Company representing the banks
- Providers representing the frontline service employees
- Customers representing internet banking users

The traditional banking services are gradually being replaced by the concept of self-service in the design and delivery of banking products. This has become possible as a result of the central role played by technology in the delivery of banking services. This is depicted below in "Fig 2";

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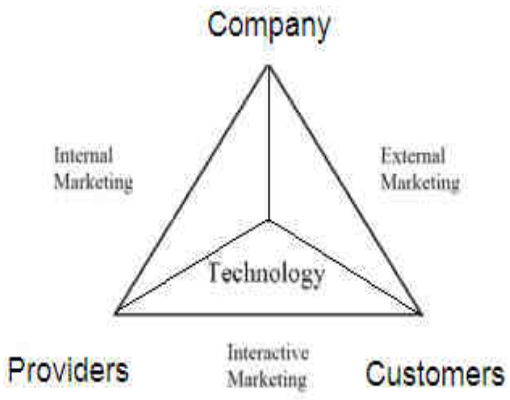

"Fig.2" The services marketing triangle and technology. Adapted from [12]

This paradigm shift in the design of banking products is largely being driven by the application of information technology. The introduction of technology in the service delivery is expected to eliminate the challenges faced by customers as a result of the human element in the traditional banking service delivery. On the other hand, the infusion of technology in the service marketing model is likely to pose some challenges to customers due to the elimination of service providers or employees. An example of an essential self-service concept is the deployment of internet banking platform to customers. These platforms are being deployed to drive efficiency and combat the high levels of competition within the banking industry. This is supported by a study conducted by [13] which found out that internet technologies have been embraced by the banking industry and, for several years, banks in developed countries pursued strategies to encourage their clients to engage in internet banking. Internet banking is therefore a strategic tool for banks for the introduction of innovative products that helps to attract, retain and increase their customer base. Customer services and customer satisfaction have become critical factors in today's innovative banking. In an article by [14], "if clients are not happy and satisfied with the products, prices or services offered by a particular bank, they are capable of changing their banking partner very easily as compared to what happens in the physical or real bank-client relationship". A study by [5] also concluded that "customers are more value oriented in their services because they have alternative choices in it". The researcher further stated that each and every bank therefore has to take care in fulfilling customers' satisfaction. This therefore suggests that banks need to focus on service delivery, providing innovative technological products, thus ensuring that those products and services are always available, functional and exceeding customers' expectations, whilst improving the products and services due to the constantly changing needs of customers. Today, customers are able to conveniently perform some traditional banking services through internet banking platforms. With any smart device, such transactions can be performed by the customers from anywhere and at any time. A research by [15] reports that "banking is no longer bound to time or geography". This is supported by a study by [16] that electronic banking enables to conduct banking business electronically over the internet where the costs are minimal and not bound by time or geographical boundary. The researcher also found out that "internet banking has been viewed by banks and customers as a cost reduction channel". Similarly, some customers are reluctant to use internet banking services as a result of some challenges posed by these services. Whilst internet banking services offer enormous benefits to consumers in terms of convenience, they pose some challenges that are worth looking into. These challenges attribute to various behavioural attitudes of customers towards the use of internet banking services. Reference [17] found out that most customers who have adopted internet banking services believe that it has a lot of potentials in terms of its advantages, whilst others believe that there are more problems associated with internet banking services than the advantages. This, the study claimed was due to the security and privacy issues, telecommunication infrastructural issues, poor customer education and poverty (low income) issues. It is therefore necessary for banks to ensure internet banking platforms are robust and secured to prevent hackers from accessing users' bank accounts. As stated by [18], one of the most significant advantages of alternative banking channels is the fact that customers are not limited to the working hours of the traditional brick-and-mortar bank branches. As a result, customers can perform self-service transactions from anywhere and at any time, thereby spending their time more efficiently rather than standing in long queues in the traditional banking halls. The work of [19] on electronic banking in a developing economy indicated that electronic banking services have become popular because of the convenience and flexibility they provide. It is also as a result of transaction related benefits like speedy transaction processing and efficiency - less cost and time saving. The researcher however found security concerns as the most critical challenge facing customers. One other challenge with internet banking has to do with the fact that, users cannot deposit physical cash or withdraw physical cash from their accounts. According to [20], a prominent factor has to do with lack of computer or level of internet access. An interesting feature offered by most internet banking platforms is the possibility to transfer electronic cash from one account into another. For most developing economies such as Ghana, these fund transfers are mostly instant between accounts of the same bank. "One of the most significant areas where information technology has had a positive impact is on substitutes for traditional funds movement services" [5]. The opinion of [21] is that internet banking has presented a number of desired features or range of online services to customers. Such features or functionalities are broadly aimed at eliminating the face-to-face contact with bank staff. It is therefore essential to ensure that internet banking platforms are easy to navigate by the customers to ensure they can efficiently carry out the desired services. To avoid customer dissatisfaction, internet banking platforms must be deployed using the right technologies, ensuring that the platforms are always available, minimising the frequency of technical breakdown of internet banking websites. In an exploratory study conducted in Zimbabwe by [22], payment of bills, checking of bank account balances, printing account statements, fund transfers and ordering chequebooks are by far the most popular features of internet banking services. This suggests that

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complex features such as foreign exchange trading, liquidity management, personal financial management, cash management, account opening and loan application origination have not yet been integrated into internet banking platforms in most developing economies. "The integration of information and communications technology in business has revolutionised relationships within organisations and those between and among organisations and individuals" [23].

VI. METHODOLOGY

This section explains the methods used to achieve the objectives of the study. It also explains the research design, the sources of data, the data collection method, the study population, the sample size, sampling technique and how data obtained from the study were analysed.

A. Research Design

The study is a descriptive and cross-sectional study that is aimed at investigating internet banking services in the Ghanaian economy. This is a cross-sectional study as it focuses on a specific phenomenon at a specific time. Interviews and structured questionnaires were used as primary data collection instruments. The study employed both quantitative and qualitative methods of data analysis.

B. Population and Sampling

The study population comprised all banking customers in Ghana, whilst the sample frame is the set of internet banking customers of an award winning bank in product innovation in the Ghana Banking Awards, 2014. Purposive sampling technique was used for the study. This technique enabled the researcher to target specific customers that could provide relevant data for the study. As a result of the researcher's inability to work with the large sample frame and due to the sampling technique employed, only twenty four (24) customers were selected for the study.

C. Data Collection

Questionnaires were used as data collection instruments for the study. The questionnaire consists of both closed-ended and opened-ended questions. Some interviews were also conducted to solicit interviewees' feelings and lived experiences in the use of internet banking services.

D. Analysis of Data

Descriptive statistics such as frequency distributions were used to quantitatively analyse and summarise the data collected. Some individuals' speeches were also presented to share individual feelings and experiences in the use of internet banking services. The quantitative analysis was done using statistical package for social sciences (SPSS) and Microsoft Excel. A study by [24] observed that "a common problem in practical statistics is to decide whether several samples should be regarded as coming from the same population". "The Kruskal-Wallis test uses ranks of ordinal data to perform an analysis of variance to determine whether multiple groups are similar to each other" [25]. The Kruskal-Wallis ranking method was used to analyse respondents' rating of reduction in banking hall transactions, as a result of using internet banking services. In other words, respondents were asked to rate how the use of internet banking services reduced their visit to the banking halls as compared to when they were not using those electronic services. The study made use of Kruskal-Wallis test because the researcher has three or more conditions to compare with each condition being performed by a different group of participants. In addition, the datasets are measurements on an ordinal scale. This test was employed to analyse respondents rating of reduction in banking hall transactions, as a result of using internet banking services. With no ties in ranking, Kruskal-Wallis formula is given by the test statistic;

$$H = \left[\frac{12}{N(N+1)}\sum\frac{T_c^2}{n_c}\right] - 3(N+1). \quad (1)$$

This implies

$$H=\frac{12}{N(N+1)}\left(\frac{T_1^2}{n_1}+\frac{T_2^2}{n_2}+\frac{T_3^2}{n_3}\right) - 3(N+1) \quad (2)$$

Where $N = n_1 + n_2 + n_3$ (3)

n_1=Size of sample 1
n_2=Size of sample 2
n_3=Size of sample 3
T_1=sum of ranks for sample 1
T_2=sum of ranks for sample 2
T_3=sum of ranks for sample 3

The hypothesis tested is;

H_0: There is no difference in the ratings of the reduction in banking hall transactions, as a result of using internet banking services.

H_1: There is difference in the ratings of the reduction in banking hall transactions, as a result of using internet banking services.

The degrees of freedom = k-1, where k is the number of conditions being compared. In general, "large values of the test statistic H, leads to the rejection of the null hypothesis" [24]. If the test value is greater than the critical value, the null hypothesis will be rejected and if the test value is less than the critical value, the null hypothesis will not be rejected.

In the analysis of the challenges associated with internet banking however, Kendall's Coefficient of Concordance was employed to establish the degree of agreement among the respondents. Kendall's coefficient of concordance was used to analyse the degree of agreement between respondents on the following internet banking service challenges: frequent breakdown of websites, high service charges, low limit on fund transfers and slowness of transactions. Kendall's coefficient of concordance is

$$W = \frac{12}{n^2k(k^2-1)}\sum_{i=1}^{k}(R_i-\bar{R})^2 \quad (4)$$

Where $\bar{R} = \frac{1}{k}\sum_{i=1}^{k}R_i$ (5)

R_i =sum of rank assigned to the i^{th} challenge
k= number of challenges being ranked

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n= number of respondents

Hypothesis tested is;

H_0: There is no agreement among respondents on the challenges of internet banking services.

H_1: There is agreement among respondents on the challenges of internet banking services.

If the computed value of W is greater than the critical value, the null hypothesis will be rejected and the conclusion will be drawn that there is agreement among respondents on the challenges of internet banking services. On the other hand, if computed value of W is less than the critical value, the null hypothesis will not be rejected and the conclusion will be drawn that there is no agreement among respondents on the challenges of internet banking services. According to Kendal's formula, if W is 0, then there is virtually no agreement among the respondents, and their responses may be regarded as random. If however, the test statistic W is 1, then there is perfect agreement among the respondents. Intermediate values of W show various degrees of unanimity among the various responses.

E. Reliability and Validity

Central to the understanding of results derived from questionnaires, are the issues of reliability and validity which underpin questionnaire development [26]. To ascertain validity and reliability, the questionnaire was pretested using five (5) internet banking users to determine whether the instrument will be understood and attract the required responses. A research by [27] claimed that there are readily available statistics to measure reliability but no simple computed statistic to establish validity. The researchers further stated that validity is established if an instrument actually provides a measure of what it purports to measure". Reliability on the other hand is defined by [28] as "the degree to which measures are free from error and therefore yield consistent results". In other words, reliability is the degree to which a measurement technique can be depended upon to obtain consistent results in repeat testing. The researcher therefore ensured that the wordings of the questions were clear and unambiguous so as not to misinterpret the intended meanings.

VII. RESULTS AND DISCUSSION

The main purpose of this section is to present the analysis and findings of the study.

A. Internet Banking Effect on Volume of Banking Hall Transactions

Three (3) groups of internet banking users below were made to rank the reduction in banking hall transactions, as a result of using internet banking services. These groups are those who use internet banking for less than a year (short-term users), those who use internet banking between 1 year and 3 years (medium-term users) and those who use internet banking for more than 3 years (long-term users). The researcher made use of Kruskal-Wallis ranking method to test the following hypothesis;

H_0: There is no difference in the ratings of the reduction in banking hall transactions, as a result of using internet banking services.

H_1: There is difference in the ratings of the reduction in banking hall transactions, as a result of using internet banking services.

The results of the analysis are shown in Table I, Table II and Table III below;

Table: I Ranks

	Condition	N	Mean Rank
Rating	Using internet banking for less than 1 year (Short-term experience)	8	13.38
	Using internet banking for between 1 and 3 years (Medium-term experience)	8	12.19
	Using internet banking for more than 3 years (Long-term experience)	8	11.94
	Total	24	

Table: II Test Statistics

	Rating
Chi-square	0.193
df	2
Asymp. Sig.	0.908

Table: III Descriptive Statistics

	N	Mean	Std. Deviation	Min	Max
Rating	24	61.25	24.595	10	95
Condition	24	2	0.834	1	3

With 2 degrees of freedom, the chi-square value from the chi-square table at 5% significance level is 5.99. The empirical chi-square value is 0.193. Since the test value is less than the critical value (0.193 <5.99) or the p-value is greater than the level of significance (0.908>0.05) the researcher failed to reject the null hypothesis and concludes that there is no difference in the ratings between the three groups of internet banking users. This means that there is enough evidence to support the null hypothesis. It can therefore be concluded that there was a significant effect of the use of internet banking services on volume of banking hall transactions ($H(2) = 0.193$, $p < .05$). It is therefore essential to introduce alternate banking channels in order to reduce or eliminate the long queues of customers waiting to be served in the banking halls.

On the other hand, it is also essential for banks to note that for some customers, these virtual and alternate channels of banking cannot replace the traditional banking experience. One respondent and long-term user of internet banking services captured this point:

For me, this physical location and human touch in banking cannot be eliminated. Irrespective of the services available on the internet banking platform, I will visit the banking hall.

This suggests that, alternate electronic channels of banking should be regarded as supplementary but not complementary

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channels.

B. Challenges of Internet Banking

The study investigated key challenges faced by internet banking customers. These challenges are frequent breakdown of websites, high service charges, low limit on fund transfers and slowness of transactions. Kendall's coefficient of concordance was employed to test whether or not there is agreement among respondents on the challenges encountered in using internet banking services. The researcher employed Kendall's coefficient of concordance to test the following hypothesis;

H_0: There is no agreement among respondents on the challenges of internet banking services.

H_1: There is agreement among respondents on the challenges of internet banking services.

The result of the ranking is as shown in Table IV below.

Table: IV Ranking of internet banking challenges

Challenges of internet banking	Rankings
Slowness of transactions	1st
Frequent breakdown of websites	2nd
Low limit on funds transfer	3rd
High service charges	4th

The Kendall's W test result is as per Table V below;

Table: V Kendall's coefficient of concordance

Test statistics	Values
N	24
Kendall's …	0.219
Chi-square	15.75
df	3
Asymp. Sig.	0.001

From Table V, the computed statistic is 15.750 while the critical value $\chi 0.05, 23 = 35.172$. Since the test value is less than the critical value (15.750<35.172), the researcher failed to reject the null hypothesis. It is therefore concluded that there is no convincing evidence of agreement among the respondents.

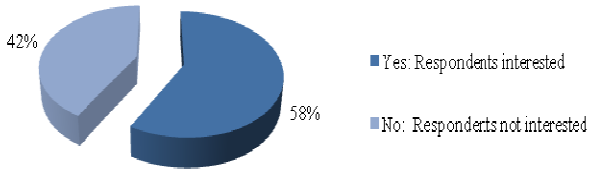
The W value - Kendall's coefficient of concordance is 0.219. This shows the strength of agreement among the respondents in ranking internet banking challenges. Even though W=0.219 is statistically significant, it is in the weak-to-moderate range. In other words, whilst there appears to be some agreement among the respondents, it is not sufficient to conclude that the respondents agree. This result is therefore essential to guide the banks to prioritise plans to mitigate challenges affecting customers in the use of internet banking services. Thus, attempts to increase internet banking services charges could cause customer dissatisfaction as explained by one of the respondents during an interview session:

Why should I pay for my internet access at home and still be charged for internet banking services? It is better to go to another bank where I know I will not be charged for internet banking services.

This implies banks need to consider reducing or eliminating internet banking charges in order to remain competitive.

C. Enhancing the Internet Banking Platform

The study employed frequency distribution to determine the need to enhance the internet banking platforms. "Fig 3" below shows the findings.



"Fig.3" Respondents interest in enhancing internet banking platform

From "Fig 3", 14 customers representing 58% of the total respondents requested for new banking services to be offered on internet banking platforms. It can therefore be concluded that banks need to innovate and enhance their internet banking platforms in order to attract and retain customers. It is also essential to conclude that the 42% of respondents who were not interested in the enhancement of the internet banking platform might be frustrated with the challenges and hence preferred the traditional banking hall services to internet banking platforms.

D. Reasons for Visiting the Banking Halls

Frequency distribution was employed to understand the respondents' main reason for visiting the traditional banking halls. The findings are illustrated in Table VI below;

Table: VI Reasons for Visiting Banking Halls

Reasons	Number of respondents	Percentage
To make a deposit	17	71
To enquire about a balance	2	8
To withdraw cash	4	17
Others	1	4
Total	24	100

The findings in Table VI reveal that only 8% of the respondents visit the traditional bank branch for bank account balance enquiry, a service that is offered on the internet banking platform. Whilst this might be due to various reasons such as internet banking challenges, banks also need to ensure customers are well educated on their products and services. The findings also show that majority of the respondents (88%) visit the bank branches to perform transactions related to physical cash – cash deposit and withdrawal. Since these physical cash services are not available on internet banking platforms, it is important for banks to consider alternate banking channels and other technological innovations that integrate these services with the internet banking platforms. No wonder, in response to a question about the need to visit

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the banking halls, one interviewee had this to say:

I don't really go to the banking hall for cash withdrawal. I always make use of the ATM for cash withdrawals. But, internet banking is good. For example, you can be in the comfort of your home and make fund transfer transactions.

Automated Teller machines (ATM) may be used for cash deposits to decongest the banking halls whilst cash withdrawal can be accomplished with the integration of ATM and internet banking platforms where a cardless cash withdrawal service initiated on internet banking platform generates a secured token that enables cash withdrawal from the ATM. It may also be necessary for an account holder to initiate a fund transfer from bank account directly onto a mobile phone cash wallet of a person who is not necessarily an account holder. This innovation will help decongest the banking halls with third party cheque withdrawals. The study also found out that electronic fund transfer is one of the key benefits customers derive from the use of internet banking services. It is therefore essential for banks to continuously provide innovations relating to fund transfers. Other benefits include the convenient use of services such as bill and utility payments, chequebook requisitions, standing instruction requests and electronic account statement generation.

VIII. CONCLUSIONS AND RECOMMENDATIONS

A. *Conclusions*

This paper employed Kendall's Coefficient of Concordance to establish the degree of agreement among the respondents on internet banking challenges and used both qualitative and quantitative approach to investigate the benefits and challenges of internet banking in Ghana, with specific emphasis to a commercial bank. It was clear that, in as much as internet banking services offer significant benefits to both banks and customers, they also pose some challenges. The research finding was consistent with the findings of other researchers of the past [29], [30] and [31]. It was also observed that, there is some agreement between respondents on the following internet banking service challenges: frequent breakdown of websites, high service charges, low limit on fund transfers and slowness of transactions. The study revealed that some customers are willing to continue using internet banking services irrespective of the challenges they encounter with them. This shows that customers will totally embrace internet banking services when the challenges associated with them are totally eliminated. It can also be concluded from the study that, internet banking services have significant impact on the volume of banking hall transactions. There is therefore the need for banks to introduce alternate banking channels in order to reduce or eliminate the long queues of customers waiting to be served in the traditional brick and mortar banking halls. This is in line with recommendations by [32] for banks to embrace electronic banking as a key competitive advantage. The main benefit derived from internet banking is the convenience with which the service is consumed by the customers, thereby eliminating long customer waiting queues from the banking halls.

B. *Recommendations*

The study shows that internet banking customers experience some challenges with internet banking platforms. Whilst it is important for banks to introduce innovative electronic products such as internet banking, it is essential to ensure that the internet banking platforms are robust and always available to serve customers all the time. In order words, banks need to take steps to address these challenges in order to build customer confidence, thereby increasing the rate of use of internet banking services. It is critical as a customer focused bank, to avoid technology failures rather than taking steps to resolve those failures when they occur. It is therefore recommended for banks to consider alternate electronic channels as supplementary but not complementary channels. Banks also need to improve internet banking services with innovative ideas. It is also worth noting that banks of the future are those that think innovation to delight their customers. In other words, banks need to consider integration across all bank channels. Banks should focus on the effective use of cloud technology, while ensuring information security and stability/uptime. It is also essential to reduce or completely eliminate the charges associated with internet banking services. This way, customers will be willing to save with the banks, thus resulting in cheap deposits for the banks. Internet banking websites need to be user friendly and easy to navigate. Whilst banks increase the fund transfer limits on internet banking platform in order to satisfy customers, this should be done within a regulated risk control framework so as to protect the interest of both customers and bank as a whole. Banks also need to organise educational campaigns aimed at increasing customers' knowledge base on the benefits and use of internet banking service. It is also critical that banks put in place proper security infrastructures such as SSL for securing browser to web server communications and also deploying multifactor authentications in a bid to protect their internet banking customers.

C. *Limitations and Future Research*

The findings were obtained from a study that investigated internet banking with customers of a specific bank in Ghana. This study could be prone to researcher bias, as a result of the sampling technique (purposive sampling) used. The results of the study should therefore be viewed in the light of its limitations. These limitations pave the way for future research. First, future research can expand the scope by using multiple banks with large sample size and a different sampling technique that could enable generalization of the findings. A further research could be conducted by considering other challenges facing internet banking customers. It will also be of interest to investigate the robustness and security of internet banking platforms. The study however has been able to contribute to the existing literature on internet banking and its benefits and challenges in the Ghanaian banking industry.

REFERENCES

[1] G. Worku, "Electronic-banking in Ethiopia-Practices, opportunities and challenges," *J. Internet Bank. Commer.*, vol. 15, no. 2, pp. 2–8, 2010.

[2] K. Obiri-Yeboah, R. Kyere-Djan, and K. O. Kwarteng, "The role of information technology on banking service delivery: A perspective from customers in Ghana."

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[3] C. M. Matei, C. I. Silvestru, and D. S. Silvestru, "Internet banking integration within the banking system," *Rev. Inform. Econ. Nr*, vol. 2, no. 46, pp. 1012–1018, 2008.
[4] A. Y. Mermod, "Customer's perspectives and risk issues on e-banking in Turkey; Should we still be online," *J. Internet Bank. Commer.*, vol. 16, no. 1, pp. 2011–04, 2011.
[5] K. C. Biswal, "Emerging trends in the Indian banking sector-Challenges & opportunities," *Int. J. Adv. Arts Sci. Eng.*, vol. 3, no. 6, pp. 2320–6144, Jan. 2015.
[6] PwC, "Ghana banking survey report," 2015.
[7] A. H. Seyal and M. M. Rahim, "Customer satisfaction with internet banking in Brunei Darussalam: Evaluating the role of demographic factors," *E-Serv. J.*, vol. 7, no. 3, pp. 47–68, 2011.
[8] M. F. Talpos and D. Cândea, "Contemporary challenges in internet banking," *Manag. Chall. Contemp. Soc. Proc.*, p. 285, 2009.
[9] Union internationale des télécommunications, *Measuring the information society 2012*. Geneva: International telecommunications union, 2012.
[10] C. Sayar and S. Wolfe, "Internet banking market performance: Turkey versus the UK," *Int. J. Bank Mark.*, vol. 25, no. 3, pp. 122–141, Apr. 2007.
[11] H. M. Sabi, "Developing countries," *J. Internet Bank. Commer.*, vol. 19, no. 2, 2014.
[12] R. Venkatesh, "Marketing theory and its applications in the healthcare industry," *Int. J. Mark. Technol.*, vol. 2, no. 8, pp. 162–173, 2012.
[13] S. Al-Hajri and A. Tatnall, "Factors relating to the adoption of internet technology by the Omani banking industry," *E-Commer. Trends Organ. Adv. New Appl. Methods New Appl. Methods*, p. 264, 2009.
[14] R. Jatana and R. K. Uppal, *E-banking in India: Challenges and opportunities*. New Century Publications, 2007.
[15] M. S. Alnsour and K. Al-Hyari, "Internet banking and Jordanian corporate customers: Issues of security and trust," *J. Internet Bank. Commer.*, vol. 16, no. 1, pp. 1–14, 2011.
[16] S. K. Kombe and M. K. Wafula, "Effects of internet banking on the financial performance of commercial banks in Kenya. A case of Kenya commercial bank," *Int. J. Sci. Res. Publ.*, vol. 5, no. 5, May 2015.
[17] M. E. Agwu, "A qualitative study of the problems and prospects of online banking in developing economies–case of Nigeria," *J. Internet Bank. Commer.*, vol. 17, no. 3, pp. 1–20, 2012.
[18] G. Angelakopoulos and A. Mihiotis, "E-banking: Challenges and opportunities in the Greek banking sector," *Electron. Commer. Res.*, vol. 11, no. 3, pp. 297–319, Sep. 2011.
[19] E. M. Auta, "E-banking in developing economy: Empirical evidence from Nigeria," *J. Appl. Quant. Methods*, vol. 5, no. 2, pp. 212–222, 2010.
[20] M. Polasik and T. Piotr Wisniewski, "Empirical analysis of internet banking adoption in Poland," *Int. J. Bank Mark.*, vol. 27, no. 1, pp. 32–52, Jan. 2009.
[21] R. K. Srivastava, "Customer's perception on usage of internet banking," *Innov. Mark.*, vol. 3, no. 4, p. 66, 2007.
[22] D. Thulani, C. Tofara, and R. Langton, "Adoption and use of internet banking in Zimbabwe: An exploratory study," *J. Internet Bank. Commer.*, vol. 14, no. 1, p. 1, 2009.
[23] M. Salehi and M. Alipour, "E-banking in emerging economy: Empirical evidence of Iran," *Int. J. Econ. Finance*, vol. 2, no. 1, p. p201, 2010.
[24] W. H. Kruskal and W. A. Wallis, "Use of ranks in one-criterion variance analysis," *J. Am. Stat. Assoc.*, vol. 47, no. 260, p. 583, Dec. 1952.
[25] T. Neideen and K. Brasel, "Understanding statistical tests," *J. Surg. Educ.*, vol. 64, no. 2, pp. 93–96, Mar. 2007.
[26] J. Rattray and M. C. Jones, "Essential elements of questionnaire design and development," *J. Clin. Nurs.*, vol. 16, no. 2, pp. 234–243, Feb. 2007.
[27] D. Kember and D. Y. P. Leung, "Establishing the validity and reliability of course evaluation questionnaires," *Assess. Eval. High. Educ.*, vol. 33, no. 4, pp. 341–353, Aug. 2008.
[28] G. Thanasegaran, "Reliability and validity issues in research," *Integr. Dissem.*, vol. 4, pp. 35–40, 2009.
[29] J. Chavan, "Internet banking–Benefits and challenges in an emerging economy," *Int. J. Res. Bus. Manag.*, vol. 1, no. 1, pp. 19–26, 2013.
[30] A. B. Omar, N. Sultan, K. Zaman, N. Bibi, A. Wajid, and K. Khan, "Customer perception towards online banking services: Empirical evidence from Pakistan," *J. Internet Bank. Commer.*, vol. 16, no. 2, 2011.
[31] A. Dagar, "Online banking : Benefits and related issues," vol. 3, no. 5, pp. 715–719, 2014.
[32] B. W. Okibo and A. Y. Wario, "Effects of e-banking on growth of customer base in Kenyan banks," *Int. J. Manag. Sci. Inf. Technol. IJMSIT*, no. 11-(Jan-Mar), pp. 48–64, 2014.

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