SERVICE INNOVATION IN THE BANKING INDUSTRY OF GHANA

Asare Gideon
Nanjing University of Posts and Telecommunications
CHINA
asaregideon015@gmail.com

ABSTRACT

Banking is a rapidly changing industry, and the biggest paradigm shift that has occurred is the move to digital-only banks through innovations. This study aimed to identify the main service innovations in the banking industry of Ghana and find whether there is a relationship between the service innovations and customer satisfaction in the banking sector. Drawing knowledge from SERQUAL Model and Technology Acceptance Model (TAM) the study develop a Unified System Model to cover ATM service, inter-banking, core employee services, customer accessibility service, communication service and price quality service. The researcher limited the scope of the study to active and more than 10-year operating banks in Ghana. A questionnaire was administered to a sample size of 150 employees and customers of the selected banks. Using quantitative approach, SPSS and excel were the main analytical tools for this study. The study revealed that ATM development, e-payment system, speed inter-banking operations, international transaction security, and easy usage of service facilities, instant notifications on transactions are among the current and main service innovations in the banking sector. The study also established a positive regression relationship between service innovation and customer satisfaction and service items explains 87% of customer satisfaction. Pearson correlation analyses was run with SPSS and the coefficient obtained was 0.89 at significant level of .000. ($P<0.01$). The study recommended that management should provide reliable services in order to achieve high levels of customer satisfaction, an antecedent of sustainable competitive advantage.

Keywords: Service innovations, customer satisfactions, service quality and banking industry.

INTRODUCTION

Increasingly volatile business environment along with globalization, emerging new technologies, and deregulation have led to the restructuring of financial service industries in virtually many countries (Komaladewi et. al, 2012). The banking industry is rapidly changing, and the biggest paradigm shift that has occurred is the move to digital-only banks. The ultimate idea behind this change is to improve the service process to serve the growing customers at the shortest possible time. Innovation includes original invention and creative use. Innovation is a generation, admission and realization of new ideas, products, services and processes. Innovation is all about offering new or adapted solutions to customer needs or problems in such a way that it adds value as defined and used by customers (Brown & Gallan, 2015). Far back from the Schumpeterian (1934) till date, innovation is acknowledged as a great contributor to value creation, giving firms a higher competitive advantage through increased customer satisfaction.

Evidently, it appears that a considerable number of innovation studies are largely focused on the manufacturing sector (McDermott & Prajogo, 2012). The subject of innovation in the services sector on the other hand, has received relatively limited attention in academic spheres.

However, given the tremendous contributions of the services sector to the world's Gross Domestic Product (GDP) and economic activities of most countries (Bhattacharya, 2017), there is the need to examine the state of innovations within the banking industry, and its impact on customer satisfaction from a scholarly standpoint with special reference to Ghana. According to Jaw et al. (2010), services cover a broad range of diverse and multifaceted set of activities, and seen as a major contributor to the world's economic output. In Lovelock and Wirtz's (2017) opinion, services refer to "economic activities offered by one party to another, most commonly employing time-based performances to bring about desired results in recipients themselves, objects or other assets for which purchasers have responsibility". Hinson (2016) on his part define services as "an activity or series of activities of more or less intangible nature that normally take place in interactions between the customer and the service employee or system of the provider, which provide solutions to customer needs or problems". This study will focus on the impact of service innovation in the banking since little research have been conducted in that area.

Objectives of the Study
This study sought to examine the impact of service innovations in banking sector of Ghana. These specific objectives will guide the researcher;

(1) Identify the main service innovations in the banking industry of Ghana.
(2) Find out the relationship between service innovation and customer satisfaction in the banking sector
(3) Examine measures to improve the service innovation in the banking industry of Ghana

Significance of the Study
This study will draw different and perspective ideas from existing literature and improve on the research gap in the service innovation aspect of the banking industry of Ghana since little attention has been given to this sector. This work will help identify the existing service innovation in the banking industry and improve upon it application to give utmost satisfaction to customers. The study could be used as a reference material for other interested researchers and expertise in the banking industry for policy making.

LITERATURE REVIEW
This section reviews concepts, theories and models related to the study. It has been organized under appropriate headings such as service, innovation, service innovation, theories of service innovations, and models of service innovations and summary of the review.

Service
According to Jaw et al. (2010), services cover a broad range of diverse and multifaceted set of activities, and seen as a major contributor to the world's economic output. Lundvall, (2014), defined a service as a product of essentially intangible benefit, either in its own right or as a significant element of a tangible product which through some form of exchange satisfies an identified need. Metcalfe, (2015) on the other hand defined a service is a performance, which cannot be seen, touched, tested or smelled, nor can it be possessed. People do not always perform consistently and thus variations from one service to another within the same organization.

Innovation
The term "innovation" is more and more often used - very frequently by policymakers, marketing specialists, advertising specialist and management consultants - not as a strict scientific concept but as metaphor, political promise, slogan or a buzzword (Kotsemir et al,

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2013). Peter Ferdinand Drucker, American economist, argued that the introduction of innovations is a science subject to development (Drucker, 2012). A convenient definition of innovation from an organizational perspective is given by Luecke and Katz (2003), who wrote: "Innovation is generally understood as the introduction of a new thing or method. Innovation is the embodiment, combination, or synthesis of knowledge in original, relevant, valued new products, processes, or services. Innovation can be simply defined as a new idea, creative thoughts, and new imaginations in form of device or method. Innovation is often viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs.

Service innovation

Service innovation in general has attracted great attention from academics, companies, policy makers and individuals. This growing attention has been due to changes in the conventional mindset of innovation. However, managing innovation is not a simple task; rather, it is a complex process (Panesar & Markeset, 2008). Service innovation is a multi-dimensional phenomenon. That implies that service innovations can take various forms and be linked to different parts of the value creation process of a service-dominant firm (Den Hertog, 2010). Service innovation in the opinion of the European Commission (2012) "comprises new or significantly improved service concepts and offerings as such, irrespective of whether they are introduced by service companies or manufacturing companies, as well as innovation in the service process, service infrastructure, customer processing, business models, commercialization (sales, marketing, delivery), service productivity and hybrid forms of innovation serving several user groups in different ways simultaneously. Sebastiani & Paiola (2010) and Gallouj (2002) recommend that Service Innovation should be more focused on the uniqueness and the ability of people in serving customers. This implies that the interpersonal relationship is so important that for whatever advanced the technology is, the personal touch is still preferred.

Service innovation in current bank industry

Lindberg &Jimmie (2011) researched into customer service innovation in the banking industry. The empirical study of the research was performed through a pre-study with semi-structured telephone interviews and the actual study consisted of internet surveys. The surveys had 300 responses within the sample of the study. The study concluded that customers wants communication methods which are not involving face-to-face interaction. Instead they prefer mobile applications, social networks and the internet bank. Customers prefer to innovate together with other customers and employees of the bank.

Ameme &Wireko (2016) dived into impact of technological innovations on customers in the banking industry in developing countries. In their study based on the customer satisfaction model - SERVQUAL and the conventional economic efficiency theory, the paper employed the chi-square analysis to investigate customer satisfaction and the associated cost of electronic banking services. It was revealed that the costs associated with technological innovations in banking have also increased transactions costs to the disadvantages of customers. The study concluded that, banks need to have closer collaboration with the target segment of customers in developing new electronic products and services.

Martha (2011) examined service innovative practices in the Commercial Banking Sector and established the relationship that exists between service innovative practices and customer satisfaction in the commercial banking sectors. Using descriptive survey, customers of 150 respondents of commercial banks operating in Kenya were drawn from 15 commercial banks.

The sample units were selected through convenience sampling method. From the study, 24% of respondents identified Automatic Teller Machines (ATMs) as an available service innovation practice, 17% indicated that Internet Banking was an available service innovation while 15% of respondents indicated that Electronic Funds Transfer and Branch Networking were available service innovation practices in their banks. 5% of the respondents indicated that EFTPoS was an available service innovation practice while only 4% of respondents indicated that Telephone Banking was an available service innovation practice in their banks. However, the study concluded that majority of bank customers have relatively higher satisfaction in Branch Networking services, Internet Banking and Automatic Teller Machines services.

Pedro & Hippel (2018) also studied Users as Service Innovators: The Case of Banking Services. Applying exploration study method, it analyzed the importance of services innovation by users, focusing on the field of commercial and retail banking services. With a sample of 36 corporate and retail banking services, the study concluded that service innovation is geared towards customers and industry growth. All service innovation in the banking industry should reduce efforts and improve satisfaction and retention.

Vesna et.al (2015) used a holistic approach to review innovation services and management in banking sector. Based on the survey results, they concluded that shifting from linear to nonlinear innovation processes, continually incorporating internal and external knowledge in the innovation process, consciously managing knowledge flows, intensifying partnerships with external stakeholders, creating a customer-centric organization and adopting the strategic innovation framework are leading principles of managing innovation, aiming at building sustainable competitive advantage and developing sustainable growth in banking. Similarly, Oke (2007) conducted research on the implementation of Service Innovation and product innovation using incremental and radical innovation implemented in the banking.

Vijayaragavan (2014) researched about modern banking services - a key tool for banking sector. In his paper, qualitative approach was used to analysis the current trends in the banking industry. Secondary data were compiled from various sources like journals, books, magazines and report to discuss findings and make conclusions.

Kuusisto & Riepula (2009) and Sundbo (2006) share the same opinion that the problems of Service Innovation are rather difficult to be standardised. This is because services are intangible. Many small and medium scale enterprises have implemented the Service Innovation on an ad hoc basis. That means the Service Innovation is not offered formally, because not all customers need it according to Hertog, van der Aa& Jong (2010).

An intensive collaboration between customers and companies would become an important source of inputs for the innovation that will provide solutions and benefits for customers. Innovation-oriented company will lead its organisation members to be innovative, and expert in managing their new innovations in such a way so that consumers benefit from them. Cruz &Paulino (2011) mention that a good innovation is the one that comes from customers. Because the creation of a Service Innovation is focused on customers, the process of creating a Service Innovation will always involve customers. Junarsin (2010) supports the opinion of other experts who agreed that the success of a Service Innovation is determined by the human resources of the Service Innovation itself.

Bittner, Ostrom, & Morgan (2007) conclude that Service Innovation is less disciplined and less creative than manufacturing and technology sector. In other words, innovation involving human behavior in its process is still rarely studied because of the nature of services that are easily replicated so that the development of innovation in services is rarely done.

According to Sebastiani & Paiola (2010), successful innovation often comes from things that are not technological. Sophisticated technology is not a guarantee to provide excellence in performance. They further suggest that direct interaction with customers is one of the privileges in Service Innovation activities. In the past, Service Innovation was perceived to be unimportant because of its intangible nature. However, due to the fact that service industry is growing rapidly, Service Innovation is forced to be developed. This is in line with the opinion of Oke (2007) who agreed that Service Innovation is considered as a source of competitive advantage.

Gupta and Dev (2012) studied the factors impacting customer satisfaction in Indian banks and their effects on customer satisfaction. A questionnaire was given to 400 customers of 13 retail banks in India. Five factors were suggested driving customer satisfaction in banks namely: service quality, ambience, client participation, accessibility and financials.

Sharma and Govindaluri (2014) studied the factors influencing adoption of Internet banking in urban India. The factors of perceived usefulness, perceived ease of use, social influence, awareness, quality of internet connection and computer self-efficacy are primary determinants of the attitude toward the use of internet banking in urban India. The attitude toward the use of internet banking can be used to predict the intention to use of internet banking systems by users. Vyas and Raitani (2014) studied the drivers that lead a customer switch from one service provider to another in banking industry. The impacts of the influencing factors have been studied and tested empirically using exploratory factor analysis. Questionnaire was collected from banking customers and it was found that price, reputation, responses to service failure, customer satisfaction, service quality, service products, competition, customer commitment and involuntary switching have their significant effect on customers' switching behaviour.

Kaushik and Rahman (2015) analyzed various antecedent beliefs predicting customers' attitudes toward and adoption of self-service technologies available in the banking industry. Results showed that antecedent beliefs affecting adopters' attitude vary across different self-service technologies. It extends and tests the technology acceptance model by including two additional antecedents from the theories of adoption behavior.

Technology Acceptance Model (TAM)

The model has been designed to show how users come to accept and use a technology. The theoretical basis is built on the premise that when users are presented with a new technology, three major factors influence their decision on how and when they will use it. The first determinant is its perceived usefulness (PU), the second is the perceived ease of use (PEOU), while the third determinant is user attitude towards usage (ATU). According to Davis [1985] perceived usefulness (PU) is the degree to which a user believes that using a particular system would enhance his or her job performance. On the other hand, perceived ease-of-use (PEOU) is the degree to which a user believes that using a particular technology would be free from effort. In other words it is the degree to which consumers' perceive a technology as better than its substitutes. The relationship between these determinants can be illustrated by the model as suggested by Davis.

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SERQUAL Model of service innovation

Automated service quality model by Al-Hawari et al. (2005). Automated service quality has been regained as the factor which determines the success or failure of electronic commerce. In relation to the banking sector, research has identified that bank customers tend to use a combination of banking automated service quality. As such, in this research, the authors strive to develop a comprehensive model of banking automated service quality taking into consideration the unique attributes of each delivery channel and other dimensions that have a potential influence on quality issues. They propose five factors as follows:

(1) ATM service;
(2) internet-banking service;
(3) telephone-banking service;
(4) Core service; and
(5) Customer perception of price

Unified Services Model (USM):

Subrahmanya & Puttanna (2015) conceptualized a unified service model for the banking sectors. Duplication of effort can be minimized and better services can be delivered to the customers through Unified Services Model which will have a centralized payments corporation that will look after the establishment and maintenance of ATM network, issue of debit and prepaid cards, POS devices, etc. and thereby linking all banks, both commercial and cooperative, with their customers for the service delivery with greater convenience and effectiveness.

Customer Satisfaction

Customer satisfaction (CS) is a term that has received much attention and interest among scholars and practitioners perhaps because of its importance as a key element of business strategy, and goal for all business activities especially in today's competitive market (Anderson et al, 1994). According to Bruhn (2003), CS is "an experience-based assessment made by the customer of how far his own expectations about the individual characteristics or the overall functionality of the service obtained from the provider have been fulfilled". Again, "Satisfaction is a person's feeling of pleasure or disappointment resulting from comparing a product's performance (outcome) in relation to his or her expectation" (Kotler and Kevin, 2006 p.144). Organizations, both private and public, in today's dynamic marketplaces are increasingly leaving antiquated marketing philosophies and strategies to the adoption of more customer driven initiatives that seek to understand, attract, retain and build intimate long term relationship with profitable customers. Previous researchers have found that satisfaction of the customers can help the brands to build long and profitable relationships with their customers (Eshghi et al., 2007). Though it is costly to generate satisfied and loyal customers but that would prove profitable in a long run for a firm (Anderson et al., 2004). Therefore a firm should concentrate on the improvement of service quality and charge appropriate fair price in order to satisfy their customers which would ultimately help the firm to retain its customers (Gustafsson et al., 2005). It is a common phenomenon that the service network offers and the price it charges actually determine the level of satisfaction among its customers than any other measure (Turel et al. 2006). Any business is likely to lose market share, customers and investors if it fails to satisfy customers as effectively and efficiently as its competitors is doing (Anderson et al., 2004). Adepoju and Suraju (2012) argued that service quality, customer satisfaction, and corporate image are important determinants of customer satisfaction and loyalty in the Nigeria's GSM market whereas the price/tariff is not deemed to be a determinant of customer satisfaction and loyalty in the GSM market. But the marketing literature showed researchers' inclination towards price fairness in relation to customer satisfaction (Hermann et al., 2007; Kukar-Kinney et al., 2007; Martin-Consuegra et al., 2007). Other studies have postulated that perceived service quality is an important determinant of customer satisfaction that have both cognitive and effective dimensions beyond just cognitive assessment of customers on the offering of service providers (Gronroos C.2001; Edvardsson 2005; Edvardsson et al 2005). Wang and Hing-Po (2002) suggested that there is some kind of intertwine relationships, among all the antecedents of customer satisfaction. Customer satisfaction plays a key moderating role for the relationship between price increases and repurchase intentions (Homburg, Hoyer &Koschate, 2005). In the work of many scholars and practitioners, CS is found to be driven by the quality of service and the customer service experiences (Oliver 1980; 1993a; Parasuraman et al., 1988, Lovelock 1991, 1992; Lovelock and Wirtz 2007; Gronroos 1994, 2000, 2001; Wang and Hing-Po 2002; Kotler and Kelvin, 2006).

Relationship between banking service innovation quality and customers satisfaction in Ghana

Customer satisfaction is becoming one of the most essential objective which any firm seeking for long-term relationship with customer considers as the top priority. In retail banking context where the contacts with customers are one of the most core business processes, customer satisfaction is becoming the key for successful (Belas & Gabcova, 2014; Belas, Cipovova & Demjan, 2014; Chavan & Ahmad, 2013). One of the main element determining customer satisfaction is the customer's perception of service quality. Customer satisfaction is described as the result of a comparison of the customers' expectations and his or her subsequent perceived performance of service quality (Herington & Weaven, 2009). According to this conceptualization, perceived service quality is one of the antecedents to overall customer satisfaction. Previous studies showed the evidence support this relationship between customer satisfaction and service quality (Yee, Yeung, & Cheng, 2011). Even though, there are also debates about the causal relationship between customer satisfaction and service quality. Specifically, there are three major positions about this relationship in the literature (Brady et al., 2002). First, as indicated above, service quality is described as an antecedents to customer satisfaction (Naik, Gantasala, & Prabhakar, 2010; Olorunniwo, Hsu, & Udo, 2006). Second, some researchers suggest that customer satisfaction is the cause of service quality (Bitner, 1990). The third position of the service quality- satisfaction relationship argues that neither satisfaction nor service quality may be antecedent to the other (Dabbolkar, 1995; McAlexander, Kaldenberg, & Koenig, 1994). In general, although there is the lack of consensus about the conceptualization of the service quality- satisfaction relationship, service quality is an antecedent to customer satisfaction is considered as dominant position in recent research, especially in service context industry like banking (Akhtar, Hunjra, Akbar, Kashif-Ur-Rehman, & Niazi, 2011; Cameran, Moizer, & Pettinicchio, 2010) .

Theoretical framework

Based on the literature reviewed, the researcher construct the framework in figure 3.1 to present an idea on how service innovation influences customer satisfaction in the banking sector of Ghana. The study dependent variable is customer satisfaction and the independent variable is service innovation. The researcher used service quality to moderate the relationship between service innovation and customer satisfaction in the banking sector.

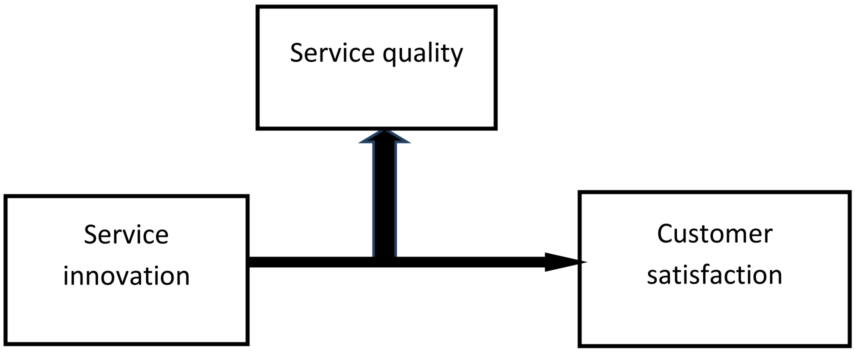

Figure 2.1 conceptual framework

Hypothesis
H1: *Is there a significant relationship between Service innovation and customer satisfaction?*

Measurement of service innovation
Al-Hawari et al. (2005) propose SERQUAL mode to measure service innovation. His measure constructs were ATM service, internet-banking, telephone banking, core service and customer perception of price. This current framework adapted part of SERQUAL variables and included payment corporation or facilities to measure service innovation in the banking industry of Ghana. The questions under each category was scaled from (1-5) using Likert Scale technique.

Measurement of customer satisfaction
The customer satisfaction measurements were based on the literature reviewed and research findings of (Hermann et al., 2007; Kukar-Kinney et al., 2007; Martin-Consuegra et al., 2007). A firm should concentrate on the improvement of service quality and charge appropriate fair price in order to satisfy their customers which would ultimately help the firm to retain its customers (Gustafsson et al., 2005). The researcher identified no emphasis on service complexity and there aimed to explore on that.

METHODOLOGY
This study collected data by using questionnaire. The data will be collected using online survey since the researcher is currently in China. The author first of all sent letter of permission through email to the branch managers. Out of the 10 banks, 5 accepted and the researcher considered 15 branches of the banks to participate in the study. 10 respondents each were taken from the branch and these form the main respondents of the study. The branch managers' help sent the online questions to the customers through their official social media platforms to solicit for their responses. The filled questionnaire were then accessed online. In all, 170 answered questionnaires obtained but the authors used the first 150 filled questions were used for analyses.

Questionnaires was used because it provides quantifiable answers, relatively easy to analyse and can reach a large number of people relatively easily and economically It was close ended type of questions items to seek information. The entire questionnaire comprised of 25 questions and grouped in A and B. Section A covers the background of the respondents and it includes age range, gender, education, type of bank and year's respondents have been doing business with the bank. Section B covers the main research objectives. The main service innovations in the banking industry, and it comprises of notifications, ATM transactions, mobility of banking system, inter-banking services and online payment innovations. The questions response involve using "yes or no" for this particular section. The last part of the section B is about customers' satisfaction level with regards to the service innovations in the banking sector.

Some of the questions include price of transactions, customer- employee relationship, privacy and security level and other. The questions response used a 5 Likert scale rating ranging from "very satisfied" to "not satisfied".

Data analysis
Quantitative approach will be used to analyses the data. Regression analysis model and Pearson Correlation will be used to establish the relationship between service innovation and customer satisfaction in the banking industry. SPSS and excel tool will be the main analytical tools in analyzing the results of the study. The raw data collected would be summarized and presented in the form of tables and percentages. Base on the findings and conclusions from the study, appropriate recommendations will be suggested to improve the banking industry.

RESULTS
Table 4.1 describes the background information of the respondents, it covers the gender, age, educational qualification, occupation of respondents and number of years the respondents opened bank account. From the table, it was revealed that the males were 83 representing 55.3% and the females were 67 of the respondents representing 44.7%. In table 4.1, 40.7% of the respondents were between 18-30 years, the highest were within 31-40 years and it represents 44.7% of the respondents. Those within 41-50 years were 11.3%. The least years among the respondents were 51 (3.3%) years and above. Educational qualification of the respondents. 31.3% possessed junior or high school certificate, 44.7% had college or university qualification. The postgraduates and those with no formal education were 10% and 14% respectively. The tables indicates that 43.3% of the respondents bank account is over 10 years, 26.7% were between 6-10 years and those within 1- 5 years were 30.0%.

Table 4.1: Background Information of Respondents

Background of Respondents	Frequency	Percentage (%)
Gender of Respondents		
Male	83	55.3
Female	67	44.7
Total	150	100
Age of Respondents		
18-30 years	61	40.7
31-40 years	67	44.7
41-50 years	17	11.3
51 years and above	5	3.3
Total	150	100.0
Qualification of Respondents		
Junior / high school	47	31.3
College/ University	67	44.7
Post Graduate	15	10.0
Non-Formal Education	21	14.0

Total	150	100.0
Type of Bank		
Private	83	55.3
Government	67	44.7
Total	150	100.0
Years of bank account		
1-5 years	45	30.0
6-10years	40	26.7
above 10 years	65	43.3
Total	150	100.0

Reliability and Validity

Reliability is defined as the extent to which a scale is free from random errors and thus yields consistent results (Hair et al., 1995). Calculating Cronbach's alpha is the most commonly used procedure to estimate reliability, and Nunnally (1978) recommends 0.7 as the accepted benchmark for Cronback's alpha. SPSS tool was used to carry out the reliability test to determine the reliability of the questionnaires. A scale test based on the final list of 45 items of scale returned an alpha coefficient of 0.75. The results of the reliability test is displayed in table 4.2.

Table 4.2 Reliability Statistics of measurement constructs

Cronbach's Alpha		Cronbach's Alpha Based on Standardized Items	N of Items
Overall items		0.837	46
Service innovation	Atm	0.768	7
	Payment corporation	0.927	4
	internet service and message	0.895	5
	Inter banking service	0.944	4
Customer satisfaction	Service price	0.787	4
	Service quality	0.762	5
	Service employees attitude	0.854	5
	Service complexity	0.901	5

Source: SPSS Data, 2019.

The reliability of the service innovations questions items were established. The researcher determined the reliability of each group of categorize items. ATM = 0.768, payment corporation = 0.927, internet service and message = 0.895, inter-banking service = 0.944. The customer satisfaction variables were service price = 0.787, service quality = 0.762, service employees attitude = 0.854 and service complexity = 0.901.

Main service innovations in the banking industry of Ghana

Figure 4.1 shows the service innovations items with regards automated teller machine innovations. The Ghana banking industry has over the years embrace technological and digital banking concepts and one area is the ATM banking system. From the table, 42% of the respondents strongly asserted that ATM is user friendly, 35.3% of the respondents agreed. 40% and 26% of the respondents respectfully strongly agreed and agreed that ATM is network across the country and all the banks have it. 49.3% of the respondents agreed that ATM centers are nearer to their locations. With is 20% of the respondents remained neutral whilst none of the respondents strongly disagreed. 37% and 57.3% strongly agreed and agreed that ATM operates 24 hours. None of the respondents strongly disagreed meanwhile 4.7% of the respondents disagreed with the statement.

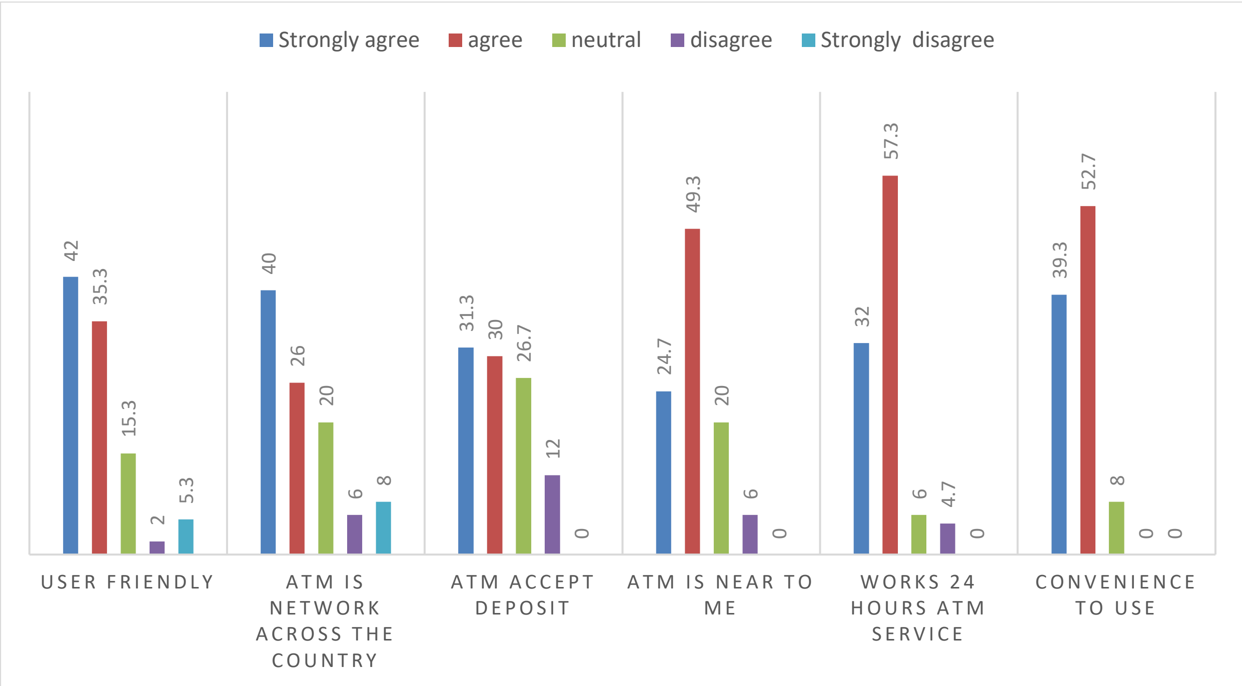

Figure 4.1 ATM transaction

Nowadays, banks have been the backbone of business especially e-commerce and online payments. Majority of mobile phone users have linked their bank cards to their third party payment platforms. Ghana banking industry have not been left out in this technological trends. It shows that the banks have debit and credit cards for various transactions. 46% of the respondents agreed that the banks issue debit cards for local transactions. 29.9% and 26.7% of the respondents strongly agreed and agreed accordingly that banks issue cards for international payments such as master or visa card. This payment corporation system has facilitated online prompt payments such as paypal and others.

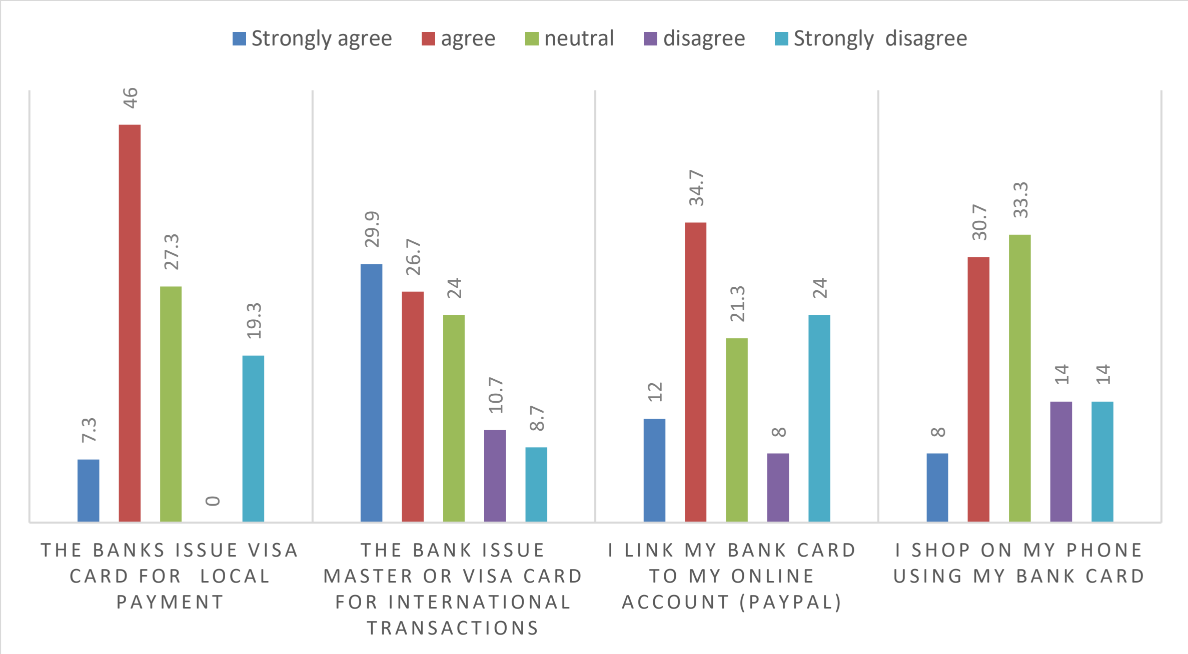

Figure 4.2 Payment corporations

Figure 4.3 describes the internet and message innovations services in the banking sector. 32% of the respondents said they receive messages on all transactions, 50.7% agreed to the same statement, none of the respondents strongly disagreed. Again, 5.3% and 54% strongly agreed and agreed individually that they check their bank account online and other transactions whilst 6% of the respondents disagreed. 49.3% agreed that they transfer money using internet banking. Moreover, 51.3% generally agreed that online banking is convenient, 23.3% of the respondents remained neutral meanwhile 10% of the respondents strongly disagreed.

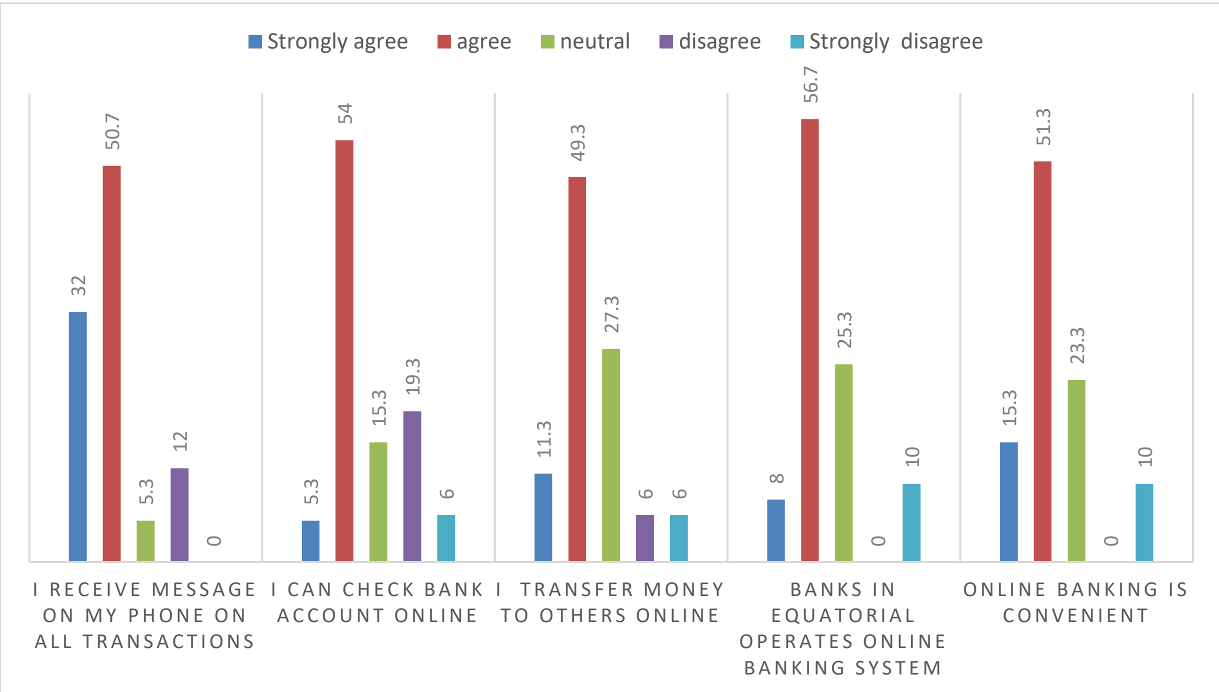

Figure 4.3 Internet Service and Message

From figure 4.4, 34% of the respondents strongly agreed that they could transfer money from one bank to the other. 16.7% and 15.3% of the respondents agreed and remained neutral respectively. 14.7% and 23.3% of the respondents disagreed and strongly disagreed accordingly to the fact that it takes few minutes or seconds to transfer money from one bank to the other. 30% of the respondents also agreed that their master card works in all banks. 30% of the respondents strongly asserted that they can transfer money internationally. This service innovations in the banking industry have greatly impact the lives of the customers and the economy of the country.

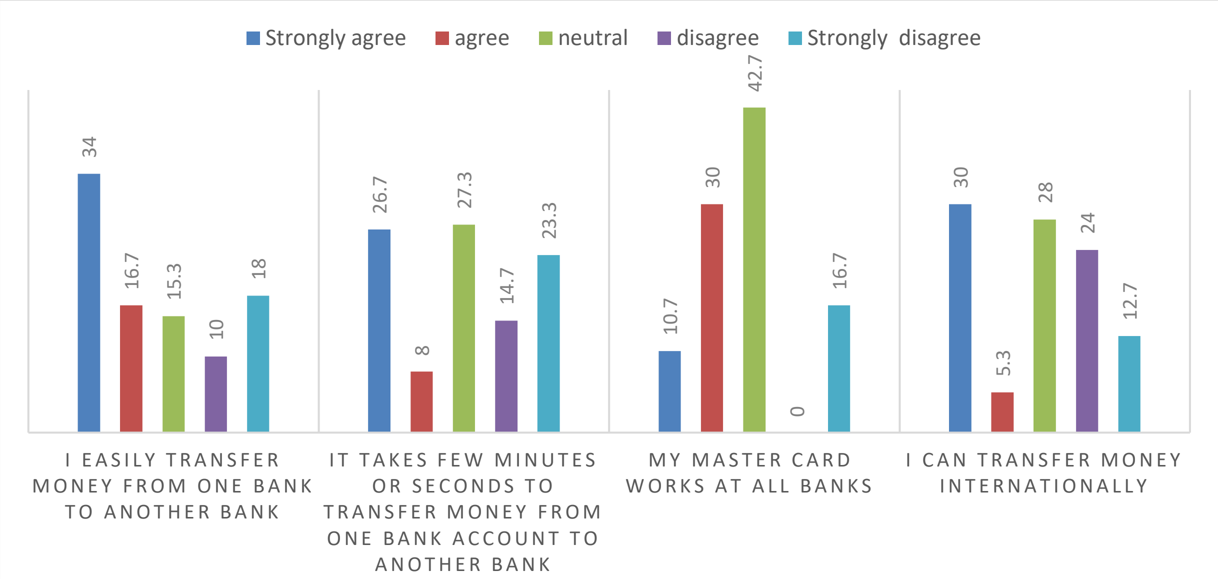

Figure 4.4 Inter-Banking Service

Regression Analysis between service innovation and customer satisfaction

The purpose of the study is to determine the effect of service innovation on customer satisfaction in the banking industry of Ghana. The result shows that there is positive and significant relationship between service innovation and customer satisfaction. In other words, the study found service innovations were key determinants or antecedent for customer satisfaction. The regression table 4.3 indicated that 87% of service innovation variables explains customers' satisfaction in the banking sector. This provided support for the hypothesis and it could be observed that R Square of 0.867 were obtained. The results showed the overall consistency of findings with the model and previous studies conducted on related topics (Therrien et al., 2011; Gunday et al., 2011; and Artz et al., 2010. The regression summary is shown below;

Table 4.3 Regression Model Summary

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.945[a]	.867	.804	2.32479

A regression analysis of ANOVA was calculated, customer satisfaction as a dependent variable and service innovation as independent variable. It can be seen from the table that, with a significance of 0.000 (P≤0.000, degree freedom df, 9), an F-statistic value of 78.478 was obtained implying that there is a significant relationship between innovation and customer satisfaction. Taken together, the table 4.8 provide evidence of model fit, indicating particularly that the regression model fitted the data reasonably well.

Table 4.4 Regression ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	20.199	9	2.244	78.478	.000[b]
1 Residual	212.661	140	1.519		
Total	232.860	149			

a. Dependent Variable: customer satisfaction

Correlation Analysis between service innovation and customer satisfaction

The study buttress the relationship by analyzing the correlation between service innovation and customer satisfaction. The Pearson correlation analyses was run with SPSS and the coefficient obtained was 0.89 at significant level of .000. (P<0.01) for ATM. All the service innovation variables positively correlates with customer satisfaction. The support the strength of the relationship between service innovation and customer satisfaction. The correlation analysis from the SPSS is shown in table 4.5.

Table 4.5 Correlations analysis

		Satisfaction	ATM	payment	Internet and message	Inter-banking
satisfaction	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	150				
ATM	Pearson Correlation	.890**	1			
	Sig. (2-tailed)	.618		.000		
	N	150	150	150		
Payment corporation	Pearson Correlation	.644**	.439**	1		
	Sig. (2-tailed)	.000	.000			
	N	150	150	150		
Internet and message	Pearson Correlation	.841**	.198*	.509**	1	
	Sig. (2-tailed)	.003	.015	.000		
	N	150	150	150	150	
Inter-banking service	Pearson Correlation	.738**	-.037	-.081	.087	1
	Sig. (2-tailed)	.000	.650	.323	.292	
	N	150	150	150	150	150

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Discussion of Findings

Findings from previous conceptual and empirical researchers place much emphasis on technology as one of the implementations of Service Innovation, but the most important thing of the innovation is how it can change the behavior of customer. One of the current innovations in the banking industry is ATM development. This study identify that ATM usage is very friendly and 42% of the respondents strongly agree to this statement. The study revealed the major duplication of effort is seen in the Automated Teller Machine (ATM) network and that of Point of Sale (POS) devices that is being followed. Every bank is forced to have ATM and POS devices next to that of its competing bank in order to make sure that it is not losing customer and revenue to its competing banks. This has resulted in clustering of ATMs, reduction in number of transactions per ATM and increase in average cost of every transaction taking place. With the increase in restrictions on free usage of debit cards, this problem will

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persist. Similarly, table 4.3 argued that 40% and 26% of the respondents respectfully strongly agreed and agreed that ATM is network across the country and all the banks have it. The dimensions of ATM service quality and evaluates customers' perceptions of the relative importance of these dimensions and he identified five dimensions of the "ATMqual" model. These dimensions are reliability, convenience, responsiveness, ease of use and fulfillment. The findings of this present study is similar previous studies. Joseph and Stone (2003) found that among the customers convenient location, secure services, special services for the disabled, user friendliness, and personalization were the dimensions of ATM service quality. Secured places, user friendliness, convenient location and proper functioning as the key dimensions of ATM service quality. The introduction of e-payment systems have been researched by many authors. As the future integrated E-payment instruments, single platform E-payment system is a novel system as previous researches only focused on the three systems separately and individually. The researcher identified integrated payment corporation system as a new development in the area of service innovation in Ghana Banking industry. In Table 4.4 the respondents (46%) agreed that the banks issue debit cards for local transactions. 29.9% and 26.7% of the respondents strongly agreed and agreed accordingly that banks issue cards for international payments such as master or visa card. This payment corporation system has facilitated online prompt payments such as paypal and others. This development have geared many SME to adopt e-commerce business within the country. The researcher identify that 32% of the respondents receive messages on all transactions, 50.7% agreed to the same statement, none of the respondents strongly disagreed. The study also revealed that most account holders check their bank account online and do other transactions. Moreover, 51.3% generally agree that online banking is convenient, 23.3% of the respondents remained neutral meanwhile 10% of the respondents strongly disagreed.

Service innovations are currently a priority for managers of many commercial banking organizations and it is a driver of performance and a key of growth as organizations in this industry operate in an extremely competitive and dynamic environment. Many researchers have studied the relationship between service innovation and customer satisfaction in the area of telecommunication, e-commerce marketing, consumers' behaviour and many others. Although great attention have been given to the service industry but the banking sector still needs enough attention to bridge literature gap and catch up the changing environment. This study use regression and correlation models to establish the relationship between service innovation and customer satisfaction in the banking industry of Ghana. A regression analysis was conducted and a result of 0.867 was obtained. The researcher compared this coefficient to different authors in service innovation and customer satisfaction in many related study and the overall consistency of their findings with the model and previous studies conducted on related topics (Simon & Yaya, 2012). The researcher further improved upon the regression model by using Pearson Correlation analysis method to determine the relationship between service innovation and customer satisfaction in the banking industry. The Pearson correlation analyses was run with SPSS and the coefficient obtained was 0.89 at significant level of .000. ($P<0.01$, table 4.9). The study measured customer satisfaction on service quality, service price, employees' attitude and service complexity. This study concluded that service quality is positively related to service innovation in banks and has the most statistically significant coefficient as indicated by a t-ratio of 2.439. Patel (2005) described service innovation as something which provides benefit to its developer and may also be profitable for other companies that will follow through imitation.

CONCLUSIONS

The study concludes that both genders were represented in the study and therefore the findings of the study would not suffer from gender biasness and all ages were represented as an indication that respondents were well distributed in terms of their age. In addition the study concludes that most of the employees of the bank had a degree, all the levels of the organization were represented in the study and that the majority of the respondents had had an account in the bank organization for more than 5 years and so give credible information.

Service innovation in the banking sector

The researcher identify the service innovations in the banking industry of Ghana. From the findings the main service innovation were grouped into four categories. Firstly, ATM development, security and reliable have been one of the new service innovations that have yield positive results in the banking sector of the country. The study found that most of the ATM accept deposits and always reliable 24 hours. This is not a familiar challenge in developed countries like USA and China and is a common challenge in most developing nations especially Africa where banking technology is germinating. Payment facilities are now developing in the banking industry of Ghana. Although the study established massive changes in debit card and credit card system. The study also concluded that the banking industry in the country is constantly reviving the sector through internet banking service or online banking and instant messages or notifications. Most respondents agreed they check their account balance sometimes do transactions online. This development will reduce the number of people that go to the banking hall. Easy access to bank account will encourage account holders to manage their own banking services, making banking in the country more easily accessible and convenient.

Customer satisfaction

The customer satisfaction relationship with service innovation largely depend on service quality, service price and employees behaviour towards customers of the bank and the general public. Quality services and relatively affordable price will however influence potential consumers into the banking industry whiles maintaining the customers. Bank shows sincere interest in solving customers' problems, it performs the service right the first time and the behaviour of employees in banks instills confidence in customers, the employees understand the specific needs of their customers, employees are neat in appearance, employees provide their services at the time they promise to do so, employees are consistently courteous with customers, employees always try to establish a good relationship with customers, employees show hospitality to customers and employees are highly efficient. The study also concludes that the bank has account managers who take care of corporate customers, provides visiting services to corporate customers, provides a good channel of communication for customers, promotes their corporate culture to customers and take the initiative to serve customers.

Relationship between service innovation and customer satisfaction

The study also concludes that the customers were extremely satisfied with the fast account/balance information, online services, ease of handling banking needs, price of service, reporting of results, ease and frequency of contact, attentiveness to the banking needs. in addition they were extremely satisfied with the satisfaction with banks service level, visually appealing physical facilities, employees telling customers exactly what services will be performed, employees never being too busy to respond to customers' requests while they were very satisfied by keeping a promise to do something by a certain time, showing sincere interest in solving a customer problem, performing the service correct at the first time, providing the service at the time the service was promised, insisting on error-free records, employees giving prompt service to customers, employees always being willing to help customers, employees never being too busy to respond to enquiries. These measures account for the positive relationship between service innovations and customer satisfaction in the banking sector of Ghana.

Recommendations

First, banks should provide reliable services in order to achieve high levels of customer satisfaction, an antecedent of sustainable competitive advantage.

Second, bank management should regularly provide adequate training for bank staff. The training could be costly and might not result in short-term profitability; however, lack of training will lead to problems in the long run.

Bank management should also recruit staff with social skills that assist the development of long-standing relationships with customers.

The bank management should emphasize the communication dimension and its related items. Any adjustments of short-term or long-term strategy concerning bank-corporate relations need to be communicated accurately and in timely fashion to bank employees and corporate customers.

Lastly, bank management should pay attention to the influence of the latest technology on service quality.

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