

# Technological Innovations in Banking: User Acceptability and Payment Problems in Ghana: A Case Study of Zenith Bank Ghana Limited

Lawrence Yaw Kusi<sup>1</sup>, Isaac Kwadwo Anim<sup>2</sup>, Kwamena Minta Nyarku<sup>3</sup>

## Abstract<sup>4</sup>

This study sought to uncover technological innovations in banking emphasising user acceptability and payment problems in Ghana, and selected Zenith Bank Ghana Limited as the case study. Questionnaire was the main research instrument adopted, hence designing separate ones for bank officials and customers. Data from secondary sources were also used. The study is a qualitative research and employed the descriptive approach. The population for this study was customers from (8) branches of Zenith Bank in Accra out of a total of 15 branches in the region, including 10 bank officials from the bank's headquarters in Accra. Convenience sampling method was used to sample 80 customers from the total population. Technological innovations have led to: customers accessing their accounts anywhere without visiting a branch; significant improvement in service quality delivery; reduced queues and time involved in banking transactions; customer empowerment; product choices; and reduction in payment problems.

**Keywords:** user acceptability, payment problems, Zenith Bank Ghana Limited, electronic payments channels, factors affecting payment choice.

## 1. Introduction

In Ghana, payment for goods and services is characterised by long queues, long distance travelling and time wasting that generally affect productive economic activities. Following advances in, information technology, electronic payment has created the opportunities to improve the effectiveness of existing payment transactions. Technological progress has brought in the speedy processing and transmission of information, easy marketing of banking products, enhancement of customer access and awareness, wider banking networking and regional and global links on an unprecedented scale (Jayamaha, 2008). Advances in networked information technology, more computing power and lower computing costs are driving more and more firms toward the paperless world of electronic commerce. The payments and clearing system in Ghana is under developed. For instance, cheques drawn in Accra against accounts held in banks in Accra could take three to five days whilst cheques drawn on different regions can take several weeks. There is no central clearing system to clear debit card transactions between banks (Sarpong, 2003).

Many new payment services have come into existence in recent years, most of which are based on technical innovations such as card, telephone and the internet. (Ali & Raza, 2015; Raza & Hanif, 2013; Abor, 2004). Electronic services such as online retail banking are making it possible for individuals and small

---

<sup>1</sup>Department of Management Studies, School of Business College of Humanities and Legal Studies University of Cape Coast Cape Coast, Ghana.

<sup>2</sup> Department of Accounting and Finance, School of Business College of Humanities and Legal Studies University of Cape Coast, Cape Coast, Ghana

<sup>3</sup> Department of Management Studies, School of Business College of Humanities and Legal Studies University of Cape Coast, Ghana

<sup>4</sup> **To cite this article:** Lawrence Yaw Kusi, Isaac Kwadwo Anim, Kwamena Minta Nyarku (2015). Technological Innovations in Banking: User Acceptability and Payment Problems in Ghana: A Case Study of Zenith Bank Ghana Limited. Quarterly Journal of Business Studies, 2(1), 66-81.

institutions to take advantage of new technologies at quite reasonable costs. Numerous studies have highlighted the benefits of electronic payment platforms to users – convenience, security, record-keeping, low cost, and etc. Despite the recent remarkable successes in electronic payment in Ghana, there is more room for improvement to promote non-cash payment systems since a reliable and efficient payment system is crucial to the orderly operation of a nation's banking and financial system. Cash still remains the most popular retail payment instrument despite the increase in the introduction of electronic payment schemes in Ghana.

This study seeks to assess user acceptability and usage frequency of Zenith Bank's electronic products (and delivery channels), electronic payment problems in Ghana, as well as examine the contribution of technological innovations to Zenith Bank's service delivery and growth. For the purpose of this study, the term "electronic payment" refers to convenient, safe, and secure methods for payment of bills and other transactions by electronic means.

## **2. Literature Review**

According to Kalakota and Whinston (1997), "electronic payment is a financial exchange that takes place online between the buyer and the seller. The content of this exchange is usually the form of digital financial instrument (such as encrypted credit card numbers, electronic cheques, or digital cash) that is backed by a bank or an intermediary, or by a legal tender." Humphrey et al (2001), note that electronic payment refers to cash and associated transactions implemented using electronic means. E-payment can be defined as payment by direct credit, electronic transfer of credit card details, or some other electronic means, as opposed to payment by cheque and cash (Agimo, 2004). It is also defined as "a payer's transfer of a monetary claim on a party acceptable to the beneficiary." (European Central Bank, 2003).

Pariwat and Hataiseere (2004) assert that for the achievement of effective and efficient retail payment systems, the following considerations that shape the choice of payment method for customers should be taken into account; convenience, reliability and security of the payment method, service quality; level and structure of fees charged by financial institutions; taste and demography; and technological advances which have improved the speed, convenience and flexibility of different payment systems. All these must end up in ensuring customer satisfaction. Satisfaction remains as a strong predictor for behavioural outcomes (Cronin, Brady, and Hult 2000). Delivering superior value to target customers will enable the business to win in today's market place (Kotler, 1999).

### **• Factors Affecting Payment Choice**

#### **Customers' Wealth/Levels of Income**

According to Kwast and Kennickell (1997), wealth has an important role to play in terms of consumer's decisions on payment choice and the availability of payment instruments that one can choose. For instance, while wealthy consumers may be able to fund their obligations generally, consumers that experience brief financial shortfalls may not find electronic bill payment desirable as a payment instrument (Mantel, 2000). In such a situation, the consideration of the risk factor will allow some consumers to avoid using pre-authorised electronic bill payment.

#### **Educational Level**

Studies have shown that highly-educated people patronise electronic payment products than less-educated people. The technicalities involved in some electronic payment transactions discourage less educated customers to patronise its use (Annon, 1999). Educational levels of customers determine whether consumers will adopt electronic payment or not. Kwast and Kennickell (1997) concluded that the US market for e-money products is still highly specialised, with the demand coming almost entirely from higher income, younger, and more educated households that have accumulated significant financial assets.

### **Employment Levels**

Employees who receive their pay through the banks are more exposed and likely to use electronic means of payment. According to Ferguson (2000), more than half of the workers in the US, in 2000 receive a direct deposit of their pay through the Automated Clearing House (ACH). Few do that in Ghana.

### **Personal Preferences**

The six general consumer preferences identified are: (1) control and customer service; (2) budgeting and record keeping; (3) incentives and low cost; (4) convenience; (5) safe, easy and convenience; and (6) privacy and security.

### **Transaction-Specific Factors**

Refers to the specific nature of the payment being made, where it is being made, and how the consumer views their relationship with the merchant (Mantel, 2000). The use of a particular payment instrument may depend on the value of the bill (large or small). Also the availability of payment infrastructure determines the choice of payment instrument.

### **Marketing Campaigns**

Increased use of electronic payment instruments have been achieved through large-scale consumer marketing campaigns funded by some financial institutions. The marketing activities employed by the financial institutions are expected to aid utilities by educating consumers as to the benefits, ease of use, convenience, and security of paying bills electronically (Mantel, 2000).

### **• Trends in Electronic Payments**

E-banking is regarded as an important delivery channel that offers one-stop services and information unit to gain competitive advantages in banking sector (Malek and Nik, 2011). These techniques represent automation of existing methods of payment, including new or revolutionary ones.

### **Automated Teller Machine (ATM)**

ATM is a combined computer terminal, with cash vault and record-keeping system in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (PIN). The ATM has been the most successful delivery medium for consumer banking in Ghana by providing the convenience customers need (Abor, 2004). Mostly located outside of banks, it can also be found at airports, shopping malls, and places far away from the home bank offices. It can also be accessed by punching a special code number into the computer terminal linked to the bank's computerised records (Rose, 1999)

### **Electronic Purses/Wallets**

The two categories of e-wallet are those that store card numbers and cash, and those that store card numbers. The former operates as a virtual savings account where charges are made for ongoing purchases, particularly micro-payments. Consumers store digital cash that has been transferred from a credit card or virtual cheque inside their e-wallets. The latter is a virtual wallet that can store credit and debit card information, passwords, membership cards, and health information.

### **Electronic Funds Transfer at Point of Sale (EFT/POS)**

EFT/POS is an online system that involves the use of plastic cards in terminal on merchants' premises and enables customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases. It uses a debit card to activate an EFT process, (Chorafas, 1988). It actually comprises two distinct mechanisms: debit and credit cards.

### **Credit Cards**

A plastic card that assures a seller that the person using it has a satisfactory credit rating and that the issuer will see to it that the seller receives payment for the goods or items delivered. This represents the automated capture of data about purchases against a revolving credit account, (Pierce, 2001).

### **Debit Cards**

A new form of value-transfer, where the card holder after keying of a PIN, uses a terminal and network to authorise the transfer of value from their account to that of a merchant. Debit together with credit cards represent the most rapidly growing method of payments in several OECD countries. (Pierce, 2001). When a payment is made through a debit card, the funds are immediately withdrawn from the purchaser's bank account. The advantage is that the buyer has the funds to make the purchase and paid for right away, so there's no credit card shock when the statement arrives in the mail (Okafor, 2006)

### **Smart Cards**

A plastic card with a computer chip inserted into it and that store and transacts data between users. The data, in a form of value or information is stored on the card's chip, either a memory or microprocessor. Smart card-enhanced systems are in use today throughout several key applications, including healthcare, banking, entertainment and transportation. One of the features of this card is that it improves the security and convenience of transactions. The system works in virtually any type of network and provides security for the exchange of data. (Smart Card Basics, 2004).

### **Mobile**

According to Zika (2005), "a mobile payment is an electronic payment made through a mobile device (e.g., a cell phone or a PDA)." A mobile device initiates and confirms electronic payment. Mobile phones opportunity is seen in the embedded SIM (smart) card used to store information of users. The advantage of not needing to use other devices such as modems, point of sale terminals, and card readers for mobile payments is also quite clear.

### **Telephone Banking**

Virtual banking that delivers financial services through telecommunication devices. This is normally done through Automated Voice Response (AVR) technology" (Balachandher et al, 2001). Customer transacts business by dialing a touch-tone telephone connected to an automated system of the bank. Telebanking provides increased convenience, expanded access and significant time saving.

### **Home Banking**

"PC- Banking is a service which allows the bank's customers to access information about their accounts via a proprietary network, usually with the help of proprietary software installed on their personal computer" (Abor, 2004). It is used to perform a variety of retail banking tasks, and offers the customer 24-hours services. "PC-banking has the advantage of reducing cost, increasing speed and improved flexibility of business transactions." (Balachandher et al, 2001)

### **Online/Internet Payments**

The means by which customers transact business with a bank through the use of the Internet. Owoniyi (2001) described Internet Banking as "the provision of traditional (banking) services over the internet". It offers instantaneous settlement of transactions and the prospect of a highly cost effective payment system for low value transactions.

### **Electronic Cheque**

Electronic cheques are used in the same way as paper cheques. The only difference is the dematerialisation of the payment instrument which is passed on via computer networks like the internet. E-Check proposed by Financial Services Technology Consortium (FSTC) is an example of the electronic

## **cheque allowing consumers to use Internet in making cheque payments. Challenges with the Current E-Banking Systems in Ghana**

Notwithstanding the significant benefits of technological innovation especially with the advent of e-banking and its capabilities, it carries risks and challenges which are recognised and need to be managed by financial institutions in a prudent manner (Sumanyi, 2011). Most customers are not trained properly in finance and the increasing complexity underlying the products is even difficult for trained people to understand (Kumar, 2011). These include the lack of familiarity with even traditional forms of electronic commerce such as credit card and limited skills in building e-banking services (Ofori-Dwumfuo and Dankwah, 2013). They further argued that challenges rest not only on that but also, cost of implementation, security concerns, lack of knowledge in ICTs, the lack of technical and managerial support and concerns regarding the reluctance on the part of executive support and concerns regarding the reliability of technology. Risk arising from fraud, processing errors, system disruptions or other unanticipated events resulting in the institutions inability to deliver products or services (Siyambola, 2013) cannot be left out when the issue of challenges of technological innovations in banking is at fore. An interruption in power supply is a key challenge in Ghana.

### **• Importance of Technological Innovations in Banking**

Nath et al, (2001) asserted that technological innovations in banking improve business efficiency, service quality and attract new customers and Al-Sukkar and Hasan (2005) averred that technological innovations help to lower the fees charged by banks and reduce paper work and human error. Kiang et al (2000) posited that disputes can be minimised as there are clear flow of processes. According to Jayawardhena and Foley (2000), ATM improves organisational productivity. They further observed that electronic banking increases competition within the banking system and non-bank financial institutions whiles Thornton and White (2001) asserted that technological innovation in banking ultimately leads to improved customer satisfaction. Kerem (2003) argued that banks are responding to electronic banking differently and that those that see electronic banking as a complement and substitute to the traditional channels achieved better communication and interactivity with customers. Smith (2006) emphasised the importance of human and technology based delivery channels in improving the level of bank customer satisfaction, retention, and switching. Electronic banking has been viewed as an invaluable and powerful tool driving development, supporting growth, promoting innovation and enhancing competitiveness (Kamel, 2005 and Nath et al, 2001).

### **• Empirical Review**

Cash is by far the most widely means of payment in Ghana (Acquah, 2001). Whereas cash is used for payment of low values in other developed countries, a significant portion of both medium and large-value transactions are made through cash in Ghana. This is particularly true in the capital, regional, and district capitals. Below are the various electronic delivery channels in Ghana.

#### **ATM Card**

A major advance in the electronic aspect of the payment systems is the introduction of automatic teller machines (ATMs), to reduce over-the-counter workload of human tellers. Banks in Ghana are currently engaged in finding ways towards the reciprocal use of each other's ATMs. This would imply that customers would not be limited to the use of their bank's ATM, thus providing greater convenience for their customers. According to him, Ghana Commercial Bank (GCB) in collaboration with Agricultural Development Bank (ADB) started to offer ATM in 2001. The two banks have centralised operations at their respective head office, and have networked all their branches to enable customers to check their balances, make withdrawals, or deposit funds into their accounts. The first bank to introduce this service in Ghana was The Trust Bank, in 1995, allowing customers 24-hour access to their funds at any of their branches. Standard Chartered Bank (SCB) and Barclays Bank (BB) followed. Today, majority of the banks operate ATMs in Ghana and it has been the most successful in the county, as customers transact business without having to visit their branch for the same services.

### **Credit Card**

Major international credit cards such as Visa, MasterCard, American Express, and Maestro etc are accepted as a medium of payment in major shops, hotels, restaurants, supermarkets and travel agencies in Ghana. Most are used at ATMs to withdraw small amounts of local currencies.

### **Debit Card**

SCB launched the first debit card in Ghana in 2001. The card gives customers access to their funds through SCB ATMs or any VISA branded ATM throughout the world. In 2004, the First Atlantic Merchant Bank (FAMB) introduced the widely regarded American Express into the Ghanaian market. Most of the categories of the Express card – the Basic Green Card, the Golden Card, and the Platinum Card, are on offer to its customers with appropriate credit rating. SG-SSB (now SG) Limited in collaboration with the Visa International launched four Visa Debit Card products for its domestic and international customers. The Visa Trump Card has a PIN protection unique to each customer and can be used in various points of sale terminals and ATMs both in Ghana and in 150 countries across the world (Bank of Ghana, 1999).

### **Electronic Cards**

SG introduced the first major cash card known as ‘Sika Card’ in May 1997. Transaction Management Services (TMS) based in Ghana introduced a domestic online debit card POS (point of sale) services in June 2002 that allowed consumers to effect immediate payment for goods and services from their accounts through the online electronic transfer of funds with banks connected to TMS inter-bank switch. Three banks – Ecobank, Cal Merchant Bank and The Trust Bank with their domestic debit card “E-Card” was the first to utilise the system in 2002. The card is online in real time, and permits holders to instantly purchase goods and services without paying cash but simultaneously debiting the cardholder’s account and crediting the merchant’s bank account. BB Ghana has launched another unique product called Travelex Cash Passport. It is a card that enables customers to carry funds easily and access the Visa ATM machine with a PIN. The cash is loaded with US dollars but can be withdrawn in local currency from any of Visa ATM machines worldwide. The bank has also partnered with VISA and Trevelex World Wide Money (Wildcard) to make the product accessible in all countries. (Accra Daily Mail, 2004)

### **PC Services**

Some banks are currently offering PC banking services via providing customers with the proprietary software, which they use to access their bank accounts. This is on a more limited scale though, as it has been targeted largely at corporate clients. Four banks currently offer PC banking services in Ghana – GCB, Ecobank, SCB, and BB. SCB with their Domestic Payment Service (DPS), allows subscribers to transfer payment and direct debit information in an electronic format from their computers to the bank.

### **Mobile**

Only SCB provides active mobile banking services known as SMS Banking. This allows customers to make balance enquiry, transaction enquiry, cheque book request, statement request, and payment of utility bills on their mobile phones. SG Bank also introduced a product called Sikatext - a service that enables customers’ access their financial information by a text message via their mobile phone any time in the day but not make payments.

### **Internet**

SCB started the first internet based on-line banking service in Ghana. SG Bank is one of the three banks in Ghana to offer internet banking services via the installation of the state-of-the-art software called Flexcube. Twelve (12) branches of the bank have already gone live on Flexcube (Mishra, 2002). It is widely noted that Internet banking is a form of self service technology (Dixit, 2010). Currently, Internet payment is not well-developed in Ghana.

### Telephone

Telephone banking is on the ascendancy in Ghana. BB launched its telephone banking services in August, 2002. SG Bank also launched its “Sikatel” or Call Centre telephone banking in 2002. The services available with this system are; to ascertaining credible information about the bank’s products, the customers’ complaints, bank statements and cheque book request and any other complaints and inquiry.

### Electronic Purse

SCB Ghana and Visa International launched the first domestic Visa Horizon – a chip-based, pre-authorized card, offline payment card (COPAC). The chip is an electronic purse that enables funds to be loaded from customers account and has offline capabilities. The card can be used to make purchases or withdraw cash. GCB and ADB introduced the Mondex system into Ghana in 2003. The system is based on a smart card that can be “charged” with money from a bank account, effectively turning the card into an electronic purse. Other cards that can be regarded as e-purse are SG’s “Sika Card”, Trust Bank’s “Auto Cash Card”, SCB’s “Money Link Card”, and BB’s “Barclay Cash Card”.

## 3. Methodology

Questionnaire was the main research instrument adopted; however, separate questionnaires were designed for bank officials and customers. Customers’ questionnaires were designed to ascertain how the various electronic payment products have proved to be a solution to their payment problems whereas bank officials’ questionnaires were designed to ascertain the various electronic payment mechanisms in use, customers’ patronage of them and how they have helped to reduce payment problems. Questionnaire was selected for the data collection because it translated the information needed into a set of specific questions that respondents could answer and minimised response error (Malhotra, 2007). Secondary sources - internet, articles, databases, and books were also used. The study is a qualitative research and a descriptive approach was employed. Because this study focuses on current happening with some real-life context and which includes direct observation in a single organisation {Zenith Bank}, the case study method was the preferred choice.

The population for this study was customers from 8 branches of Zenith Bank in Accra out of a total of 15 branches in the region, including 10 bank officials from the bank’s head quarters in Accra. A convenience sampling method was used to sample 80 customers; Ten (10) customers from each branch were sampled out of a total of 8 branches from various locations in Accra. Purposive sampling method was used to sample ten (10) bank officials – one (1) sales manager, two (2) customer relation managers, two (2) IT executives, (1) ATM operator and three (4) branch managers. The reason for this method was because the needed data came from key staffs that have information relevant to the study. A total of 80 questionnaires were sent out to customers and 10 questionnaires sent out to bank staff. In all 68 questionnaires were received from customers and all 10 questionnaires were received from bank staffs.

## 4. Analysis

Descriptive statistics techniques were used to analyse the collected data. Total responses for each question were tabulated using tables and percentages.

### Analysis of Staff Responses

**Table 1: A table illustrating the percentage of males and females bank staffs**

Gender	Respondents	Percentage
Male	6	60
Female	4	40
<b>Total</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

From Table 1, 60percent of bank staffs were male and the other 40percent were female. This implies that majority of the bank staffs who responded to our questionnaire were males.

**Table 2: Age Distribution of Bank Staffs**

Age Group	Respondents	Percentage
26-35	3	30
36-45	6	60
46and Above	1	10
<b>Total</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

According to Table 2, majority of the respondents are between the ages of 36-45 years, representing 60percent. Respondents between the ages of 26-35 formed 30percent whereas 10percent represented respondents between the ages of 46 and above. This implies that management can trust the long term service engagement with majority of respondents in terms of promotion and organisational learning.

**Table 3: Educational Background of Bank Staffs**

Age Group	Respondents	Percentage
Mba	3	30
Degree	6	60
Diploma	1	10
<b>Total</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

Table 3 shows the educational background of respondents. 60percent of the sample population holds first degree; 30percent and 10percent holds MBA and Diploma. Conclusively, all the respondents have fair knowledge in technological innovation, typically in the area of e-banking products. This contradicts the views of Kumar (2011), that even trained people do not understand the complexities of e-payment systems.

**Table 4: Electronic Delivery Channels often used by Customers**

E-Banking Channels	Respondents	Percentage
Atms	10	30.30
Mobile Banking	4	12.12
Internet Banking	10	30.30
Electronic Fund Transfer	4	12.12
Telephone Banking	4	12.12
E-Alert	1	3.04

Source: Field Work 2015

**Table 5: Customer Satisfaction According to Bank Staffs**

RESPONSES	RESPONDENTS	PERCENTAGE
Strongly Agree(SA)	3	30
Agree(A)	5	50
Neutral(N)	2	20
<b>TOTAL</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

With respect to the use of E-banking channels by customers, Table 4 clearly indicates that ATM and Internet Banking are the accepted and highly used electronic delivery channel, and followed by Mobile Banking, Electronic Fund Transfer, and Telephone Banking. This confirms the assertion by Abor (2004) that



ATM has been the most successful delivery medium for consumer banking in Ghana. E-Alert is the least used medium.

Table 5 indicates 50percent of bank staffs agree that customers are satisfied using electronic delivery channels; 30percent strongly agree; 20percent remain neutral. This implies that customers of Zenith bank derive satisfaction when using electronic delivery channels and can therefore be concluded that customers are most likely to be committed in patronising the products of the bank since Cronin, Brady and Hult (2000) concluded that satisfaction remains as a strong predictor for behavioural outcomes.

**Table 6: Customers Complaints According to Bank Staffs**

<b>Responses</b>	<b>Respondents</b>	<b>Percentage</b>
Strongly Agree(SA)	1	10
Agree(A)	7	70
Neutral(N)	2	20
<b>Total</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

From Table 6, 70percent of bank staffs agreed that the use of electronic delivery channels has resulted in fewer customer complaints while 10percent of respondents strongly agree to the question. However, 20percent of respondents have a neutral view to the question. This indicates how effective and efficient the electronic delivery channels of bank are.

**Table 7: Impact on Bank’s Growth according to Bank Staffs**

<b>Responses</b>	<b>Respondents</b>	<b>Percentage</b>
Strongly Agree(Sa)	1	10
Agree(A)	8	80
Neutral(N)	1	10
<b>Total</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

From Table 7, 80percent of respondents agree that e-banking has a positive impact on the growth of the bank while 10percent of respondents strongly agreed. However, 10percent has a neutral opinion to the question. This implies there has been an increase in performance.

**Table 8: Extent to which E-Banking Has Helped In Making the Bank Competitive**

<b>Question: To What Extent Has Technological Innovation Helped In Making Your Bank Competitive?</b>	<b>Respondents</b>	<b>Percentage</b>
It Has Eliminated The Problem Of Branch Proximity.	10	100
It Has Increased Customer Satisfaction Due To Time Saved And Less Queues.	9	90
It Has Led To Increase In The Customer Base Of The Bank.	9	90
Additional Income From Service Delivery Charges.	10	100

Source: Field Work 2015

Table 8 indicates that 100percent of bank staffs were of the opinion that e-banking has eliminated the problem of branch proximity. However, 90percent answered that e-banking has; increased customer satisfaction due to time saved and less queues; increased bank’s customer base; gained additional income from service delivery charges.

**Table 9: Extent to which E-Banking Has Contributed to the Quality of Service Delivery**

<b>Question: To what extent has technological innovation contributed to the quality of service delivery?</b>	<b>Respondents</b>	<b>Percentage</b>
It has reduced time involved in bank transactions.	10	100
It has reduced queues in the banking halls.	10	100
It has given customers access to their accounts without visiting a bank branch.	10	100
Banking services has been brought closer to customers.	10	100

Source: Field Work 2015

Table 9 has indicated that all respondents agreed that technological innovations have significantly contributed to the quality of service delivery - reduced time and queues involved in bank transactions; access to accounts without visiting any branch; and easy access to banking services.

**Table 10: Reduction of the Number of Customers That Come to the Banking Hall**

<b>Responses</b>	<b>Respondents</b>	<b>Percentage</b>
Strongly Agree (SA)	8	80
Agree (A)	2	20
<b>Total</b>	<b>10</b>	<b>100</b>

Source: Field Work 2015

From Table 10, 80percent of bank staffs strongly agree that the number of customers who come to the banking hall has reduced with the implementation of electronic delivery channels while 20percent of staffs agree to the question. This implies that E-banking has resulted to low turnout of customers at the banking hall.

### Analysis of Customers' Responses

**Table 11: Percentage of Males and Females Customers**

<b>Gender</b>	<b>Respondents</b>	<b>Percentage</b>
Male	39	57
Female	29	43
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

From Table 11, 57percent of bank customers were male whereas 43percent were female. This implies that more males responded to the questionnaires.

**Table 12: Age Distribution of Bank Customers**

<b>Age Group</b>	<b>Respondents</b>	<b>Percentage</b>
18-25	17	25
26-35	28	41
36-45	18	27
46 and above	5	7
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Table 12 indicates that majority of respondents (41percent) are between the ages of 26-35 years. 18percent of respondents are between the ages of 36-45 whereas 27percent and 10percent of customers are between the ages of 36-45 and 46 and above respectively. With relatively low age of customers, the

establishment of long term business relationship with this group is essential to meet their evolving demands, hence the adoption of technological innovation.

**Table 13: Time Spent when Transacting Business with the Bank**

Time Spent	Respondents	Percentage
Less Than An Hour	64	94
1-2 Hours	4	4
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Table 13 shows that, 94percent of respondents spend less than an hour transacting bank business while 6percent spend 1-2 hours transacting business with the bank. This confirms the assertion by Pariwat and Hataiseere (2004), that for the achievement of effective and efficient retail payment systems, service quality that strives on speed with which payments are processed must be facilitated.

**Table 14: Frequency of use of Electronic Delivery Channels by Customers**

Number Of Times In A Month	Respondents	Percentage
Once	21	31
Two Times	29	43
Three Times	11	16
Four Times And Above	7	10
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Table 14 shows that 43percent of customers use any of the electronic delivery channels twice in a month, 31percent use it once, 16percent use it thrice in a month and 10percent use it four or more times in a month. Conclusively, all customers use at least one form of electronic delivery channel in a month.

**Table 15: Improvement in Product and Services with the use of E-Banking Channels**

Responses	Respondents	Percentage
Strongly Agree(Sa)	9	13
Agree(A)	51	75
Neutral(N)	4	6
Disagree	4	6
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

From Table 15, majority of respondents agreed that the quality of Zenith bank’s offerings have improved with the use of electronic devices. Responses received indicated that 13percent and 75percent strongly agreed and agreed respectively that technological innovations have improved the quality of the bank’s offerings. 6percent each both disagreed and remained neutral respectively.

**Table 16: Customer Satisfaction According to Bank Customers**

Responses	Respondents	Percentage
Strongly Agree(Sa)	6	9
Agree(A)	54	79
Neutral(N)	3	5
Disagree	5	7
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Table 16 shows that 79percent of respondents agreed that they are satisfied with offerings delivered electronically and 9percent strongly agree. However, 7percent disagree while 5percent remained neutral. Conclusively, the bank will win in today’s market place (Kotler, 1999) through superior value delivery.

**Table 17: Reduction of Time Involved in Business Transaction**

Responses	Respondents	Percentage
Strongly Agree(Sa)	38	56
Agree(A)	30	44
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

The time involved in banking transactions has reduced with the use of electronic delivery channels. From Table 17, 56percent of customers of Zenith bank strongly agreed to the question while 44percent agreed that there has been a reduction in time involved in business transaction.

**Table 18: Time Saved due to E-Banking**

Time Saved	Respondents	Percentage
One Hour	19	28
Two Hours	21	31
Three Hours	24	35
Above Three Hours	4	6
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

According to Table 18, 35percent of customers save three hours as a result of electronic delivery channels while 31percent of customers save two hours. 6percent and 28percent of customers save four and one hour respectively as a result of E-banking.

**Table 19: Comfortable paying for Goods and Services**

Responses	Respondents	Percentage
Strongly Agree(Sa)	18	26
Agree(A)	46	68
Neutral(N)	4	6
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Customers of Zenith bank are comfortable paying for goods and services via electronic delivery channels as depicted in Table 19. 68percent of customers agreed while 26percent strongly agreed. However, 6percent remained neutral.

**Table 20: Importance of Human Tellers**

Responses	Respondents	Percentage
Yes	67	99
No	1	1
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Table 20 indicates that 99percent of customers agree to the importance of human tellers in banking transactions. However, 1percent of respondents affirmed that human tellers are no longer important. Huge sums of money cannot be withdrawn by the use of e-banking channels. The inability of depositing cash

through e-banking channels in Ghana is another factor why customers think that human tellers are still important, especially when enquiries are to be made, hence supporting Kerem (2003) assertion that banks responding to electronic banking differently and that those which see electronic banking as a complement to the traditional channels achieve better communication and interactivity with the customers.

**Table 21: Willingness to Continue Saving with Zenith Bank**

<b>Response</b>	<b>Respondents</b>	<b>Percentage</b>
Yes	68	100
<b>Total</b>	<b>68</b>	<b>100</b>

Source: Field Work 2015

Table 21 indicates that customers are willing to continue saving with Zenith bank as long as they continue to use electronic delivery channels. E-banking reduces time involved in banking transactions, easy and convenient to use, saves time and resources, and allows customers access to their account anytime of the day.

## **5. Presentation of Results**

### **Objective 1: To Examine the Different Electronic Payment Schemes Available and the Frequency in Which they are used.**

ATM and Internet Banking appear to be the most widely accepted and highly used electronic delivery channel used by customers of Zenith bank. This is followed by Mobile Banking, Electronic Fund Transfer, and Telephone Banking. E-Alert seems to be the least used electronic delivery channel by customers.

### **Objective 2: To Ascertain the Contribution of E-Banking to the Elimination or Reduction in Problem Inherent In the Payment Process**

The time involved in banking transactions has reduced with the use of electronic delivery channels. Majority of Zenith bank customers agreed that the time involved in banking transactions has reduced dramatically, hence saving over three hours as a result of electronic delivery channels. This means that electronic banking has contributed to the elimination or reduction in problems inherent in the payment process.

### **Objective 3: To Explore the Perception of Customers on the Issue of User Acceptability of the Current Payments Systems**

Majority of bank staffs strongly agreed that the number of customers who come to the banking hall has reduced with the implementation of electronic delivery channels. This implies that E-banking has resulted in reduction in the number of customers that come to the banking hall. With regards to the frequency of use of electronic delivery channels in a month among customers of Zenith bank, the result showed that majority of customers use any of the electronic delivery channel twice in a month, therefore confirming that most customers use at least one form of electronic delivery channel in a month.

### **Objective 4: To Examine the Contribution of Technological Innovations in Banking on Service Delivery and Bank Growth**

With regards to the extent to which electronic delivery channels have contributed to the quality of service delivery, the study revealed that all bank staffs agreed that technological innovations has reduced time involved in bank transactions hence reducing queues in the banking hall. All bank staff respondents also confirmed that the electronic delivery channels has given customers access to their accounts without visiting a branch and thereby bringing banking services closer to customers. Majority of customers agreed that the quality of Zenith bank's offerings have improved with the use of electronic devices.

## **6. Conclusions**

Ghana has not yet realised the full benefits of the technological advances in electronic payment such as the use of cards, automated teller machines (ATM), the internet, mobile phones, among others. The main purpose of this study was to assess the issues of user acceptance in electronic retail payments and also to ascertain the impact in solving payment problems in Ghana. Specifically, it sought to ascertain the different electronic payment mechanisms available, their contribution to the elimination or reduction in payment problems and their impact on service delivery and user acceptance.

The study revealed that electronic payment systems in Ghana are making inroads, as many customers are making payments for offerings via electronic means. E-banking reduces time involved in banking transactions; easy and convenient to use; saves logistical resources; allows access to customers' account at anytime; and offers sound security for payments of offerings. Banks must provide innovative electronic payment solutions and determine the kind of electronic payments services that best fit their customers' needs.

Zenith bank needs to nurture a close and long term relationship with their customers to enhance trust, profitability, growth and satisfaction. It can be concluded to a large extent that e-banking has provided customers with the satisfaction much desired, fewer complaints, and electronic means of making payments.

## **7. Recommendations**

The minimum allowable withdrawal through the use of ATMs could be increased to facilitate large transactions by customers. Zenith bank should educate consumers about the benefits of all their e-banking offerings. Routine maintenance and replacement of e-banking facilities and other related equipment to prevent system disruptions is highly recommended. The bank should adopt a system to respond effectively to customers complaints, supported by regular staffs training and to provide customers with quality service so as to meet customer satisfaction.

## **References**

- Abor. J., 2004. Technological innovation and banking in Ghana: An evaluation of customers' perceptions, American Academy of Financial Management.
- Accra Daily Mail., 03/04/2004. New cash card launched, money and finance. Accra.
- Acquah. P. A., 2001. The payments system and monetary policy. Retrieved (12-02-20) from: <http://www.bog.gov.gh/gspeeches/speech3.htm>
- Agimo. J., 2004. Better practice checklist for ePayment. Australia government information management office. Retrieved (14-02-2012) from: [http://www.agimo.gov.au/publications/better\\_practice\\_checklist\\_for\\_epayment](http://www.agimo.gov.au/publications/better_practice_checklist_for_epayment)
- Ali, M., & Raza, S. A. (2015). Factors affecting to select Islamic Credit Cards in Pakistan: The TRA Model. MPRA Paper No. 64037, University Library of Munich, Germany.
- Al-Sukkar. A. and H. Hasan., 2005. Towards a model for the acceptance of internet banking in developing countries. *Information Technology for Development*, Vol. 11, No. 4, 381-398.
- Annon. H., 1999. Survey of retail payment systems: Consumer payment options grow. *ABI/INFORM Global*, p. 4A-13A.
- Balachandher. K. G. Santha. V. Norazlin. I. and R. Prasad., 2001. Electronic banking in Malaysia: A Note on Evolution of Services and Consumer Reactions. *Journal of Internet Banking and Commerce*.
- Chorafas. D. S., 1988. *Implementing networks in banking and financial services*. Macmillan, Houndmills.

- Cronin, J. J. Brady, M. K. and G. T. M. Hult. 2000. Assessing the effects of quality, value, and customer satisfaction on consumer behavioural intentions in service environment. *Journal of Retailing*, 76(2), 193-218.
- European Central Bank., 2003. Electronification of payments in Europe. *Monthly Bulletin*, May, Frankfurt Main. Retrieved (07-02-2012) from: <http://www.ecb.int>
- Ferguson. J. W., 2000. Electronic commerce, bank and payments, 36th Annual Conference on Bank Structure Competition, Chicago.
- Humphrey, D. B. Kim, M. and B. Vale., 2001. Realising the gains from electronic payments: cost, pricing, and payment choice. *Journal of Money, Credit, and Banking*, vol. 33, No. 2, pp. 216-234.
- Jayamaha. R., 2008. Impact of IT in the banking sector [On-line]. Available: [www.bis.org](http://www.bis.org) [accessed September, 4, 2014].
- Jayawardhena. C. and P. Foley., 2000. Changes in the banking sector – the case of internet banking in the UK, internet research: *Electronic Networking Applications and Policy*, Vol. 10, No. 1, pp.19-30.
- Kalakota. R. and A. B. Whinston., 1997. *Electronic commerce: A manager's guide*: Addison Wesley Longman.
- Kamel. S., 2005. The use of information technology to transform the banking sector in developing nations. *Information Technology for Development*, Vol. 11, No.4, 2005, pp. 305-312.
- Kerem. K., 2003. Internet banking in Estonia”, PRAXIS Center for Policy Studies <http://unpan1.un.org/intradoc/groups/public/documents/untc/unpan018529.pdf> (last accessed on 9 September, 2014).
- Kiang. M. Y. Raghu. T. S. and K. Hueu-Min Shang., 2000. Marketing on the Internet– who can benefit from an online marketing approach? *Decision Support Systems*, Vol. 27 No.4, pp.383-93.
- Kumar, K. S. V. (2011). Innovations in modern banking and innovative financial inclusion: Issues and challenges. *Clear IJRCM*, Vol. 01.
- Malek. A. and K. N. M. Nik., 2011. Modeling the antecedents of internet banking service adoption (IBSA) in Jordan: A Structural Equation Modeling (SEM) approach. *Journal of Internet Banking and Commerce*, 16(1), 1-13.
- Mantel. B., 2000. Why do consumers pay bills electronically? An Empirical Analysis. *Economic Perspectives*, Federal Reserve Bank of Chicago, Iss. Q IV, p. 32-48.
- Malhotra. N. K., 2007. *Marketing research: An applied orientation*. (5<sup>th</sup> ed.). United States of America: Pearson Prentice Hall.
- Mishra. P., 2002. Bank of Ghana flexes its muscles with Flexcube. Retrieved 04-03-12 from: <http://www.expresscomputeronline.com/20020114/indnews7.shtml>
- Nath. R. Schrick. P. and M. Parzinger., 2001. Bankers' perspectives on internet banking. *e-Service Journal*, Vol. 1, No. 1 (Fall 2001), 21-36.
- Neuman. B. C. and G. Medvinsky. G., 1996. NetCheque, NetCash, and the characteristics of internet payment services. *The Journal of Electronic Publishing*, Vol. 2, Issue 1.
- Ofori-Dwumfuo. G. O. and B. A. Dankwa., 2013. Adopting Internet Banking in Ghana. *Current Research Journal of Social Science*, 5(4): 143-151.
- Okafor. F.O., 2006. Valedictory lecture. Presented to the University of Nigeria, Enugu Campus. Band F Publications.
- Owoniyi. R., 1994. *Case study research: Design and methods* (2<sup>nd</sup> ed.). Beverly Hills, CA: Sage Publishing.

- Pariwat. S. and R. Hataiseree., 2004. The use of cash, cheques and electronic payment services in Thailand: Changes and challenges for efficiency enhancement. Working Paper, Payment Systems Groups. (p.2-73).
- Pierce. P. T., 2001. The Future of electronic payments: Roadblocks and emerging practices. Fried-Frank-Harris-Shriver and Jacobson.
- Raza, S. A., & Hanif, N. (2013). Factors affecting internet banking adoption among internal and external customers: a case of Pakistan. *International Journal of Electronic Finance*, 7(1), 82-96.
- Rose, P. S. (1999). *Commercial banking management*. Boston: Irwin/McGraw-Hill,
- Sarpong, S. (2003). Banking system fails the test. Retrieved (04-12-2012) from: [http://africa.peacelink.org/newsfromafrica/articles/art\\_781.html](http://africa.peacelink.org/newsfromafrica/articles/art_781.html)
- Siyabola, T. T. (2013), The Effect of Cashless Banking on Nigerian Economy, *eCanadian Journal of Accounting and Finance*, 1(2), 9-19.
- Smart Card Basics., 2004. Smart card overview: Retrieved (12-02-2012) from <http://www.smartcardbasics.com/overview.html>
- Smith. A. D., 2006. Exploring security and comfort issues associated with online banking. *International Journal of Electronic Finance*, Vol 1 No. 1, 18 48.
- Sumanyi. Y., 2011. Prospects and challenges of electronic banking in Ghana – A Case Study Of SG-SSB Bank Limited, Accra. Unpublished master's thesis, Kwame Nkrumah University of Science and Technology, Kumasi.
- Zika. J., 2005. Retail electronic money and prepaid payment instruments. Prague: Institute of Economic Studies, Charles University in Prague.