UNIVERSITY OF CAPE COAST

BANKS NOVELTIES AND FINANCIAL PERFORMANCE OF

COMMERCIAL BANKS IN GHANA

EMMANUEL OPPONG

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COMMERCIAL BANKS IN GHANA

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature…………………………   Date……….………..

Name: Emmanuel Oppong

Supervisors' Declaration

We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature…………………… Date……….………..

Name Dr Siaw Frimpong

Co- Supervisor's Signature …………………………. Date……….………..

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ABSTRACT

The chief thrust of this work is to examine the stimulus banks novelties has on fiscal performance in Ghana profitable banks listed. This research selected these banks registered on the interchange market to avoid issues of subjective outcomes which may lead to sceptical issues later on. Specifically, the study sought to: look at, the influence bank innovations have on net interest margin in Ghana commercial banks, scrutinise the stimulus banks novelties has on earning per shares in Ghana viable banks and assess how innovations within the banks affect net profit of Ghana commercial banks. This research made used of explanatory study design and used Stata to process the data in the form of Panel ordinary least square. It was recognised that automated teller machine had momentous and adverse result on net interest margin but has no significant effect on the other performance indicator. It was further realised that, mobile banking decreases earnings per share of shareholders and increases net profit for the banks but has no effect on net interest margin. Finally, internet banking increases earnings per share of the banks but decreases both net interest margin and net profit of Ghana commercial. The banks size also increases net interest margin. Growth opportunities in banks also decreases earnings per share. The research resolved that, innovations had momentous influence on monetary performance in Ghana commercial banks. The research commended, for Ghana profit-making banks to increase its net profit margin, it must concentrate more on mobile banking services. They must pay attention to their bank size as well and ATM. It was further recommended that commercial banks must pay key attention to mobile banking in order to maximise their net profit.

KEY WORDS

Automated teller machine.

Bank innovations

Commercial banks

Earnings per share

Financial performance

Internet banking

Mobile banking

Net interest margin

Net profit

Return on asset

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DEDICATION

To my late father, Samuel Akakyi Oppong, Miss Seraphim Yayra Setorgloh,

and Canon DeGraft Johnson, God bless you all.

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LIST OF ACRONYMS

ADB	Agricultural Development Bank
ATM	Automated Teller Machine
BIS	Bank for International Settlement
BoG	Bank of Ghana
BSE	Bombay Stock Exchange
CAL	Continental Acceptances Limited
CFO	Chief Financial Officer
CLRM	Classical Linear Regression Model
CRD	Capital Requirement Directives.
CSP	Corporate Social Performance
EFT	Electronic Fund Transfer
FNB	First National Bank
GDP	Gross Domestic Product
GHL	Ghana Home Loan
GRR	Ghana Reference Rate
ICT	Information, Communications and Technology
INTB	Internet Banking
IT	Information Technology
ITU	International Telecommunication Union
KSE	Karachi Stock Exchange
LQDTY	Liquidity.
MIS	Management Information System
MOB	Mobile Banking
MPC	Monetary Policy Committee.

MRA	Multiple Regression Analysis
MVA	Market Value Added
NIM	Net Interest Margin
NMP	Net Profit Margin
OECD	Organization for Economic Cooperation and Development
P/E	Price per Earnings
PC	Personal Computer
POS	Point of Sale
R&B	Retail and Distribution
RBL	Republic Bank Limited
ROA	Return on Assets
ROI	Return on Investment
SECP	Security and Exchange Commission of Pakistan
SMS	Short Message Service
SVA	Shareholders Value Added
TA	Total Asset
TF	Trade Finance
TSA	Transactional Service Agreement
UBA	United Bank of Africa.
VIF	Varian Inflation Factor

CHAPTER ONE

INTRODUCTION

Background to the Study

Globally, banking sector is facing numerous of challenges (Mugane, 2015). This includes non-performing, above banking due to unnecessary competition and falling profits. In an effort to address these challenges, banks are constantly introducing innovations in their operations and product or service delivery to improve performance (Lawrence, 2010). The term bank innovations according to Lawrence (2010), is an introduction of new production process or products and services that brings about efficiency and effectiveness in banks operations. In support of Lawrence (2010), (Nofie, 2011) added, discoveries in the financial segment shows an introduction in fresh or enriched process or product which cuts rate of creating prevailing services.

Meanwhile, Monywoki (2016) found out that there are diverse forms of innovations which have been embraced by different establishments with the aim of improving competence, refining their performance such a product, process, organisation and marketing innovation. Product invention is introduction of fresh and considerably enhanced product relative to its features or planned usage. Process innovations involve acceptance of better or new industrial know-hows which aid companies to meet client needs yet remaining competitive in the business environs. Organizational innovation involves how establishments grip work practices aimed at instance customer relations both inside and outside inspire viable benefit. Organizational novelties aid organisations expand workers' engagement.

Marketing innovations include acceptance of diverse marketing methods, approaches which is geared near satisfying client relationship via clear pricing policies and product promotions (OECD Oslo Manual, 2005). According to (Gündoğdu & Taşkin, 2017) some of vital fiscal innovations in the global banking system are: interest rate, basic forms of securitization, automated teller machines (ATMs), money market funds, treasury inflation protected securities, mobile banking, lending decisions, internet baking, credit scoring to assist in indexed mutual funds, venture capital funds, exchange traded funds, and currency swaps.

So even though Abor (2005) surveyed (ATM, Mobile banking, and internet) as technological innovation, it can still be used as an important financial innovation according to (Gündoğdu et al, 2017). It is prudent to state that monetary invention has been essential element to economic bustle for many periods Goetzmann (2009). Fiscal performance state the inclusive monetary strength firms have and its capacity in generating worth for its stockholders. Among economic performance pointers comprise however not restricted to cash flows, income from operations, return on assets, operative income, yield form equity, after tax profits and net interest margin. Performance of firms is a controversial term consisting of four main dimensions; Customer-focused performance is about satisfying the customer using products or services.

Financial and market performances focuses on profits, time cycle, earnings per share, revenues and market position. Human resource performance is about workers' contentment while organizational performance is about construction and source chain suppleness and period to market (Alam,

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Raza, & Akram, 2011). All the different methods of establishing performance use organizational goals and objectives as the basis of measurement and judgment. The performance pointers can be measured in monetary or non-monetary terms. Most firms prefer financial indicators for measuring their performances.

Among the commonly used financial indicators used of firm monetary success include earning per share, mesh profit after income tax, (ROA), net interest margin and (ROI). Other commonly measures include competitive position, stakeholder satisfaction, profitability, growth, market segment and productivity (Bagorogoza & Waal, 2010). These innovations help banks to play essential part in any nation's economy by carrying out services essential to the working of any economy such as exchanging money in various forms, lending, preservation, transferring, and along with evaluating creditworthiness of customers (Paola, Małgorzata, Paweł & Witkowski, 2017).

The banking business is a vital constituent to business, national, global and individual financial well-being. According to Prochniak and Wasiak (2017) as well as Petkovski and Kjosevski (2014), the system of banking is essential to the economic development for a number of reasons. Firstly, banks have the capacity in collecting and attracting credits from investors. Also, provide credits to boost venture and production. Thirdly, banks have the capacity in making fiscal increase to zones such as; Trade, agriculture and industry. Furthermore, the banking sector plays the role of accepting money from savers and lends to borrowers (Haq, 2005). Lastly, banking sector add to creation of original investment of venture projects. From foregoing discussion, it been noted, the banking segment has an impact on any economy. The

banking segment aids people start fresh businesses, fund new outlines of equipment, and offer operational capital management, permitting businesses to employ new staffs and host new products. Given the huge costs incurred in developing and implementing innovations, there is need to constantly ascertain how these innovations sway the viability levels of monetary bodies.

Key implication of the research is, to learn the stimulus banks novelties have with financial success of Ghana profitable banks to be able to aid managements when undertaking innovations in terms of product, marketing and process innovations among others. This research relied on other studies conducted in the field of bank innovations. The major theoretical premise underpins this study is Schumpeter Theory of Innovation which stimulate that, there is obligation to continually generate inventive products to enjoy sustainable and increased profits.

However, other theories such as Constraint- Induced Theory and Innovations Diffusion Theory were also considered based on the other research objectives. The claim that innovations have an affirmative impact on performance is echoed by Grundiche (2004) who claimed that, for a business to strive efficiently in the vibrant and economical business environment and realise set goals in terms of high sales volume, productivity, and big market share, it must endlessly develop merchandises and product lines to content the continuously varying desires and needs of consumers. Here, since innovations take place every now and then, it is interesting to understand the influence innovation have with fiscal performance of registered Ghana saleable banks on Stock Exchange Market.

Statement of the Problem

According to Abor (2005), enlargement within Information and Communication Technology are drastically altering mode business. These improvements in technology has caused novel supply for financial transactions products like Automated Teller Machine (ATM). This claim supports the view of Sarpong (2015), that the old commercial banking methods is weakening as end result of innovation. This infers, commercial banks operating in Ghana need to have corporate techniques to incorporate into turn of events, execution and assessment of the impact of inventive items which are planned for keeping up existing clients and pulling in new ones.

In the perspective on Alam, Raza and Akram (2011) such advancements can improve productivity and benefit of the banks. A few instances of development in the Ghanaian financial division incorporates computerized teller machine, versatile banking, web banking, electronic supports move, charges and credits cards item, showcasing and institutional advancements among others (Kimingi, 2011; Kiptum, 2016). In crafted by Marfo-Yiadom and Ansong (2012), rivalry and changes in Ghana's monetary area have realized a great deal of advancement into the Ghanaian financial industry.

Essentially, Frimpong (2010) likewise demonstrates that developments offer motivator to banks so as to improve upon market implementation by recouping generous lavish facets prevalent in the financial business, similar to Ghana and other rising nation's circumstances. Bank of Ghana Survey (2014) bolster the case and detailed that the financial business has stayed entirely gainful and fluid during that time and the columns starting

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these progressions are the expansion in the utilization of data innovation hardware.

All things considered, various study have analysed the impact bank inventions have on the financial connected implementation of commercial banks at the worldwide or universal level, for example, Kenya, United Kingdom Tunisia, among others. Be that as it may, these investigations have delivered blended discoveries. For example, contemplates directed by (Pooja & Singh, 2009) just as (Franscesa & Claeys, 2010) presumed that, budgetary advancements ensured least effect on money related execution. Strikingly, comparative investigations by (Batiz-Lazo & Woldesenbet, 2006) and Mwania and Muganda (2011) inferred that money related advancement has noteworthy commitment with monetary execution.

This brings up the issue of whether advancement in the budgetary (banking) area is improving the presentation of the monetary part in Ghana or not. Since as per Muthinja (2016), most associations (money related foundations, for example, banks) set out on development due to the drivers of advancement, for example, inadequacy in budgetary markets, organization issues and decrease of exchange cost among others and a bit much since it impacts on benefits level, the investigation received dynamic GMM model estimation because of constant impact. Accordingly, Sarpong (2015) attempted to direct an investigation on widespread banks in Kumasi and Accra. Be that as it may, he estimated execution utilizing productivity, all out pay, liquidity and support of banking administrations. His work was centered around cross-sectional information explicitly banks inside Kumasi and Accra.

Regarding approach, Sarpong (2015) utilized subjective investigation to quantify the effect of advancement on budgetary execution.

His information comprised reactions from individuals on surveys he conveyed. Since reactions to inquiries on a poll can be considered to be emotional, I set out to state that the discoveries of the study were abstract. Abstract execution estimates utilize neither bookkeeping nor advertise based execution measures. They involve the assessment of the top administration as well as educated representatives inside an association who have huge information regarding the matter under examination. This methodology had been utilized by Dess and Robinson (1984), and top administration idea was solicited, gave an abstract appraisal from their association's presentation.

Later examination conducted by Cannella and Hambrick (1993) talked with administrators and safety experts and got information on before and after procurement implementation to an investigation on official progression in gained companies. Utmost investigations had generally been incredulous on the utilization of emotional execution actions. Suspicion emerges from the great affinity of human blunder emerging from defects in social comprehension (Gilovich, Griffin, and Kahneman, 2002). The shortcomings of the abstract or no money related measures in any case, Richard et al. (2009) found that, the expanded spotlight of abstract execution was to a great extent driven by the augmenting hypothetical and standardizing part of firm execution. Felix, 2018 likewise guaranteed that, nearby banks battle to spotless and organize their information structures and transform them into the sort of bits of knowledge that empower really customized client support so as to produce economical upper hand.

Cannella et al (1993) saw that the rise of appraisals, which centered around the multidimensional part of firm execution, (for example, financial, social and ecological) underpins the requirement for emotional measures. The abstract evaluations incorporate corporate social performance (CSP) and fortune reputation surveys. Various examinations have audited the non-monetary proportions of firm execution, their prescient capacity and worth importance (Amir and Lev, 1996; Ittner and Larcker, 1997). Aside from the way that there are logical inconsistencies among scientists as to the real effect of money related advancements on bank execution, Noyer (2007) likewise noted most investigations on monetary development have been founded on other budgetary markets like protections showcase (as refered to in Ngigi, 2012) with slight load on the financial area.

As per Sarpong (2015), it despite everything stays obscure to business bank ranking directors in Ghana if genuinely bank advancements helped to realise normal fiscal exhibitions of banks. Despite that bank developments have pulled in significant enthusiasm to analysts, the impact of these advancements on business banks execution in Ghana has not been broadly looked into. In light of the premises above, it is important to lead an examination on bank improvements and budgetary implementation of business in Ghana. For such an investigation to be progressively applicable, the specialist receives monetary execution pointers like profit for resources, net benefit and income per share just as auxiliary information on recorded puts money on the Ghana Stock Exchange Market. The examination utilized board standard least square investigation and board information to decide how the bank developments influence monetary execution.

Purpose of the Study

The core thrust of this research was to examine influence bank innovations have on the fiscal performance of some selected Ghana profitmaking banks been listed.

Research Objectives

1. Examine the stimulus bank innovations have on net interest margin Ghana profitmaking banks.

2. Evaluate effect of bank innovations have on earning per shares of Ghana commercial banks.

3. Assess how bank innovations affect net profit of Ghana commercial banks.

Research Questions

In addressing the delinquent, the following study questions guided the research.

1. What influence bank innovations have on net interest margin of Ghana profitmaking banks?

2. What influence bank innovations have on earning per share of Ghana profitmaking banks?

3. How do bank innovations affect net profit of Ghana commercial banks?

Research Hypothesis

H_O: There is no statistically substantial effect of bank inventions (ATM, MB and INTB) on net interest of among some selected commercial banks in Ghana.

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H$_O$: There is no statistically momentous association between banks innovation (ATM, MB and INTB) and earnings per share among some chosen Ghana commercial banks**.**

H$_O$: There is no statistically major association between banks innovation (ATM, MB and INTB) and net profit among some selected of Ghana commercial banks.

Significance of the Study

This research tries to look at influence of bank innovations on monetary performance of some designated commercial banks in Ghana. The findings of this work would convey the effect bank innovations have on net interest margin of Ghana commercial banks. Again, it would show the outcome bank innovations have on earnings per share of Ghana profitmaking banks. In addition, outcome of this study would pin point how bank innovations affect net profit of Ghana commercial banks. Also, the research results can aid commercial banks to appraise the significance of fiscal novelty on its performance in relations of boosting net profits. Commercial banks, particularly those profitable, are quickly becoming extra mindful of relevance of economic innovation. This research swells stimulus of understanding the relation amid novelty and financial performance.

Ghana commercial banks would gain from the research conducted in Ghana and apprehend the modernisations they can imitate within their dealings in order to upturn performance. Verdicts of the research would notify the banks on inventions which have well bond on business performance and hereafter save the expenses of steering cost-benefit investigation of research. Lastly, the research would add to the prevailing form of knowledge and

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commends ways of enhancement for economic performance to leverage on the process modernisations and would also aids as a treading pebble for further exploration on financial innovation.

Delimitations

A study of this kind should have taken the researcher to all the financial institutions in Ghana, however; the study was delimited to only some selected banks in Ghana that have been registered on Ghana Stock Exchange market to enable the researcher to have an in-depth investigation of the issue under consideration. With respect to population settings, only the listed selected banks would be engaged in the study. Although, there are countless of issues that could have been looked at in terms of bank innovation and financial performance, the study has been delimited to impact bank innovations have on net interest margin, impact bank innovations on earnings per share of Ghana commercial banks and finally how bank innovations affect net profits of Ghana commercial banks.

Limitation

The use of internet to download data has its own challenges. Some of the years' financial statement were not online. However, the researcher took his time to search for the data on yearly base for those ten years which was really time consuming.

Operational Definitions of Terms

Bank Innovations as a Term

Banks invention is introduction of fresh products or modification brought into current product or the discovery of a new markets by banks.

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Net profit as a Term

Net profit in this study means, real turnover after operational expenses not involved in the computation of gross earnings have been paid.

Return on Assets

Return on Assets is computed net earnings after income taxes over entire resources. This proportion is computed as net profit after tax over whole resources. The fraction measures the working proficiency of the firm grounded on a business's made earnings from its entire resources. (Kabajeh, Ahmed-AL, Nu'aimat & Dahmash, 2012).

Net interest margin (NIM)

NIM measures the alteration amid interest income created by other financial organisations or banks and the sum of interest paid out to their creditors (example, overheads), relation to sum of interest-earning resources.

Earnings per share as a term

Simply means net income per share which is a market vista proportion that measure the total of net revenue earned per share of stock owing.

Financial performance as a Term

This measures the outcomes of a business's strategies and process in relations of finance. The outcomes are echoed in a company's return on resources, value added among others.

Organization of the Study

This particular research was arranged into five sections which discussed all the aspect of the study. The first chapter, Chapter One covered the contextual to the study, research questions, problem statement, purpose of study, delimitations, significance of study, operational description of terms,

limitations, and ended with organisation of the study. Chapter Two presents an analysis of literature related to the research. It looks at the theoretical, conceptual and the empirical studies interrelated to this study. Chapter Three considers methods used in gathering and analysing the data.

This section; population, study design, sampling technique and sample size are described together with instruments used as well as data gathering and data exploration procedures. Chapter Four, emphases on outcomes and discussion of discoveries. Finally, Chapter Five gives the swift and draws conclusions on the major conclusions of the research. Chapter Five also outlines recommendations from the study and also gives proposals for future research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This particular section reviews works interrelated the study. The sector was grouped in three key sections; theoretical, empirical and conceptual review. The theoretical review examined the Schumpeter Theory of Innovation as well as constraint-induced theory. The conceptual review touched on concepts of bank innovations and financial performance. The empirical review was carried out along the research objectives formulated for the study. Specifically, the empirical review covers the stimulus bank innovations have on; yield on assets, net interest margin, earnings per share and lastly net profit of commercial banks in Ghana.

Theoretical Review

This particular section talks about theories that under pinned this research. Although there are countless number of theories to innovation such as the diffusion innovation theory, technological acceptance model, regulation innovation theory, constraint-induced theory, circumvention theory, and the location theory, the one that is closely connected to the recent study is that this study is that of constraint-induced theory and Schumpeter Theory of Innovation. Each of them is discussed in below:

Schumpeter Theory of Innovation

Schumpeter theory of innovation propounded by Joseph Schumpeter in the year 1928. Schumpeter well-defined innovation as formation of fresh merchandise or fresh product feature; the introduction of a different

manufacturing process; the inaugural of a novel market; the securing of a new fonts of inputs and the formation and application innovation of a fresh machinery. To Schumpeter, innovation is seen as a possible vehicle to profitability. He claimed that industrialists can make the prospect for new profits with innovation. Schumpeter argue that one's entrepreneurs (commercial banks) makes the move to create innovative product, they will make profit. He further stressed that, when the entrepreneurs start to make profits because of innovation, groups of duplicators captivated by abnormal profit would begin wave of venture which corrode the profit margin for novelty by doing similar of the same thing.

It presupposed that the profit on innovation would be taken away in the extended term. As a result of the profit been taken away, Schumpeter in 1934 emphasised on role of free enterprise and pursuing of chances of new worth making actions which enlarge and modify spherical stream of returns. This means that, for Schumpeter, there is the necessity to continually generate inventive products in order to enjoy sustainable and increased profits. Schumpeter noted modernisation is dynamic tool for a nation's long-term fiscal growth and also serves as an economical gain.

This opinion is buttressed by other scholars like Abramowitz (1956) and Solow (1956) as well as Porter (1992). To Schumpeter, innovation and progression come from continual investment in tangible and immaterial assets. This implies that banks which want to have a competitive advantage must invest their resources in both tangible and intangible. It is upon this premises that banks have started investing in tangible assets like ATM machines that accepts deposit and withdrawal on demand, connecting mobile money directly

to bank accounts, E-zwich, and intangible assets like mobile banking and upgraded internet banking that enables customers to pay their DSTV, water bills from the comfort of homes and offices with internet connectivity. It is imperative to memo that, these innovative products have the potential to impact the financial performance in areas of earnings apiece share, after deductions interest margin, net profit and yield on asset of Ghana financial banks either negatively or positively. This is because, with the advent of the innovations such as the new ATM machines that accepts and withdraw money, the queues at the banking halls might reduce. This will enhance patronage and might as well transcend into performance.

Again, according to Schumpeter although innovation is very important and it is of benefits to economic growth and also enhance profitability leading to an increase in total income, when not constantly developed the profit margin will fall. Therefore, an organisation must find out the influence of any inventions they employ, its effect on its business performance, therefore essential to study outcome of novelty on monetary success of some selected Ghanaian commercial banks.

Constraint-Induced Financial Innovation Theory

The theory advocated by Silber in 1983 who was American economist. The theory kindle, the purpose of monetary novelty of financial institutions is, profit maximization. This is because, most banks spent a lot on innovation in order to cut down production so as to increase performance and maximise profit. Yet, there are interior and exterior constraints such as leadership style and policy organizational management that limit the course of chasing profit expansion. To him, it is not only innovation that can lead to profit

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maximization but instead bankers' executives must look at organizational policy, management and leadership styles, growth opportunities, the size of the bank as well as how liquid the bank is else the innovation will not yield the maximum results or not even yield any result at all. Giving to Silber (1983), these constraints and precincts promise the strength of management and decrease the competence of monetary institutions.

Fiscal institutions, thus, endeavour at warding them. The induced constraint theory chatted monetary novelty from the microeconomic perspective. The theory emphasizes innovation in adversity excessively. However, it still indicates that innovation is aimed at profit through fighting the adverse conditions facing the financial institutions. This theory suggests why commercial banks come up with new ways of generating income within the changing landscape because the banks want to enhance performance. The theory suggests that there are constraints inside and outside the organization such as leadership style of managers, attitude of employees, government policies among others that also hinders the performances of banks although there might be innovative products that may exist to increase performance.

Silber (2015) further noted that, innovations provide the mechanism of playing in the market with the aim of improving financial performance. As submitted by the theory, financial innovation clearly adds to fiscal performance of Ghanaian commercial banks but to achieve that, other internal and external factors must be looked at. So per the theory, innovations when well created and implemented has the ability to increase performance if other constraints such as the behaviour of board of directors are well taken care off.

Conceptual Review Concept of Financial Innovation

Conferring on Nofie (2011), inventions in the financial industry refers to introduction of fresh, improved merchandises or process which cuts price of creating prevailing services. This is to say that, there is said to be innovation when a commercial bank experiences a modification of a new product or add value to the existing ones to enhance patronage in order to increase profit and promote shareholders value. Tufano (2002) also adds that innovation in the economic sector is act of making, propagating fresh monetary mechanism, new financial know-hows, market and institutions. So, Tufano, also emphases the need to create new products but further added technologies as well as new market and institutions and not just creating them but also have a way or new ways of making them popular to customers either via Advertisement or any other means.

According to Sandvik (2003), financial innovations is one of greatest vital viable arms and usually perceived as company's main value competency. Since novelty is viewed a weapon, having it makes a commercial bank who possess those innovations a giant who is feared in the industry compared to those who do not have. Innovation is well-thought-out as active way to increase company's output, limited means issues facing an entity. Innovations arise due to variations in the financial landscape and as a result of essential alterations like deregulation, increased rivalry, and greater rate of increasing novel goods, fast pace of scientific invention, more challenging clients and merging companies (Akamavi, 2005).

According to Lerner (2002), inventions are dynamic for businesses in monetary services sector as they are for corporations in the non-financial

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sectors. They provide a mechanism of raising more capital at a lesser rate than it could without the innovation. Monetary innovations include institutional novelty, product, process innovation, marketing innovation, (ETF) Electronic Funds Transfer and (POS) terminals among others. The use of (ICT), Information Communication and Technology for instance, as done by use of (ATMs) automated teller machines, Agency banking, online banking, mobile and phone banking has completely changed how banking is done. (Ahmad, 2006).

Monywoki (2016) noted that there are diverse kinds of invention which have embraced by diverse establishments with aim of improving competence and refining. These novelty forms include and not narrow to process, organizational, product and market innovation. Product innovation is taking in some new and significantly improved products in line with its features or anticipated use. This involves considerable improvements of industrial supplies, product components, software cohesive, customer welcoming and incorporating extra beneficial features. To him, ones there is a fresh product or a new feature has been added to the product then innovation is said to have taken place.

Process innovations include acceptance of improved or new industrial technologies that aid a business to meet client needs but continuing viable in business environs. Process innovations aid a business in achieving its main success pointers which consist of and not restricted to abridged operating expenses, enhanced goods superiority and still meet client burdens (OECD Oslo Manual, 2005).

Marketing innovations include acceptance of diverse selling skills and methods which geared near satisfying client association via pure appraising schemes and products advancements (OECD Oslo Manual, 2005). Organizational innovation involves the way organizations knob work processes. This form of innovation has to do with, how client associates both within and outside an organisation are stimulated to achieve competitive benefit. Organizational innovations aid businesses to deepen their employees' commitment.

 (POS) Point Of Sale terminal is trade credit tool which orates client's account number and bank name once credit card or bank card pass via alluring stripe reader. POS links banks and if monies are obtainable, draws or transfer client agreed sum and prints receipts (Business Dictionary, 2011).

Electronic funds transfer is scheme for moving money from one bank account to another directly and shorn of any paper currency varying persons (Barnes, 2003). It's prudent to state that monetary innovation has been a central constituent of economic bustle for several periods (Goetzman, 2009).

Concept of Financial Performance

Financial performance means the general financial well-being of a business and its capability to produce worth to stakeholders. Some of fiscal performance pointers comprise and not restricted to after tax profits, operating income, return on equity, return on assets, revenue from operations, and flows of cash. Fiscal services commerce success spins round amalgamation, financial ratios analysis, margin growth rates against set budgets and comparison with similar firms in the same industry (Tolba et al., 2011). According to them, when we talk of financial performance it has to do with

firms (banks) comparing actual with budgeted and also having inter firm comparison within the same banking industry to ascertain the success of bank in question.

Performance of firm is a controversial term consisting of four main dimensions. Customer-focused performance is about satisfying the customer using products or services. Market and monetary performance focuses on revenues, market position, profits, earnings per share and cash-to-cash cycle time. Human resource performance is about worker consummation while administrative performance is about invention level, supply chain and production flexibility and the time to market (Alam, Raza, & Akram, 2011). All the different methods of establishing performance use organizational goals and objectives as the basis of measurement and judgment.

Performance pointers could be measured in relations with nonfinancial or monetary ways. Most firms prefer monetary indicators for measuring their performance. Some of the generally used financial indicators to quantity firm performance include (ROA), (ROI), and net profit after tax. Other usually used measures include productivity, market share, profitability, growth, viable position and stakeholder satisfaction (Bagorogoza & Waal, 2010). Statements of financial transactions organisation normally comprise variation of financial quotients intended to provide a sign of company's performance. Basically specified, abundant of recent bank success works describe the objective of monetary institutions as earning suitable returns and reducing risks occupied to earn the return (Alam et al, 2011).

There is commonly established association amid risk and return, which is, greater risk leads to anticipated greater return. So, traditional measures of

performance calculate risks and returns. Growing rivalry in national and global lending markets, conversion concerning monetary mergers and fresh technical inventions represent main variations in banking environs, and dare all financial institutions to create apt provisions and enter into novel competitive monetary atmosphere. Aburime (2009) examined efficiency of Nigerian banks based on partisan attachment.

This research concluded, political issues was the main source of performance of Nigerian banks. Profit after income tax has broadly been used as measures of banks performance. Concerning issues influencing bank performance, scholars have used diverse reasons such as: market concentration, labour productivity, shareholders' equity, liquid assets to asset, age of the bank, the level of capitalization, total borrowed funds to total assets, total loans to total deposits, fixed assets to total assets, bank portfolio composition, capital productivity, financial interrelation ratio, bank capitalization, market size, cost to-income ratio, reserves for loans to total assets, and customer satisfaction (Athanasoglou et al, 2008). Monetary performance of banks typically uttered as function of inner and outward determinants.

Interior factors coin from bank accounts like balance sheet or profit and loss accounts and hence could be named micro factors of performance. Outer elements are mutable which are not connected to bank leadership but mirror economic and legitimate environs which touches action and performance of monetary organisations. Amount of descriptive variables have offered for groups, affording to the nature and tenacity of each research (Alam

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et al, 2011). Researches dealing with inner factors employ research variables like expenses management, human resource capital, risk management and size.

Exterior factors of bank's viability contain issues like cyclical output, interest rates, inflation and changeable which represents market characteristics (Alam et al, 2011). The concluding refers to industry size, market concentration and status of ownership banks. This research would relay monetary innovation and monetary performance which pursue to discover whether the two mutable are connected.

Recent Development of the Banking Sector

The banking segment has experienced constricted supervisory scenery in current time. Depiction of Bank Specific Deposit Taking Institutions Act, 2016 (Act 930) and Deposit Protection Act in late 2016, charted by stream of other creativities, active nursing to further reinforce and steady the industry. Most of these main creativities and flowing outcome of the sector is discoursed as follows: In the year 2017, Bank of Ghana (BoG) registered three institutes to start operating as widespread banks in Ghana. Construction Bank, solely held Ghanaian bank received general banking authorisation from central bank of Ghana in second part in 2017.

Beige Bank, solely possessed Ghanaian bank got general banking certificate from central bank in second sector in 2017. Afore certifying as general bank, Beige Bank previously worked as a non-bank monetary body under the designation, Beige Capital Savings and Loans Company. GHL Bank, which functioned as loan financial establishment under the designation, Ghana Home Loans, got a banking permit from central bank in June 2017. But permits of Construction Bank and Beige Bank, alongside three other

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indigenous banks; The Royal Bank, UniBank Ghana and Sovereign Bank were annulled 1st of August 2018, with companies merged into one body, called Consolidated Bank Ghana as renowned before.

Governor of central bank of Ghana in December 2017, proclaimed an embargo authorising fresh banks and other monetary institutes, an effort to fortify regulation of prevailing monetary institutions and safeguard effectiveness in banking sector. BoG, via directive delivered on 11th September 2017, augmented least capital condition of prevailing banks, new applicants from one twenty million Ghana cedi to four hundred million Ghana cedi and mandated banks to obey such rule by close of December 2018. Apiece central bank's notice on fresh least capital condition, uphill evaluation of bank's minimum capital obligation is "extra develop, fortify and remodel the financial system to upkeep the government's fiscal vision and transformational plan".

Post execution, would presume banks in Ghana have sufficient capital which spinal big ticket transactions and contest kindly with other banks in sub region. Per July, 2018 numerous of banks require extra capital and expect to float desired funds from new stakeholders by assessing non-binding offer or undertaking proper assiduousness. Small number of banks still continuous to have trouble enticing interested investors mostly due to excellence of loan books. Such body is probable turn into target for acquirement or suffer from annulment of banking permits.

As part of measures to further fortify risk management through sector, central bank delivered Capital Requirement Directive, law book for Basel 1&2 agreement, active January, 2018. Writing under CRD agenda began in July,

2018. Execution is estimated to line up level of risk bank choose to convey with sum of capital held, which is mostly imperative to defend investors' and clients' monies as banks take necessary steps to upsurge capital in line with novel minimum capital obligation.

In order to toughen business governance, constructions through sector, central bank published "Banks and Specialized Deposit Taking Institutions Corporate Governance Directive in March, 2018" to offer an agenda and control business governance activities of banks. Main mechanisms of the instruction include and not restricted to procedures on; Performance Evaluation, Tenure & Age Limit, Board Qualification & Composition, Directors' Selection, Board Size & Structure, Risk Management and Internal Controls. In an offer to bridge gap amid policy rate and collective borrowing rate, central bank announced GRR in April, 2018 to be used as yardstick rate which banks will add or deduct risk premium based on clients' risk profile.

GRR substituted "Base Rate Model" as fresh method for interest rate calculation. GRR for July and August 2018, erected sixteen. Eleven percent and sixteen point ten percent correspondingly. Purpose of the GRR is built on some market visible mutable including cash reserve requirement, policy Rate, cash in vault, interbank rate, and some market related factors. Formula for computation GRR displays greater transparency in its calculation. Banks now fee credit founded on new reference rate by accumulating a risk premium or deduction.

Banks are also obligated to report to central constituent of risk premium charged to its clients on an agreed form. Monetary Policy rate and borrowing rate, Monetary Policy Committee (MPC) of central bank has

reliably revised downward Policy Rate then 2017, as part of measures to decrease cost of capital and increase output in MPC reduced policy rate by 100 base point, from 18 percent to 17 percent and has stayed unmovable at August, 2018. To extra increase private segment access to money, Government has meaningfully reduced local borrowing rate and had blown on influence of market interest rates.

Interest tariffs on the 91-day treasury bills, 182-day treasury bills and one-year note have all moved down over past twelve months up to April, 2018. Nevertheless, drop in short-run money market instruments, mediocre lending rates have endured largely buoyant, soaring about 30 percent. This is mostly sustained by 5 July, 2018, BoG give out a contact draft of Mergers and acquirement instruction for Banks, Specialised Deposit Taking Institutions and Financial Holding Businesses.

Basic aims of directives are: to aid in ensuring that, interests of controlled financial institutions, savers, other shareholders and steadiness of financial sector would not otherwise endangered by variation in momentous shareholding or control of such institutes, recommend standards, appropriate and proper tests, approving appeals for projected mergers, acquirements of controlled financial institutions, set least conditions that must be satisfied by amalgamating, acquiring delimited financial institutions during the due carefulness process,

to provide leadership on processes and ways of assessing applications for meld, acquisition and obligated documents or arrangements to succumbed and suggest post-merger or post acquisition necessities. Directive also acmes significant licit rations for Sale of business, consolidations, amalgamations,

and renovations of banks' loan book of the private sector and on 21 May 2018 there was separation of powers.

Performance of the Banking Sector in Ghana

UBA's Return on asset enhanced from 3.8 percent in 2016 to 7.8 percent in 2017, attained via 52.2 percent rise of net profits in spite of shrinkage in total resources. Execution of TSA led to bankruptcy of high-profile deposit and stemmed form 20.8 percent drop in whole resources to GHS3.0 billion at end of 2017. CAL enriched return on assets from 0.2 percent in 2016 to 3.4 percent in 2017. Cal bank grew whole assets by 17 percent but realised 19 percent from past growth of net profits from GHS7.2 million to GHS145.2 million in 2017. Progress in total resources were partially funded from 62 percent increase in borrowings to GH¢931.8 million at close of 2017.

Bank extended credit backing to great growth in trade opportunities. ADB documented return on asset of 0.70 percent in 2017, up from shortage of negative 2.30 percent in 2016. This replicates substantial reversal in working outcomes from net loss of GHS70 million in 2016, to net profit of GHS26.5 million in year 2017 and 16.8 percent advance in total resources to GHS3.5 billion at close of year 2017. Progress in total resources was chiefly funded by credits, which improved by 18.3 percent thus GHS2.5 billion, admired by 20.4 percent growth in borrowings thus GHS458.6 million at close of 2017.

Bank's return on assets still waits behind trade's average. RBL's return on assets upgraded from negative 2.10 percent in 2016, to 1.80 percent in 2017. Though bank's total resources raised by 12.0 percent to GHS2.1 billion at close of 2017, it improved from net loss of GHS38.6 million in 2016 to post

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net profit of GHS36.9 million in 2017. Progress in total resources emulates important no guaranteed government safekeeping detained as banks reduce down its loan book when rising. There was funding mainly via hostile client mobilisation of deposits, with credits growth of 9.9 percent which represents GHS1.7billion as at close of 2017. FNB's return got worse by negative 2.9 percent in 2016 to negative 10.2 percent in 2017 since in 2016 FNB made a loss of 8.2 million Ghana cedi to 26.6 million Ghana cedi.

Bank detained momentous sum of government safekeeping at the start of 2017. Though, decay in returns from securities joined with rise in working expenditures, connected growth depressed further effectiveness. Bankruptcy in treasury bill held in 2017 led to decline in total resources by 8.3 percent thus GHS260.3 million and led return on asset to further dilution at end of 2017. TCB, started business in May 2017 and had return on asset of negative 9.2 in 2017. As renowned, bank under improved cost experience fortify its systems and put in place structures to allow its whole strive in new environment.

It is vital to note that, there are rising need of stockholders for Banks to sustain better success. Banks who seeks injection of new money and those banks relying on inside made capital, may have to ponder feasible placement of funds. This is because with steady drop of banks' success, income from government safekeeping may not be sufficient to be depended upon to endure considerable profit on resources.

Empirical Review

Bank Innovations and Return on Assets

Seeing effect of expertise have on Jordanian banks, Akram and Allam (2010) used a Pooled Data Regression by means of Pooled Least Square to

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size level of savings in Information Technology (IT) have on refining milieu of monetary and working performance. The outcome of measurements by means of test of premise presented that, use of (MIS) have influence on Jordanian banks in market value added (MVA), Return On Assets (ROA), (EPS) Earnings Per Share and Net Interest Margin (NIM). Nevertheless, test of premise exposed that, use of management information system in Jordanian banks have no influence on increased Return on Equity (ROE).

The research decided that, due to improved prices of venture, information technology might work to decrease the cost on chattels. Onay, Ozsoz and Helvacıoğlu (2008), in their research on influence of internet financial transactions have on bank profitability in Turkey, examined effects of virtual banking undertakings have on performance of banking segment. The research employed means of pane data from fourteen profitmaking and savings bank in the nation that has accepted internet financial transactions amid the year 1996 to 2005. The research further assessed the influence of online financial transactions activities have on the three collective elements of bank performance. Namely; return on equity, financial intermediation margin and return on assets.

It was established that besides venture in electronic investment being a steady process, internet financial transactions mutable had positive influence on performance of banking scheme of Turkey in relations to returns on equity with a delay of two years only. Arnaboldi and Claeys (2008), while likening performance of diverse virtual banking models over the period amid 1995 to 2004 in Italy, Finland, Spain and UK, found out that, internet banks were accomplishment in relations to average returns of assets and do not appear

well to run greater working prices for little income banks make. The performance of banks was clarified by means of a group of designated bank specific features, specific macroeconomic pointers and information technology connected ratios.

Focusing further on bank stores, normally banks can't get restitutions from additionally fulfilling financial exercises and clients keen on esteem included items despite everything want communication with a real branch and in this manner web banks need to contact a least measurement so as to become savvy. They further fight that virtual banking as a procedure development is for the most part controlled by issues outside to the financial segment which include level of homes with access to web at home, a progressed broadband dissemination rate, and more noteworthy cost on retail and appropriation work that are on the whole viewpoints emphatically instigating web bank execution. Hasan, Schmiedel and Song (2010) inspected the presentation of multi-channel reasonable banks visa à vis customary banks in Italy.

Web acknowledgment seems to affect decidedly bank execution, estimated in relations of profit for value and profit for resources. Hernando and Nieto (2006) took a gander at the value-based site set up effect on bank budgetary execution in the Spanish financial market. The creators built up that the acknowledgment of the web as a circulation channel slowly diminishes overhead costs. This cost decay builds the exhibition of banks almost one 18 months after the acknowledgment as far as profit for resources, and subsequently three years as far as profit for value.

In agreement with DeYoung (2005), the research shows that, the internet had been used less as an auxiliary as compared to supplement for bodily branches, signifying supremacy of a multi- conduit banking model.

Kiptum (2016) conducted a research on impact investment in financial innovations have on monetary performance of Kenya commercial banks. He stressed that, use of monetary innovation in Kenya commercial banking is on the increase as a policy of moderating the encounters modelled by the active banking environment. His research focused on to establish the contribution of the use of monetary innovation on financial performance of commercial banks in Kenya. Dependent variables were product, institutional and marketing innovation. Likewise, return on asset was used as independent variable which is a measure of financial performance.

The preceding research work did not use all the independent variable but most on specific individual innovations. The study accepted a descriptive study where panel data analysis was employed from secondary data serene from published financial records or from the finance sections of Kenya commercial banks. The target populace included the forty-one commercial banks in Kenya. It assumed a survey where from 41 banks and the study did not employ any sampling technique since the size of the population was small.

Regression analysis were used to ascertain the connection amid the variables used for the research. This was engaged to analyse the data and discover any influence of monetary innovations on fiscal performance of commercial banks. Descriptive statistics like standard deviation and mean to label the data was employed with respect to the variables. The effect of each

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type of innovation on financial performance will be assessed using regression analysis.

The verdicts would be used to make commendations concerning the use of financial innovation as rules of confirming keenness in Kenya commercial banking sector. Research done by Mugane (2015) required to explore outcome of monetary innovations on financial performance of Kenya profitable banks. Chief difficulty was that, there is growth in number of monetary innovations, but to tell whether these innovations in banking sector are key elements of monetary performance is tough. In spite of impact of monetary innovation, influence of innovation on monetary performance is still misconstrued.

As a result, the research wanted to examine influence of monetary innovations have on monetary performance of Kenya commercial banks. The research accepted explanatory study strategy. The study used all 43 commercial banks working in Kenya as populace in the research period. The research steered survey on all 43 commercial banks. Primary data was used in the research. The model used was an ordinary linear regression. The regressions were piloted by means of SPSS version 20. The research outcomes designated that, there is significant but adverse association amid product novelty and return on asset.

The association amid service innovation, organizational innovation and return on assets was significant and positive. Based on outcome of the research, Kenya commercial banks used in research period had unstable drifts concerning return on assets in spite of the fact that, more monetary innovations have taking place within the industry. The research likewise

decided that, the association amid product innovation and monetary performance of commercial banks are significant and negative. Centred on research results, the research similarly established that connection amid service innovation, organizational innovation and return on asset is significant and negative.

The research commended that, Commercial banks must affect active product novelty policies which would not rise working risks that could in turn affect monetary performance. The research acclaimed that, commercial banks must emphasis and put in more resources into both service and organization invention as the two would lead to a healthier monetary performance.

Bank Innovations and Net Profit

Simpson (2002), recommends electronic banking as obsessed essentially by prospects of functioning overheads minimization and working revenues maximization. In contrast of online financial transactions in advanced and developing markets exposed that, an industrialized markets lesser prices and greater revenues are obvious. Whereas Sullivan (2000) discovers that, no methodical mark of merits of an internet banking in United State of America click and mortar banks. Furst, Lang and Nolle (2002) identified that federally chartered United State banks had greater Return on Equity (ROE) by using the click and mortar business model.

Furst, Lang and Nolle (2002) also looked at the factors of internet banking acceptance and saw that more lucrative banks embraced internet banking after 1998 but they were not the first movers. Jayewardene and Foley (2000) shown that, internet banking outcomes in cost and effective gains for banks yet very limited banks were using it and only a slight more than half a

million customers were online in U.K. Nader (2011) examined the profit effectiveness of the Saudi Arabia Commercial banks during the period 1998 to 2007. The outcomes of his research designated that accessibility of number of ATMs, phone banking and number of branches had a positive outcome on profit efficacy of Saudi banks. On the contrary he established that the number availability of PC banking, Points Of Sale Terminals (POSs) and availability of mobile banking did not expand profit efficiency.

Agboola (2006) in his research on Information and Communication Technology (ICT) in Banking operations in Nigeria using the nature and notch of implementation of inventive technologies, degree of consumption of the identified technologies, and the effect of the adoption of ICT devices on banks, established out that technology was the key dynamic force of rivalry in the banking sector. During his research he observed upsurge in the adoption of EFT, smart cards, ATMs, electronic home and office banking and telephone banking. He shown that acceptance of ICT increases the banks' image and leads to a broader, quicker and more effective market. He declares that it is imperative for bank management to strengthen investment in ICT products to ease speed, suitability, and accurate services, or else lose out to their competitors.

Malhotra and Singh (2009) in their research on the influence internet banking have on bank performance and risk established that, on average internet banks are greater, more lucrative and are more operationally effective. They also found that internet banks have advanced asset superiority and are well achieved to lower the overheads for building and equipment and that internet banks in India trust significantly on deposits. They extra found out

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that lesser banks that adopt internet banking have been adversely impacted profitability.

Kagan, Acharya, Rao and Kodepaka (2005) in their research on whether internet banking affects the performance of communal banks establish that, banks that offer extensive online banking incline to achieve better.

They again established that banking aids community banks advance their earning capacity as measured by return on equity and better asset quality by dropping the proportion of unpaid and failing assets. Hernando and Nieto (2006) whereas reviewing whether internet distribution channels variation bank's performance, found out that acceptance of internet as a delivery channel elaborate gradual decline in overhead expenses (particularly, staff, marketing and IT) which turns to an enhancement in banks´ lucrativeness. The research also specified that internet is used as an accompaniment to, rather than an auxiliary for, physical branches.

The profitability advances associated with the acceptance of a transactional web site are mostly expounded by a substantial decrease in overhead expenses. The outcome is steady, becoming substantial eighteen months after acceptance and reaching a maximum largely two and a half years after implementation. Their research exhibited that multichannel banks present statistically major sign of efficacy gains, that is, decrease in general expenses apiece unit of output. Banks would again profit from cost cutbacks to the level that the Internet supply channel functions as an additional for traditional distribution channels. Their analysis portrays that the result differs over time and clarifies, in relations of cost and income arrangement, the chief drivers of improved performance.

DeYoung (2005) examined the performance of Internet only banks against the mortar and brick in the United State market and instituted robust mark of overall experience impacts available to all start-ups. Thus far there is slight proof that technology-based learning quickens the financial performance of internet-only start-ups. He noticed that bank success is lower for pure play thus, internet only banks in the United State market. In a future study done by DeYoung et al (2007) studied the United public banks market to examine the impact internet banking have on bank performance. They likened the brick and mortar banks performance to snap and mortar banks which do have transactional websites over a three-year period.

Their verdicts advocate that internet banking better bank profitability, through upturn in incomes from credit service charges. Movements of payments from augmented use of brokered deposits, checking accounts to money market deposit accounts, and greater average salary tariffs for bank personnel were also detected for click and mortar banks. The internet bids a probable viable advantage for banks and this benefit lies in the zones of cost decline and more fulfilment of client needs (Bradley & Stewart, 2003; Jaruwachirathanakul & Fink, 2005). Inspiring clients to use the Internet for banking dealings can outcome in substantial working costs savings (Sathye, 1999).

The internet is the inexpensive delivery channel for uniform bank operations, such as account management and funds transmission (Polasik & Wisniewski, 2009). Customer displeasure with outlet banking because of long line up and poor consumer service is vital reason for the fast movement to electronic delivery (Karjaluoto, Mattila & Pento, 2002). The commitment of

senior management is a motivating power in the acceptance and manipulation of technology (Shiels, McIvor, O'Reilly, & Wisniewski, 2009).

Shirley and Sushanta (2006) deliberated on the influence of information technology on the banking sector and examined both tentatively and empirically in what way information technology connected products such as information exchanges, security investments, electronic payments, internet banking, (Berger, 2003) related spending can impact bank profits through rivalry in financial services that are accessible by the banks. Using a pane of sixty-eight United State banks for a period of over 20 years to evaluate the effect of Information Technology on viability of banks, they realised that though IT might lead to cost saving thus greater IT spending can create network effects dropping bank profits.

They again contended that the bond amid IT expenditures and bank's financial performance is unconfirmed to the extent of network effect. They said that if network influence is too low, IT expenditures are likely to increase market share, increase revenue and profit and reduce payroll expenses.

The research of Bank for International Settlement (BIS) renowned that harmless and effective trade payment schemes improve the efficacy of the financial system, lift consumer buoyancy and ease the running of commerce (BIS, 2003). Conceptionally, payment schemes are created as being two-sided markets (Rochet & Tirole, 2006).

Every monetary transaction comprises the use of a payment mechanism like electronic funds transfers, cheques among others. (Berger, 2003). Hasan, Schmiedel and Song (2009) conducted a research to provide a joint and assimilated outlook of the significance and importance of trade

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payments for bank performance using nation level retail payment service data across twenty-seven European Union markets. It was established that, nations with forty-eight more industrialised retail payment services, both their banks accounting ratios and their profit to cost efficiency performs better. They more realised that the association is tougher in countries with higher levels of sales payment transaction equipment such as ATMs and POS terminals.

Mabrouk and Mamoghli (2010) studied on Dynamics of Financial Innovation and Performance of Banking Firms: Framework of a Developing Banking Industry, examined the outcome of the acceptance of two types of financial innovations namely; process innovation suck as debit, ATM and credit card, payment terminal and product innovation like SMS banking and telephone banking on the performance of banks. Their analysis involved two implementation behaviours, first mover in adoption of the financial innovation and copier of the first animators.

They concluded that first mover creativity in product innovation advances profitability while process initiative has a positive impact on profitability and competence. Banks that emulate are less lucrative and less effective than first movers. In the research conducted by Mwangi (2013), on the influence of bank innovation and financial performance of Kenya commercial banks, he argued that commercial banks in Kenya have continual to use massive investments in expertise built on innovation and teaching of human resource to grip new skills.

In his work he further argued that there is the need to determine whether bank innovations have paid to financial performance of commercial banks in Kenya by reviewing the association between the two in relations of

the increasing investment in skills centred on banks innovations and financial performance. In his study he considered innovation in the area of debit, credit cards, automatic teller machines, internet banking, electronic funds transfer, mobile banking and point of sale terminals. These innovations were deliberate in comparative to their outcome on commercial banks' financial performance pointers namely: profit before tax, total income, return on assets and deposits.

The main aim of his research was to find out the influence bank innovations have on financial performance of commercial banks in Kenya. The precise purposes were; to institute the outcome bank innovations have on return on total assets, profitability, income, and customer deposits of commercial bank in Kenya. During the research he engaged the use of descriptive review and used inquiry form which helped him in collecting his prime data. Secondary data was also used for the financial performance. The bull's eye group was twenty commercial banks which were suitably nominated.

These comprises ten registered commercial banks, two government possessed and eight private owned commercial banks. During the research, the sample enclosed only the senior management in relations of the respondents and 325 opinion poll was administered out of which sixty-two percentages was achieved. With the help of Statistical Package of Social Science (SPSS) software, statistical examination was done. The verdicts were that, banks innovations were statically important to customer deposits, return on assets, profitability and had substantial influence on Income in Kenya and the test also portrays that the effect was statistically relevant.

The research also ascertained that amid mobile banking and internet service, mobile banking has a greater controlling effect than internet banking on bank innovations when inducing financial performance in Kenya. The study positively occasioned that banks innovations certainly affect financial performance of commercial banks in Kenya. The research suggested that commercial banks management in Kenya should endure to search and implement feasible business bond and cooperate with mobile serves suppliers as well as internet service suppliers as a style of accelerating the infusion of innovation and eventually creating the expected influence in the economy. The banks can do these alliances with the aid of the government. The banks must also influence mobile phones in order to develop their business.

Ngigi, (2012) also studied into the influence of financial innovation on commercial bank's financial performance as the main players in the banking segment over a period of 4 years. Kenya's financial sector has experienced major revolution in the last few years. Many fresh more effective and real time financial schemes have come into place. In spite of the irrefutable significance of financial innovation, its outcome on financial performance is not at all times clear since there are reported cases of inverse connection between innovation and performance.

The causal study design was used to carry out this research. The populace of study was all the forty-three commercial banks in Kenya as at June 30th 2012. The research used secondary data from in print annual reports of central banks. The independent variable was financial innovations sole to commercial banks while dependent variable was amalgamated financial performance of all banks. The research outcomes shown that financial

innovation truly contributes to and is positively connected to success in the banking sector mostly that of commercial banks. This is further reinforced by great uptake of more effective financial systems in substitution for the less proficient traditional schemes.

This is evidenced by the undesirable association between Real Time Gross Settlement and Automated Clearing House throughput over time, as well as that of viability and Automated Clearing House throughput. Improvement of more competent payment schemes, with suitable rule, must therefore be stimulated for better financial performance and quicker fiscal growth. In Sarpong (2015), the Ghanaian Banking industry is seeing a revolt as an outcome of technical innovations that have become a collective feature of banking in the modern corporate environment.

The advent of the Internet and the explosion of mobile telecommunication companies in Ghana brings both prospect and encounter to banks in Ghana. The test for the banking sector has been how to gainfully articulate a new service distribution means to make its clients enthusiastically learn to use and trust it. The tenacity of this work is to find the influence bank innovations have on the financial performance of worldwide banks in relations of their income or revenue generation, profitability, efficiency, liquidity, and the overall patronage of banking services in Ghana. This work is a review of bank managers from fifteen universal banks in Kumasi and Accra. Opinion poll were controlled to find out the views of bank executives on the outcome of bank innovations on financial performance.

It was revealed that most of the innovations have progressive result on the income creating potentials of the banks, they also increase competence,

profitability and liquidity of the banks. This work also found out that E-zwich as an innovation in the financial industry has no straight influence on financial performance of the commercial banks in Ghana. It is commended that corporate banks should make it a strategy to institute an effective and efficient marketing section to oversee the marketing of all bank innovative products. The Government via Bank of Ghana should continue to spend in exploring into innovations in the financial zone, and the general banks whose acts are affected by any nationwide innovative products or platforms like E-zwich must be referred and their worries considered in the product before enactment.

In the study of Munywoki (2016) the scholar research into innovations in the commercial banks in Kenya. The research absorbed on innovations and their effect on commercial banks' main financial performance pointers namely: profitability, total income and return on assets. The whole aim of this study project was to decide the impact innovations have on financial performance of Kenyan commercial banks. The research accepted a descriptive study design with survey being the basic instrument for gathering of prime data. Twenty suitably carefully chosen Kenyan commercial banks made the target research units for this paper. The model of the research with reference to respondents included management only and out of the two hundred and fifty-four surveys issued, eighty-two percent reached the level of response.

The software was used for statistical data analysis was (SPSS). The outcomes specified that the influence of bank innovations on return on assets, total income and profitability of Kenyan commercial banks is statistically momentous. This study did not deplete bank innovations hence gave a

commendation for further research to be conducted on innovations such as credit guarantees, securitization and agency banking and their effect on financial performance in banking bodies.

In the study of Marfo-Yiadom and Ansong (2012), rivalry and restructurings in Ghana's financial industry has brought about a lot of novelty into the Ghanaian banking sector. Their research explores in what manner innovative banking products are professed by customers. Their research used purposive sampling method to collect data from two hundred and eighty-eight learners from an open university in Ghana. The work revealed that the serious features that swayed clients' choice of banking products and their acceptance were dependability, security, accessibility, time saving, flexibility and easiness of use. The most prevalent innovative products were E-zwich and Automated Teller Machines. Credit cards and telephone banking were not very prevalent. The mean penchant for innovative banking products for female (15.0568) was a little greater than that of (14.7100) male.

The average usage of female (8.7955) was a little greater than that of male (8.350). Owing to the low usage of products like the internet banking and telephone, it is commended that banks in Ghana must get on an educational campaign to highpoint the advantages of these products to the public. Even though the research decided that the main feature of the innovation was easy to use among others, dependability, even till date most ATMs are not reliable and some clients still do not know how to use them correctly of which the study ought to have thrown more light in terms of the education on the usage of those innovation and not just its benefits to the populace.

Rendering to Idun et el (2012), the paper viewed at the link and Granger causality amid financial innovations and fiscal growth in Ghana, for the era 1963 to 2009. They accepted a simple endogenous development and the ARDL cointegration models to aid in establishing both the long term and short term association between financial innovations and fiscal growth in Ghana. Also, Granger causality was projected to define the trend of causality. The outcomes shown that financial innovation has short run positive effect on economic growth. Yet, in the long term, financial innovation is disadvantageous to fiscal growth. Causality also runs from financial innovations to economic growth. The sign advocates for rules to improving financial innovations via long term investment.

Bank Innovation and Net Interest Margin

This paper aims to look at the association amid profitableness of Turkish banking scheme like virtual banking, credit cards and telephone banking. In this study, total net profit for the period in Turkish banking scheme measured as an independent variable by trimesters, and accessible banking, credit cards and telephone banking tried to see whether they impact this profitableness, considered as dependent variables. Assumed data attained from certified sources concerning 2006 and 2015, modest regression analysis is used in the research. The outcomes of the regressions display that only credit card usage has a major positive effect on return on asset, return on equity and net interest margin. The positive effect on return on asset and return on equity suggest that credit card usage increases the effectiveness and thus the performance of banking system, but the positive influence on net interest

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margin demonstrate that banks charge their clients extra for their credit card usage (Gündoğdu & Taşkin, 2017).

Bestowing to Hijazeen (2017), the financial sector in Jordan is regarded one of the best vital sectors as other fiscal sectors are essentially reliant on access to financial services. The financial sector in Jordan saw key improvements and restructurings over the last two periods. The accepted modifications have had some liberalization mechanisms and deregulation measures. Net Interest Margin is a vital instrument for tracing viability of commercial banks. The paper tried to find out the factors of net interest for panel data of thirteen Jordanian commercial banks during the period (1995-2015). The research has applied Goldberg and Saunders, (1981) and the addition proposed by Maudos and De Guevara, (2004) using the econometric techniques of ordinary least square, random effects and fixed models. The research found that bank exact features explain, to a better degree, the dynamics of net interest margin at commercial banks. Macroeconomic elements, represented by the consumer price index had a low ability in explaining net interest margin changes. Also, the outcome showed that the deregulation procedure and the improvement of the controlling structures have contributed in the obedience to market commands. Moreover, value of management has an effect on net interest margin via falling incurred costs. The outcomes did not find evidence to support the belief that foreign ownership has enhanced the institutional quality of banks.

Bank Innovations and Earnings per Share

The term earning per share is normally considered to be greatest substantial variable in describing share value. It also dramas very essential part to measure the price to earnings estimate ratio. It is a firm pointer of a firm's viability. Earnings per share is a part of a business's revenue that is apportioned to each owing share of common stock, aiding as a pointer of the company's profitability. According to the Model and Gordon's Growth (1959) Model Stock yield is the greatest significant issue for savers in the capital market, the study proves the standards for stakeholders to make a better judgment. The disbursement of dividend to stockholders hinge on the lucrativeness of a firm or bank.

The more profitability any firm makes; the more chances of healthy and high dividend. But high profitability is not the warranty to pay dividend to the bondholders. It entirely hinges on the plan of the firm and the board's decision (Balaputhiran, 2014). The effort has been prepared to study the cause & effect association amid earning per share and the Bank's profitability in Pakistan. The research established substantial association between earnings and stock yields (Dimitropoulos, Panagiotis & Dimitrios, 2009). The sample comprised of 105 companies registered in Athens Stock Exchange from the period 1994 to 2004. The use of time series and cross sectional data lead to significant increase in earning for return. In Balaputhiran (2014), the study found the association amid earnings per share and firm performance.

The earnings per share was in use as a dependent variable and firm performance, return on assets and net profit were used as independent variables. The data of seven registered banks ranging from 2008 to 2012 was

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used as a sample. Relationship was used being a statistical instrument to determine the association between firm performance and earning per share, while simple regression was smeared to evaluate the effect. The outcome found no important association between earning per share and company's performance and both hypotheses were rejected. The earning per share is a yard stick used to measure of firm viability. There are numerous investment banks and portfolio managers who make earning per share estimate to make safety selection and input into appraisal models (Slavin, 2007).

The data set from 1989 to 2005 was deliberated for data analysis. There were eight variables with each observation. Panel regression was used being a research model. Ebrahimi and Arezzo (2011), the mainstream of shareholders, savers and other stakeholders give priority to watch movements of earning data of a company. The research used cross-section and panel data regression models to quiz out the influence of variables. The sample from 2001 to 2010 was taken from registered stock exchange businesses of Tehran. The outcome shown that H_1 was recognised with the fact that there is substantial association amid current period earning per share to prior stock ratio and stock return.

Hypothesis H_2 was rejected while H_3 was established. Earnings per share is one of the greatest significant issues need to be deliberated for a firm's lucrativeness, (Felix et al, 2012). The data from both prime and secondary sources were used. Survey and face to face interviews were the plain study tools. The correlation, regression and descriptive analysis were only the statistical instruments useful in the research. The outcome of the verdicts exposed that difference of earning per share was noticed due to variation in

controlling structure, unstable political environment, low liquidity level and worse economy. The study established that the sale of shares of registered businesses is the factor that significantly effect by the earning per share, therefore capital market needs to be more controlled.

Harrison, Jennifer and Morton (2010), modified earnings are known as non-stationary earnings and they do not give profit-oriented figures. They only enclose the earning per share numbers. The sample of 485 big Australian businesses was taken in the research and many arrangements and evocative statistics were used for data analysis. Hunjra, Muhamad, Muhammad, Sabih-ul and Umer (2011), the discrepancy in stock prices has become a main issue particularly in the non-financial segments including (sugar, energy chemical, food and personal care). This research endeavoured to assess the effect of return on equity, earning per share, dividend yield, dividend pay-out ratio and profit after tax on stock price in Pakistan. The data set of sixty firms registered in KSE from 2006 to 2011 was taken for analysis. Panel with the aid of ordinary least square regression model used as a statistical tool.

It was ensued that dividend yield ISSN 2394-9694 International Journal of Novel Research in Humanity and Social Sciences Vol. 2, Issue 2, pp: (4-13), have major impact on stock price, dividend yield is adversely and dividend pay-out ratio is absolutely related with stock price. Earnings per share is one of the vital variables that influence the viability. Rise in earning per will lead to upturn equity and will also influence market value of share. The rise in viability will lead the demand of that firm shares, (Muhammad, Ghulam, Naqvi, Nadeem, & Khan, 2014). Thirteen cement businesses

registered on were nominated as a sample for the analysis of secondary data for the period of five years. The data was examined by using SPSS.

The outcome resolved that Earning per Share significantly influence the market worth of share (Largani, Mohammadreza, & Pervaneh, 2013), in their research paper examined the association between stockholder value added and accounting performance measures in Tehran Stock Exchange. Shareholder value added was used as a dependent variable while cash flow from operations and Earning per share were used independent variables. Normal distribution data set, autocorrelation and K-S tests were used being statistical techniques.

In the work of (Livnat & Dan, 2000), the data for five years from 2006 to 2010 of 75 businesses were collected for data analysis through SPSS. The outcome determined that there is major association between earning per share and SVA. Earnings per share has got more importance particularly for market participants who are dependent on price over earning (P/E) measures. The sample from 1986 to 1996 was taken for data analysis. The cross-sectional research was selected with the aid of regression for data analysis. The study commended that diluted earnings per share is more suitable Dimitropoulos and Asteriou (2009), the rise ability of price and return designates high earning response.

The research shows the association amid earning and stock returns in Greek Capital Market. The sample consists of 105 companies all registered in Athens stock exchange. Four model specifications were used comprising price model, return model, differenced model, and deflated model. The results established that return of safe keeping is meaningfully related with earning

level. Earnings per share shows very vigorous position of a company. Earnings per share has important association with share price Shanthi (2014). Markov process model was applied in the research in order to make estimate of earning per share for firms in information technology with the aid of two models state basic model and extended state interval model.

The data of earning per share was placid from Bombay Stock Exchange. Scott and Jose (2011), in their study paper revealed that the main aim of the paper was to improve as appropriate econometric model to find the basic elements of profitability of banks in United States. The Research confirmed that there is positive association amid the return on equity and capital asset ratio. Earnings per share estimate is quite major, hence, most of the firm's forecast, Slavin (2007). By predicting the distinction in earnings per share, he has come to know and forecast how business's viability will be affected. Data set for 17 years from 1989 to 2000 was designated as a sample. Ordinary least square regression model was used.

Innovation and Financial Performance

Theories regarding merits of financial innovation have classically derived out of the Schumpeterian argument that fresh process and products developed by a company are secured from imitation for a certain time. A fruitful innovation thus creates a branded competitive position that gives on the firm economical advantage and higher performance (Lyons, Chatman & Joyce, 2007). The imitation that arises during the Schumpeterian process of creative obliteration then produces the need for enterprises to produce still more innovations in order to retain a competitive advantage.

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Batiz-Lazo and Woldesenbet (2006) positions that financial innovation is used by commercial banks to be able to contend in financial markets and as a result, it can increase their performance and sustain their usefulness in market. Innumerable Studies on the influence of innovations on financial performance have been broadcasting a positive connection amid innovation and measures of firm performance. In a new cohort of models reviewing the impact of innovative activities on firm performance, the emphasis has lifted to the intricate innovation process and networks via which the innovation inputs are distorted into better performance (Lööf & Heshmati, 2006)

Mobile Banking and Financial Performance

In the work Ngumi (2013), greatest African countries like Ghana has about of the lowermost levels of arrangement investment in the world. Simply 29 percent of roads are concreted, barely a sector of the populace has access to electrical energy, and there are less than three landlines available per 100 people (International Telecommunication Union, ITU, 2009; World Bank, 2009a&b). Yet access to and use of mobile telephony in sub-Saharan Africa has improved intensely over the past time. There are ten times as many mobile phones as lines in sub-Saharan Africa and 60 percent of the populace has mobile phone coverage (ITU, 2009). Mobile phone contributions improved by 49 percent yearly amid 2002 and 2007, as likened with 17 percent per year in Europe (ITU, 2008).

The outcome of mobile phones has been mainly intense in rural Africa, where in numerous places, mobile phones have characterised the first modern telecommunications arrangement of any kind. Mobile phones have significantly abridged communication costs, thereby letting persons and

companies to send and to acquire information rapidly and inexpensively on a variety of social, economic and political topics. A developing body of study displays that the lessening in communication costs associated with mobile phones has tangible economic benefits, market efficiency and producer improving agricultural and labour and customer welfare in precise conditions and countries. As telecommunication markets mature, mobile phones in Africa are developing from simple communication tools into service delivery platforms (Aker, 2008; Aker, 2010; Jensen, 2007; Klonner & Nolen, 2008). This has lifted the growth model surrounding mobile phones from one that just decreases communication and coordination costs to one that could change lives via innovative applications and services.

According to Aker and Mbiti (2010), there is a robust association amid mobile phone attention, the kinds of services accessible, firm performance and the price of such service. In markets with limited rivalry and profit-maximizing, firms offer more limited services at greater prices. Rayhan, Sohel, Islam and Mahjabin (2012), in their research on mobile banking in Bangladesh decided that, mobile phone banking bids the possible to spread low cost virtual bank accounts to a large number of presently un-banked persons. Mobile phones improve the capability of electric banking solutions to bid clients an enriched range of services at a little cost.

Mobile banking is real time on-line banking, available anytime, anyplace all over the country, it is expedient, inexpensive and safe and therefore it is much more active in developing savings habits and hence leading to rise in bank deposits. Mobile phone also creates access to banking and advanced disbursement transactions at cheap cost. A positive part of

mobile phones is that, mobile networks can spread to distant areas at low cost both to the customer and the bank. Ngari and Muiruri (2014) studied the special effects financial innovations have on the financial performance of Kenyan commercial Banks. The commercial banking sector in Kenya has in the previous ten years intricate itself in financial innovations, moving from the traditional banking to well meet the increasing multifaceted needs of their client and globalization encounters.

Notwithstanding the recognised significance of financial innovation and a wide descriptive literature, there have been astonishingly insufficient empirical studies. This condition has repudiated the banks the much-needed information concerning this significant area of financial innovations occasionally leading to contrary causality in the innovation-financial performance association. The research was led by the following precise objectives; inaugurate whether credit cards shake the financial performance of commercial banks in Kenya, study the impacts of mobile banking on the financial performance of commercial banks in Kenya, decide the effect of internet banking in financial performance of banks in Kenya and determine the impact of agency banking on viability in financial performance of banks.

The populace of the research comprised of forty-four commercial banks that are presently functioning in Kenya, the mark population was sixteen banks and at tiniest four members of the managing team with representations in these dimensions; locally amalgamated banks, banks assimilated elsewhere but working in Kenya, banks in which the government has some stockholding and also built on size. Thus, sixty surveys were remitted. Secondary data was serene from the banks for the periods 2008 to

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2012. Analysed data was summarized and presented in the form of simple frequency tables of the ratio counts and graphs. The research found that some banks in Kenya had accepted some financial innovations like credit cards, internet, mobile and agency banking. The financial innovations had great effect on the financial performance of the banks.

Internet Banking and Performance

A study piloted by Nwagwi (2013), shown that, ICT grown into the heart of banking industry today, whereas banking sector is keen to every vigorous economy, electronic banking system has become chief technology driven revolt round conducting financial transactions. Conversely, banks made enormous investments into telecommunication & electronic systems and users have been authenticated to receive electronic banking system which is valuable and easy to use (Adesina & Ayo, 2010). According to, Loonam and O'Loughlin (2008), Information communication technology progressions, rivalry and globalization which changes social trends like keen customer reactiveness and improved preference for suitability have cause intense rearrangement of banking sector.

Simpson (2002) disclosed, electronic banking is driven mostly by prospects of functioning price reduction and working incomes expansion. Estimate of online banking of established, developing markets, exposes that in developed auxiliary of physical branches for bringing banking services. ICT revolution has distorted conservative banking corporate model, by making it likely for banks to break ease zones and worth formation chain to allow client service supply be disconnected to diverse businesses.

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Thus, for instance, Internet banking allocate insurance, securities and banking products, yet, not all products issued are produce by the group (Delgado & Nieto, 2004). Also, Haq (2005) stated, banks exist because of capacity to attain economies of scale in minimalizing irregularity of information amid investors and debtors. Unit price of internet banking falls more quickly than traditional banks as output upturns outcome of balance sheet improvement.

Usage of ICT could lead to lower cost, but influence on viability remain indecisive. Owing to likelihood of ICT influence that arise, as a result of consistence great plea of expert work potency, issues of growing demand to meet clients' expectancy for client service supply, credibility of information system and rivalry in monetary services (Aliyu & Tasmin, 2012).

Aliyu and Tasmin (2012) extra declared, it is quite obvious augmenting ICT in banking sector is a must in varying market place, as ICT revolt has set stage for excellent upturn in monetary activity across globe. Chung and Dutta (2012) found virtual or internet based banking as quite common. Banks have recognised potential of internet banking and have realised, it is required to integrate clients' novel lifestyle and web-based activity preference with corporate models. Acceptance of internet banking lead to price decrease and expected to increase banks' profitability. Commencement of internet banking has brought unparalleled speed in banking scheme, playing main role in globalization of banking arrangement.

Internet banking makes inroads to banking business. Market partakers have started to use internet for trading security activities. Online trading has an upward trend in trading rate and on turnover ratio trading volume. Similarly,

Daneshvar and Ramesh (2012) shown research on pane data of two public banks from 1998 to 2009 to study influence of IT savings on viability and efficiency of Indian public banks.

The research used two statistical instrument in relations of association and regression analysis. Outcomes of the study showed that, investments in IT contributed to augmented sum of credits, return on resources, profit per staffs, decline in non-performing assets ratio and staff cost. The research showed that, public banks strained to accept cost decrease and resources quality policies to strive in Indian bank market. Ram, Kagan and Lingam (2008) studied effect of online banking strength on monetary performance of public banks. The actual outcome of online banking has on performance, was measured by reverting profit efficacy index against number of relates including online banking intensity measure.

The effects stated, combined use of internet as additional channel of selling banking services has profoundly better monetary performance of public banks. The study of Gichungu et al (2015), was on association amid bank innovations and monetary performance of commercial banks in Kenya. Connection amid increasing investments in technological base bank novelties and monetary performance in Kenya desires to be studied.

Gichungu et al (2015), noted the need to inaugurate whether bank inventions contribute to financial performance of Kenyan commercial banks. Using descriptive research design, the research sought to institute association amid bank novelties and monetary performance of Commercial Banks in Kenyan amid 2009 to 2013. The research precisely required to establish impact of agency banking, ATM banking and online banking have on

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monetary performance of commercial banks in Kenya. The targeted populace of the research was all forty-three Kenya commercial banks. Secondary data was used in the research which was serene from published yearly accounts for commercial banks crossing years five thus (2009 to 2013) during which banks have invested in technological invention.

In examining quantifiable data, the research used descriptive design by employing (SPSS V 18.0). The research used multiple regression analysis to quiz association amid bank innovations and monetary performance among Kenyan commercial banks. The research used Pearson Product Moment Correlation Coefficient to quiz manner and degree of bond amid dependent and independent variables at ninety-five percent confidence level and five percent level of significance. The research established that, recognised bank innovations, precisely; agency banking, online banking, mobile money banking, ATM and had positive influenced on monetary performance of Kenya commercial banks over five years' periods which is year 2009 to 2013.

It was suggested that, leadership of Kenya commercial banks must join with Kenya government and players of telecommunication to reach collaboration, lengthening and quickening acceptance of agency, mobile and online banking in Kenya to improve monetary performance.

Automated Teller Machine and Performance

A research done by Jegede (2014), the research examined the outcome of automated teller machine on performance of Nigerian banks. To Jegede, alike studies has focussed on major sizes of ATM services quality and influence on client contentment with prejudice contrary to ATM creators. Jegede' research was driven by astronomical encounters confronting spread of

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ATM terminals and associated monetary loss to banks which is mostly under reported. There is thoughtful debate on significance of ATM technology since most nations in this world are moving away from virus technology to more tenable chip cards free of credit and debit scams. Survey were used to gather data from suitable sample of one hundred and twenty staffs from five carefully chosen banks in Lagos who has inter shift network.

Data gathered via the survey were examined statistically by Software Package for Social Science Version 20.0, Student Version and chi-square method. Results display less than merits, placement of ATMs terminals has passably better performance of Nigerian banks because of worrying rate ATM fraud. In a similar way, ATM services value is less connected to safety and secrecy amid consumers and suppliers. Deduction is, banks must try to upturn safety layers to disrupt tricks of web scammers, reduce amount which clients may permitted to withdraw at a time and deliver electric warnings via clients' phone for all transactions carried out in bank accounts via ATM and provisions of more safety layer which could avoid third party from use of someone else ATM card for illegal drawings by electronic means.

The Gap after Reviewing

Mwangi (2015), used seven innovations and four financial indicators. He stated that, although banks innovations positively affect financial performance but, mobile banking has a lot of moderating factor than internet banking. Munywola (2016) also portrayed that, bank innovation has significant positive outcome on performance but the researcher suggested he did not exhaust innovations. Meanwhile Kiptum (2015) did not state the effect on innovation on financial performance. Ngigi (2012) on the other hand thinks

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there is a case of reverse causality between banks novelties and monetary performance of Ghanaian commercial banks.

So, the researcher used causative study design whiles others used explanatory and descriptive research design. These findings were outside Ghana. As a result, Sarpong (2015) conducted study on universal banks in Kumasi and Accra. However, he measured performance using profitability, total income, liquidity and patronage of banking services. His work focused on cross-sectional data specifically banks within Kumasi and Accra. In terms of methodology, Sarpong used descriptive analysis to measure the influence innovations have on financial performance.

His data consisted responses from people on questionnaires he distributed. Since responses to questions on a questionnaire can be deemed to be subjective, I dare say that the findings of the study are subjective. This nurtures the problem of whether bank innovation is improving performance of the financial industry in Ghana or not.

In all the above discussions Mugane (2015) in his work using regression noted, there is significant but adverse influence amid product innovation and return on resources which serves as a measures of financial performance.

It is upon these mixed findings that this researcher intends to find influence banks innovation have on monetary performance of Ghanaian commercial banks. For such a research to be very relevant, the researcher adopts monetary performance pointers like, net profit, earnings per share of and return on assets of registered banks on Stock Exchange Market on Ghanaian economy. The research would employ multiple regression

examination and pane data to determine how bank innovations affect financial

performance.

CHAPTER THREE

RESEARCH METHODS

Introduction

This section considers methods used in the work. In this section, population, study area, research design, sampling technique and sample are described together with used devices, data gathering, data handling and data analysis techniques are carefully discussed.

Research Design

Explanatory study design was employed in the research. Explanatory study design is also known as causal study design by researchers. According to Zikmund, Babin, Carr and Griffin (2012), explanatory researches are steered in edict to measure influences of exact fluctuations on prevailing standards, various processes among others. In other words, explanatory study is steered to edict, find the degree, nature of cause and effect of associations. This design best suits the current study because the aim of the research was to examine, influence bank innovations have on fiscal performance of some chosen Ghana profitable banks.

Whaley (2014) claim that this kind of study design is suitable for this type of research since it seeks to designate the association amid mutable in which, one leads to stated influence on other variable. In this study, the two variables under study are bank innovations and financial performance. One important benefits of causal studies are that they perform an active role in relations of detecting motives behind an extensive kind of products as well as, measuring the effects of variations on prevailing norms, processes among

others. The product under investigation in this current study is Bank innovations.

Another key advantage of this type of design is that they are connected with better heights of internal strength due to organised choice of data. Although, this design seems suitable for the study, there are limitations associated with it. For instance, it can be tedious to grasp suitable decisions on the basis of causal study results. This is as a result of the effect of a wide variety of dynamics and variables in collective environment which can affect the quality of the study. In a similar vein, whereas casualty can be inferred, it cannot be verified with a great level of certainty. The study would put in place appropriate measures so as to reduce the impact on the study.

In terms of study approach, this research embraced the quantifiable approach. Quantitative study emphases on collecting numerical data and simplifying it through sets of people or to expound a specific occurrence (Saldana, 2016). Quantitative study most frequently uses inferential logic, in which scholars begin with premises and then gather data which can be used to ascertain whether experimental sign to support that proposition exists. The outcomes of measureable analysis are most usually stated in practice of arithmetical charts.

Presentation of outcomes typically starts with descriptive statistics telling who is in the section. This can be in the form of univariate statistics (like frequency allocations, means, and normal deviations) or simple diagrams (like bar graphs, histograms or pie chart). A quantitative method was reckoned applicable in the research since the facts used was quantitative. The research employed data related to license Commercial Banks by the Bank of Ghana

(BoG) which were in action and also listed at the Ghana Stock Interchange Market.

Population

Populace of this research included a number of listed Ghana profitmaking banks. All together were 25 Ghana saleable banks by year 2018. Out of this number, 7 remained registered on the Ghana stock interchange whiles the remaining 18 are not listed. This study was carried out among 6 selected Ghana commercial banks registered on the stock interchange market of Ghana. These banks are Cal Bank, GCB Bank, HFC Bank, Republic Bank, Standard Chartered Bank and Societe Generale Bank. This study selected these Ghana commercial banks registered on the exchange market in edict to avoid issues of subjective outcomes which may lead to sceptical issues later on.

Sample and Sampling Procedures

The research used only those commercial banks registered on the Ghana Stock Interchange Market starting from the year 2006. The principal reasons behind the choosing of banks listed as at the year 2006 is that, around 2005, most of the banks were not listed. So, in order to get more participants in this study, 10 years' period was selected from 2006 to 2015. This is because, from 2016 to 2019, annual statements were not available, based on the fact that either they have not been audited yet or not yet published. Sarpong (2015), stated that, to gather evidence on the whole populace will sum to waste of resources like money and time. For the purpose of this research this work considered purposive sampling.

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Sources of Data

The researcher made used of facts thus published yearly report by registered Ghana commercial banks on the Ghana Stock Interchange Market. These records were downloaded from online portal of the selected banks to aid in running the diagnostics test.

Data Analysis

This study generated volume of quantitative data. Stata was then employed to analyse data for the study. The data collected was first, time series and cross sectional and was transform in panel data before the estimation least squared regression was run. The facts were evaluated by means of Panel ordinary least square.

Pane ordinary least square is a statistical technique used to run panel data. Thus, time series and cross sectional been put together. This research engaged POLS (Pane Ordinary Least Square) in order to quiz the influence bank innovation have on financial performance. In this regression analysis, financial performance was booked as reliant variables and diverse concepts of Bank Innovations viz. were Automated teller machine, Mobile banking, Internet banking used as independent variables.

Financial performance score was valued by calculating the arithmetic mean for the numerous things related to innovation. This study trusts on financial performance notch as dependent variable and factor notches for numerous concepts of banks innovations as independent variables. The multiple regression equation was developed in order to examine impact bank innovations have on financial performance.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta X_{5it} + \beta_6 X_{6it} + £_{it}......(1)$$

Where,

Y represents financial performance (net interest margin, earnings per share and net profit)

β_0 coefficient represents the intercept;

X represents different constructs of 1, 2, 3, 4, 5 and 6 which consists of innovation viz. Internet banking, Automated teller machine, Mobile banking and controls which include liquidity, bank size and growth opportunities.

β denotes strength of different 1, 2, 3, 4, 5 and 6 constructs of relationship marketing viz. internet banking, Mobile banking, Automated Teller Machine and controls which include liquidity, bank size and growth of assets.

£ represents the error term.

$$NIM_{it} = \beta o + \beta_1 ATM_{it} + \beta_2 MB_{it} + \beta_3 INTB_{it} + \beta_4 LQD_{it} + \beta_5 SIZE_{it} + \beta_6 GO_{it} + £_{it}..(2)$$

$$EPS_{it} = \beta o + \beta_1 ATM_{it} + \beta_2 MB_{it} + \beta_3 INTB_{it} + \beta_4 LQD_{it} + \beta_5 SIZE_{it} + \beta_6 GO_{it} + £_{it}..(3)$$

$$NP_{it} = \beta o + \beta_1 ATM_{it} + \beta_2 MB_{it} + \beta_3 INTB_{it} + \beta_4 LQD_{it} + \beta_5 SIZE_{it} + \beta_6 GO_{it} + £_{it}..(4)$$

Where;

NIM represents net interest margin;

EPS means earnings per share;

NP connotes net profit;

ATM represents automated teller machine;

MB defines mobile banking;

INTB means internet banking;

LQD represents liquidity;

SIZE is equal to banks size;

GO means growth opportunities of banks;

£ it means the error term;

Whiles βo and β1... β6 are the constant and the intercepts respectively.

Statistical Diagnostics

This aspect talked about the research diagnostics that were employed in the study. They include adjusted R square, serial correlation and multiple correlation. In statistics, a regression analytic is a set of processes accessible for regression scrutiny that seek to measure the soundness of a model in any of a number of different means. These diagnostics are needed because for instance the adjusted R square helps to determine how much discrepancy in reliant mutable are responsible for by autonomous variable.

Also, the multi correlation test helps to know if the illustrative mutable are connected with one other. Outcome is that, if these tests are not conducted it would be difficult to ascertain if the model fit or not. Also, it would be tedious to distinguish the effect of one variable from the effect of another variable in the regression model.

Goodness of fit Adjusted (R^2)

This is the first point of call to measure how fit a model is. It is the attuned coefficient of determination which measures the degree of co-movement between and among variables. For one to claim for a model fit, one should look for a great value of the accustomed R^2. Adjusted R^2 square rises only if the novel term expands the model further than would be expected via chance and the reserve is true. It is essential to memo that "R" square $> 0 \leq 1$. It is the grit or the overall degree of goodness of fit of the estimate of the regression line.

Serial Correlation Test

Serial correlation is very common in time series data. In CLRM, serial correlation describes the relationship between observation of the same variable over specific period. If a variable's serial correlation is measured as zero, there is no correlation, and each of the observation is independent of one another. And if the variable's serial correlation skew towards one, the observations are serially correlated Adam (2017).

Multi Correlation Test

In statistics, the coefficient of multiple connection is a degree of how well a certain variable can be projected using a line function of a set of additional variable. It is the association concerning the variable's values and the finest expectations that can be calculated linearly from the prognostic variables. Its coefficients take the values amid zero and one; a high value designates a higher probability and vice versa.

Data, Definitions, and Measurement of Variables

The study employed three proxies as a measure of financial performance (dependent variables). Namely, net interest margin, earnings per share and net profit.

The study also used three proxies as measurement for innovations (independent variables). They are, mobile banking, automated teller machine and internet banking. For example, previously ATM was used for withdrawal only. But recently within the period of the study, banks like the Standard Chartered Bank, Eco bank and Barclays Bank (ABSA) has introduced ATM that accept money from customer in order to entice more clients in order to

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increase performance. Some of the banks like GCB bank limited now linked up the mobile money services directly to the customer's account number. Also, banks like the GCB banks have introduce new receipt for all customers. The National Investment Bank (NIB) has what they called institutional banking which is very innovative. They collaborate with hospitals and accept direct deposits from the various hospitals without the hospital coming to the bank.

After deductions interest margin is degree of change amid interest income produced by other financial organizations or banks and sum of money compensated out to lenders (example, credits), comparative to total (interest-earning) assets (Yeboah, 2016). In the work of Yeboah (2016) he used after deductions interest margin to measure monetary performance so it is adopted for this study.

Earnings per share simply means net earnings per share which is a market outlook ratio that measure the sum of net income received for each share of stock remaining (Grey, 2010). This was adopted from the work of Gray (2010) as a portion of performance.

Net yield is simply means net profit before tax less tax of the banks.

Automated teller machine is another form of innovations that help customers to withdraw or deposit money at the nearest branch terminals. It is measured empirically as the number of ATMs of the banks within the respective years (Akhisar et el, 2015).

MB is type of innovative banking, which permits clients to like investment services in order to reduce transactional cost. Mobile banking (MB) here is explained   as   banks   who   have   MB   as part of their

practices. Empirically, Mobile banking is a replica labelled as MB = 1 if user of mobile banking and MB = 0, then (Baako, 2017).

Internet banking is also a type of innovation of banks. In Hassan, Sanchez, Ngene, and Ashraf (2012) work, stated that in regression exploration, replica mutable (which also denoted as pointer adjustable are used). In the research, 1 & 0 were used as dummies to identify years, in which internet really began and what time banks began to offer diverse services for clienteles. So 1 defines the years in which the banks were using internet and 0 defines the years in which there was no internet service.

Size of banks is generally calculated by full assets. The bigger the resources, the well banks are measured as in lucrative state. Bank size is calculated as logarithm total bank resources (asset). As entire resources are all in quantities, hence logarithm of assets of banks is used to calculate the regression analysis (Ozili, 2018; Ashraf et al, 2012).

In Ashraf et al (2012), liquidity was used as a controlled variable. The liquidness of the banks is designed as Money over full resources. Fluidity fractions is estimated as either absolutely or adversely operative with viability of banks. Higher ratio indicates banks are more gainful and lower ratio shows more odds of bank in nonprofit position.

Growth opportunities represents opportunities that is available for the banks to grow in other to increase market shares so as to increase their financial performance. It is measured by changes in total assets.

Table 1: Variable Definition and Hypothesized Relationship

Variable	Notation	Descriptive of variables	measurement	Hypothesized Relationship
Dependent Variable				
Net interest margin	NIM	Also measures the profitability of the bank.	Interest income-interest earnings relative to interest earning assets.	NA
Earnings per share	EPS	Company's profit dividend by the outstanding share.	Net income after tax/ total number of outstanding shares	NA
Net profit	NP	Measures the profit level of the banks after all operating expenses.	Actual profit after working expenses.	NA
Independent variable				
Mobile banking	MB	Measures innovations of banks	Dummy variable (1, or 0) for yes or no.	− / + ve
Internet banking	INTB	Uses as innovations process	Dummy variable (1, or 0) yes or no	− / + ve
Automated teller machine	ATM	Measures innovations of banks	Number of ATMs per year	− / + ve
Control variable				
Liquidity	LQD	Measures the cash the banks holds.	Liquid assets /Total assets	− / + ve
Bank size	SIZE	Log of total assets of banks	ln(TA)	− / + ve
Growth opportunities	GO	Measures changes in total assets.	Changes in TA.	− / + ve

Source adopted from Baako, (2017).

Ethical Considerations

During and throughout the entire research process of this study, several ethical aspects were taken into consideration.

Chapter Summary

This part has given a full theoretical justification for the study methodology used in the research, as well as a step by step explanation of the procedures employed for data collection and analysis. The researcher first took a critical look at the study design, for which it has been made quite clear that the causal research design was employed. Other relevant issues that have been given careful consideration include population, data collection procedure, sampling techniques and sample, validity and reliability, research instruments, of research instruments, ethical considerations, as well as technique of data analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

Section four shows, deliberates, then analyses results from facts which were serene via a quantitative study. The verdicts, presented were gotten via the financial statement of selected listed banks in Ghana. Hence, the results presented is solely from a secondary data. The findings of the study have been accurately presented in a language which is easy to understand and clarification is given to words which are technical whenever used. In this presentation, descriptive statistical methods were used.

Descriptive Statistics of Variables

Table 2 below shows descriptive figures of all mutable used in the research. This was done to understand the basic features of the data.

Table 2: Descriptive Statistics of Variables

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	Mean	Sd	Min	Max
EPS	60	1.243	3.576	-13.19	18.28
NP	60	7.864	8.00	-6.34	8.58
NIM	60	10.14	3.192	4.300	19.40
ATM	60	57.13	45.03	20	206
MB	60	-	-	0	1
INTB	60	-	-	0	1
SIZE	60	9.100	9.083	6.122	9.67
LQD	60	7.530	11.55	0.423	47.71
GO	60	12.89	56.05	-0.999	295.0

Source: Field Survey, (2019).

Table 2 presents means, standard deviation, minimums, maximums, skewness, kurtosis, and the observations used was for six banks used for a period of 10yeras. A carefully look at the descriptive statistics, it could be seen that, the mean of ATM of the banks sampled was 57.13 with a deviation of 45.03 which portrays the variation of ATM from it mean. The minimum ATM was 20 and the maximum was 206 in terms of number which means that the number of ATMs that some of the banks have are limited in number. It suggests that the number of ATMs of the banks keep going up under the years of consideration. In respect of MB, the minimum is zero because, if in a particular year the banks did not have MB as an innovation it assumes the value of zero.

The maximum is 1 because if the banks have MB in a particular year it assumes 1. It is obvious that at the periods under study, MB was not in used by some of listed banks in Ghana. The INTB was also used as dummy variable. The maximum was 1 and minimum zero because of it been categorical data which was used as dummy. It can be seen that the NIM has a mean of 10.14 with deviation of 3.192 which lies between a minimum of 4.300 to a maximum of 19.40 respectively.

The earnings per share average is 1.243 with standard deviation of 3.576 from its sample mean which lies between negative 13.19 and 18.28 as minimum and maximum respectively. The study further observed that, average of NP and size were GHS 7.86 and 8.10. It is obvious that some of these banks even make a minimum GHS-6.34. This shows that, in terms of net profit some of the banks are not doing too good although they keep innovating. And some make as enough as GHS maximum of 8.58. The study

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also seems to suggest that these banks invest more on assets as the minimum and maximum bank size are GHS 6.122 and GHS 9.67 respectively.

Also, in terms of liquidity, the means (average is 7.530) with a standard deviation of 11.55. The limit of the liquidity of the listed banks lies between 0.423 and 47.71 respectively.

Finally, the growth in assets has a mean of 12.8 and a deviation of 56.05 that lies between a lowest of negative 0.999 and a highest of 295.0.

Effect of bank innovation on net interest margin (NIM)

The first objective wanted to assess the influence bank innovations have on net interest margin. Therefore, multiple regression analysis in the form of panel least square was conducted to that effect. The findings are presented on Table 3.

Table 3: Banks Innovations on Net Interest Margin

VARIABLES	NIM
ATM	-0.0322**
	(0.0129)
MB	2.539
	(1.916)
INTB	-4.216**
	(1.919)
LQD	0.0111
	(0.0364)
SIZE	-0.00977*
	(-0.00518)
GO	-0.00137
	(0.00733)
Constant	11.61***
	(0.716)
Wald Chi^2	12.60
F-statistic	0.00498
R-squared	0.1921
Observations	60
Number of BANK	6

Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

Source: Field Review, (2019)

A measure of predictive power of the model, which is the determination of coefficient, tells portion of disparity in regressand which can be expounded by variations in regressors. This was measured with the R Square value. A high value of R square indicates the claim that, the data fits the model well. Take note $0 \leq R^2 \leq 1$. A close look at the table 3 is indicates that the predictors collectively accounted for 19.21 positive variance in net interest margin (R-Square= 0.1921). This therefore means that all the predictors are responsible for 19.21% increase in mesh interest margin of Ghana profitable banks that also indicate or implies that 80.79% variance in take-home margin by commercial banks was a result of some other variables

not captured within the model. That is to say that, 80.79% of the variation in net interest margin cannot be expounded by the regressors within the model. The implication is that there are other variables which also affect performance which were not involved in the model.

In edict to verify whether 19.21% positive variance in net interest margin of commercial was by coincidental or by true scientific interaction among the predictive variable (liquidity, mobile banking, automated teller machine, bank size, growth opportunities and internet banking), the F-statistic in multiple regression in Table 3 above was analysed.

From the F-statistics as shown in the model (Table 3) above, the Significant value is 0.00498 was statistically significant in the 19.21% variance in the take-home margin by Ghana commercial banks which is below 0.05 significant level therefore, the research fail to accept the null premise, "there is none significant association between bank innovations and net interest margin" in support of the alternate premise that there is a substantial association amid banks innovations on net interest margin. This shows that, the 19.21% variance in NIM was not by chance. This is an indication that, there is effect of banks innovation on net interest margin. Therefore, relying on the predictors in the managerial decision-making purpose would lead to reliable outcome. That is, the findings support some previous empirical claims (Gündoğdu & Taşkin, 2017) which state that, innovation have effects on take-home margin.

Contributions by individual predictors within model, to the 19.21% positive variation in take-home interest margin of Ghana commercial banks was assessed through coefficients in Table 3. A close observation of their

values and the F-statistics provides some meaningful insight that could be relied for decision making purpose regarding the inclusion of the predictors in similar models to after deductions interest margin of Ghana commercial banks to be.

Through the findings, it was indicated that at 5 percent, ATM had a negative statistically relevant impact to changes in net interest margin once the influence of mutable within model is statistically measured thus Beta = -.0322 is significant because of the Significant value of 0.00498. By deduction, the coefficient beta also showed that, a unit increased in ATM would cause negative 0.0322 change in after deductions interest margin of Ghana commercial banks. Which means, whenever Ghana commercial banks invest into ATMs, there is decrease in value of net interest margin by 0.0322. This could be perhaps the short term effect. In that regard, commercial banks must really look at their interest margin if they want to bring on board new ATM at another branch.

MB also made positive but not statistically significant contribution to NIM. Its (Beta was 2.539). But statistically not significant because at all the sig levels, it was not significant which means it is not reliable for decision making process by management indicating that the positive change of (2.539) could be by chance. This means that when commercial banks invest in MB, it could cause (2.539) increase in net interest margin however since it is not momentous on all level's management cannot make decisions based on that when they want to increase net interest margin. Although not significant, however mobile banking can be very relevant innovation in the banking

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industry since it brings convenience to customers. The only thing to consider is, it must be economical and have reliable staff.

Again, both liquidity and internet banking made positive and a negative contribution to the (19.21) change respectively. Their (Beta were 0.0111 and -4.216) respectively. At 5 percent, internet banking was significant. It portrays that, an increase of internet banking services would cause negative 4.216 variation to net interest margin. Perhaps banks make a lot of investment in the internet banking which customers do not even use hence would affect viability in short and long term. This problem could be resolved by educating customers on internet banking. This implies that management can rely on it since the outcome was not by chance but by scientific interaction.

This also means that for commercial banks to be able to increase net interest margin, the banks must check their market arrangement in which a given bank had to function, rate of decision-making toward risk abhorrence, the size of dealings carry out by the banks, and the adjustment of interest rate by the banks. The liquidity value cannot be relied upon. In the same way, using the beta of the coefficient, a unit transformation in the growth opportunities would cause a negative (-0.00137) variation but this is not significant at any of the levels and for that matter cannot inform decision making.

Furthermore, the study showed that, bank size hade negative statistically major impact to 19.21% positive change in net interest margin (Beta = -0.00977). It is significant at 10 percent. Which shows that, a modification in bank size would cause (-0.00977) change (decrease) to net

interest margin. Therefore, as managerial implications, it is recommended or the implication is that management of commercial banks must focus on liquidity by making sure there are accessibility of monies for short term obligations such as salaries and ability to meet certain loans if they really want to increase net interest margin which is a measure of performance. They must invest less in ATM although it is expected in Ghana that for proximity sake ATM must be more at all branches, invest less internet banking facilities since it does not statistically add any value to net interest margin as well as decreasing bank size base in order to achieve a reliable net interest margin).

Effect of bank innovation on earnings per share (EPS)

The second aim required to assess the upshot bank innovation have on earnings per share. Therefore, to that effect, multiple regression examination was steered. Results are shown of Table 4 as below.

Table 4: Innovation on Earnings per Share

VARIABLES	EPS
ATM	-0.0208
	(0.0139)
MB	-4.153**
	(2.053)
INTB	5.176**
	(2.056)
LQD	-0.0378
	(0.0390)
SIZE	-0.00446.
	(-0.00555)
GO	-0.0219***
	(0.00785)
Constant	1.818**
	(0.767)
Wald Chi^2	18.69
F-statistic	0.0047
R-squared	0.2607
Observations	60
Number of BANK	6

Standard errors in parentheses   *** $p<0.01$, ** $p<0.05$, * $p<0.1$
Source: Field Review, (2019)

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The coefficient of determination which measures the predictive power of the model was R Square Value. A well look of it indicated that the predictors collectively accounted for 26.07% positive variance in the earning per share R Square = 0.2607. This means that all the predictors are responsible for 26.2% increase in earnings per share which also supposed that 73.93% variance in earning per share was as a result of other variables not catered for in the model.

This is fairly a very powerful finding which support the claim that bank innovations really impact on earnings per share. It is recommended that commercial bank should engage in banks innovations in order have a good earnings per share. This outcome of the research is in line with claim that, banks innovation has affirmative change to earning per share as advocated by (Gu, 2005; Jalal & Hamdan, 2010) which portrayed that, the outcome of their measurements shown there is influence on use of Management Information System of banks in Jordanian to market value added (MVA), Net Profit Margin (NMP), Earnings Per Share and Return on Asset.

In order to ascertain whether the 26.2% positive variance in earning per share was by chance or by true scientific interaction among the predictive variables, F-statistics was used. It is clear that the sig value indicated in model (Table 3) was statistically significant in that, in the 26.2% positive change in earning per share was not by chance and but by scientific interactions among the predictors in the model because the Sig value of 0.0047 is less than Sig level of 0.05. Therefore, relying on the predictors in the model for managerial decision-making purpose would lead to improvement of earning per share of commercial banks there given investors more hope to invest in the banks.

The contribution of the individual predictors in the model to 26.2% positive change in the earnings per share was assessed via the coefficients in Table (Table 3). A close observation of the Beta values of the coefficients and the sig value provides some useful insight that could be relied upon for purposes of decision making regarding inclusion of predictors in similar model to improve earnings per share of Ghana commercial banks.

The outcomes specified that internet banking made the strongest statistically contribution to the 26.07% variance in earnings per share after the influence of other variables within the model are controlled for Beta = 5.176 which is significant at 5 percent because its sig value is 0.0047 which is less than sig level of 0.05, which is significant to earning per share. Probably investors look out for such innovation before investing. This finding supports the claim by (Jalal-Karim, & Hamdan, 2010). Comparatively, the beta also indicated that an increased in internet banking would cause 5.176 positive change to earnings per share. Thus, GHS517.6 increase in incomes per share of Ghana commercial banks. This could be relied upon because of the significant level was significant (sig value of internet banking =0.0047).

The study revealed that size made a very minimal contribution but was not statistically significant contribution to the 26.07% positive variance in earnings per shares. This is because it was not significant at threshold of less 0.01, 0.05 and 0.1 therefore by chance. Undoubtedly, using the beta, an increase in bank size will cause a negative 0.00446 (GHS-0.446) change in earnings per share but it is not reliable which means it could be by chance. Perhaps instead of sharing the retained earnings, the re-invest it in other assets that would also increase the size of the banks. This result is in track with

(Theory of induced constraints). It was indicated that, MB assumed a negative contribution of (-4.153) which is significant at 5 percent. Which means that, an increase in MB would cause decrease of (GHS415.3) to earnings per share. Perhaps the cost of mobile banking outweighs the benefits. This conclusion is in track with (Schumpeter theory of innovation, 1928). It suggests that MB and earnings has negative relationship.

ATM on the other side, has negative but not significant association to earning per share according to this study. This finding contradict the results of (Amponsah, 2015) which state ATM improves earnings per share. Perhaps is as a result of no more charges on ATMs by the banks. In the same way, an alteration in liquidity would cause negative (0.0378) change in earning per share but was not significant which means that it could be by chance. There could be non-performing loan ratio which needs to be arrest. Growth opportunities have negative association by way of earnings per share of Ghana commercial banks. Perhaps instead of sharing the retained earnings, the banks re-invest them in other growth opportunities thereby reducing the earnings per share of shareholders. This is in favour of the outcome by (Banker & Kauffman, 1988).

Insinuation of these outcomes is, for Ghana commercial banks to increase their earnings per share, they must really embark on more internet banking innovation by making sure that there is a proper digital funding approach roadmap to direct the procedure of building the best prospective accessible banking services for client and as well more on online banking securities. Trying to invest in ATM and MB will not add to their earning per share but will rather decrease earnings per share value respectively although

the decrease in ATM is not statistically significant. Finally, commercial banks must not focus too much on growth opportunities since the banks will tend to invest there than paying investors if they want to increase their earnings per share. This is because it decreases earnings per share at a significant value.

Effects of Innovation on Net Profit

The last objective hunted to evaluate the influence bank innovations have on net profit. To that effect, therefore, multiple regression analysis was steered. The outcomes were shown by Table 5.

Table 5: Effect of Bank Innovations on NP

VARIABLES	NP
LnATM	-5.05309
	(168,347)
LnMB	6.75590**
	(7.39672)
LnINTB	-7.7002**
	(7.39740)
LnLQD	5.5888
	(5.6759)
SIZE	0.0793***
	(0.00674)
LnGO	4.24605
	(4.9793)
Constant	-7.25163*
	(6.96922)
Wald Chi^2	329.98
F statistics	0.0000
R-squared	0.8616
Observations	60
Number of BANK	6

Standard errors in parentheses   *** $p<0.01$, ** $p<0.05$, * $p<0.1$
Source: Field Study, (2019)

Coefficient of determination which measures the predictive power of the model was R Square Value. From Table 4 above, a critical look of it indicated that the predictors collectively accounted for 86.16% positive variance in the earning per share (R Square=0.8616). This means that all the predictors jointly are responsible for 86.16% increase in net profit which also supposed that 13.84% variance was aa a result of other variables not captured within the model. This is fairly a very powerful finding which support the claim that bank innovations really impact on net profit. It is recommended that commercial bank should engage in banks innovations in order have a good net profit.

This outcome of the research favours claim that banks innovation has progressive change to net profit as advocated by (Cherotich, Sang, Mutungu & Shisia, 2015) who asserted that innovations positively affect financial performance and edge that banks should develop strategies to innovate in edict to increase the monetary performance.

To be able to ascertain whether the 86.16% positive variance in earning per share was by chance or by true scientific interaction among the predictive variables, probability value analysis value was used in panel least square regression analysis.

The pro value indicated in model (Table 4) was statistically significant in that, in the 86.2% positive change in net profit was not by chance but by scientific interactions among the predictors in the model (Significant value less than 0.05). Significant value is very important. Therefore, relying on predictors in the model for managerial decision-making purpose would lead to improvement of net earnings of Ghana commercial banks.

Contribution of individual predictors within the model to 86.16% positive change in the net profit was assessed via the coefficients in Table (Table 4). A close observation of the Beta values of the coefficients and the significant values provides some valuable insight that could be relied upon for purposes of choice making regarding inclusion of the predictors in a similar model to improve net profit of the commercial banks.

The results indicated that ATM made significant statistically contribution to the 86.16% variance in net profit once the influence of additional variables within the model are measured for thus, Beta = GHS - 5.05309. Its sig value is 0.0000 less than Sig level of 0.05, which is significant to net profit. This means that a unit increased in ATM would cause a GHS 5.05309 decrease change to net profit. By the premise above, ATM and net profit are negatively related. This could mean that, in Ghana customers do not patronise the ATM that much to help actualise the needed profits or perhaps the effect is short run. In line of that findings a study by (Ngumi, 2014) proves otherwise. To him, ATMs in Kenya has the effect of increasing the fees income of the commercial banks which is quiet contrary to this finding. The study revealed that mobile banking made the most statistically significant contribution GHS 6.75590 to the 86.16% positive variance in net profit.

This means, a unit change in mobile money would increase net profit by GHS 6.75590. It is substantial at 5 out of a hundred. This claim that, mobile money is important predictor of profitability support some empirical review by (Mutua, 2013) who asserted or initiated, there is optimistic association amid mobile money banking to banks viability in Kenya. In similar

way the study also found a positive association between mobile banking and banks viability of Ghana profitable banks.

As a result, the outcome of the research commends that, the strategy makers take a considerable mobile financial transactions awareness conception while conscripting plans on the acts of Ghana commercial banks. This could be because of indirect bond between mobile banking and monetary performance particularly as the business moves into a scientifically viable environment. The work also acclaims that policy makers possess an intense eye on the growths of mobile banking as it is a novel podium for competition among Ghana commercial banks as the world transfers into a digital phase to make sure it does not misplace its governing role. Also, in the work of (Mwange, 2013) there subsists positive link between mobile banking and banks performance also there was no extent to either it was weak or strong positive relationship.

It was indicated that internet banking assumed a negative contribution of GHS 5.176 to net profit however it was also significant at 5 out of each hundred. This portrays that an increased in internet banking will decrease net profit by that margin. Now, most of the banks in recent times are into digital banking now. If it has negative effect on net profit, then why that. It thinks may be most of these banks jump into these innovations as a result of mere competition without really assessing it impact on profit. This study has widened my scope of understanding the reason why most of the banks are not performing although they are innovating on periodic basis.

My overall judgement of the study is that, innovation is good, but these banks must pay for proper research to be carried out properly before

they bring on board innovative product and not just share the profit margin of a product that one bank has brought on board just to serve as competition as advocated by Schumpeter. In respect to internet banking, the claim contrast with the results of (Malhotra, & Singh, 2009) which clearly indicated that, there is none any major association concerning internet banking and profitability of Indian commercial banks. Whiles significant value of size was significant at 1 percent, its coefficient is GHS 0.0793. This means, an increase in the bank size would increase net profit by way of GHS0.0793.

But liquidity was positive but its sig value was not significant at all levels as well as that of growth of assets. The inference of these results is, for commercial banks to increase their net profit, they must really embark on increasing their bank size in order to increase their market share which is most like to increase profit.

The commercial banks must as well engage more in mobile banking service if they really want to increase net profit since the study proves high value increase in net profit when banks engage in mobile banking. But the banks must put certain mechanism into play such as creating more aware of the use of MB service in all the branches. But these banks must eliminate internet banking since it is actually not adding any value to their net profit but instead take away the profit margin to that high value. The banks must also invest less into ATMs according to this study since it is negative and not significant to net profit. Instead of ATMs they should rather make it as mobile money banking outlets since most are into the mobile banking now.

However, the claim that liquidity is not a significant predictor of profitability contradicts the claims by some previous empirical (Al Nimer,

Warrad & Al Omari, 2015; Bordeleau & Graham, 2010; Saleem & Rehman, 2011; Zygmunt, 2013) who jointly asserted that liquidity is a significant predictor of profitability. On the other hand, the finding that liquidity is not a significant positive predictor of profitability is also empirically supported (Ben-Caleb, Olubukunola & Uwuigbe, 2013). This shows that, Ghana commercial banks aside innovation must pay proper care to how they make payment of expenses, repayment of loans, and purchase of assets which are some of critical liquidity issues if they really want to ascertain profit whenever they bring on innovations.

Summary of Key Findings

The chapter discussed the effect of innovation which was proxy as ATM, internet financial transactions and movable money banking have on the performance of the Ghana profitmaking banks. The proxy for performance were net interest margin, earnings per share as well as net profit of the banks. It was established that ATM has either negative effect on those performance indicators used by the study or has no effect at all. It was further realised that, mobile banking decreases earning per share of shareholders and rather increases net profit for the banks but has no effect on net interest margin. Finally, internet banking increases earnings per share of the banks but decreases both net interest margin and net profit of Ghana commercial banks. The banks size also increases net profit and net interest margin but the growth in assets decreases earnings per share.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

This work was guided by these research hypotheses;

H_0: There is no statistically substantial effect of banks innovation on net interest of among some selected commercial banks in Ghana.

H_0: There is no statistically substantial association between banks innovation and earning per share among some chosen Ghana profitmaking banks.

H_0: There is no statistically relevant association amid banks innovation and net profit among some chosen of Ghana commercial banks.

Key Findings

The arrival of the Internet and spread of mobile telecommunication companies within the Ghanaian economy has offered both opportunity and a test for banking sector in Ghana. The research sought to find out influence bank innovations have on fiscal performance of Ghana profitmaking banks. The research aim was to know the influence banks innovations have on net interest margin on Ghana commercial banks. Proxy for innovation was internet banking, automated teller machine and mobile banking on the recital of the banks.

The proxy for performance were net interest margin, earnings per share as well as net profit of the banks. It was established that ATM has either negative effect on all performance indicators used by the researcher or has no effect at all on some of them. It was further realised that, mobile banking decreases earning per share of shareholders but has no effect on net interest margin. Finally, internet banking increases earnings per share of the banks but

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decreases both net interest margin and net profit of Ghana commercial banks. The banks size of the also increases net profit and net interest margin but growth in assets decreases income per share.

Conclusions

The study concluded, association amid ATM on all monetary performance indictors used by commercial banks is negative and significant to NIM. This is unexpected outcome because each bank has the motive of profit maximisation. So, if really ATM keeps reducing their net profit value then why are they always putting new ATM on each branch? It could mean that, may be in the long run if patronise by more customers can increase their net profit level.

Centred on the research verdicts, the work also concluded that, the association flanked by internet banking (digital) and net profit was negative and significant.

Recommendations

From this study it has become clear that by embarking on bank innovation, commercial Banks in Ghana will merge their gains and assets base by becoming more efficient in-service delivery and profitable to their shareholders even though it could also reduce the net profit level. Therefore, these suggestions are recommended to the Ghana commercial banks and if adhere to can improve their financial recital like net interest margin, earning per share and net profit.

Firstly, for the commercial banks to increase its net profit margin, it must concentrate more on mobile banking services and reduces the number of

ATM installations but should pay critical attention to internet banking services. Although, internet banking services led to increase of earning per share but since most Ghanaian do not actually access the internet banking, which is a huge cost those banks have to really look at it. They must pay attention to their bank size as well.

Furthermore, if the commercial banks want to increase their net interest margin then, they probably must look at institutional, product and marketing innovations which according to (Kiptum, 2016) found are significant and positive to net interest of commercial banks in Ghana aside innovation must pay attention to how they make payment of expenses, repayment of loans, purchase of assets which are some of critical liquidity issues if they really want to ascertain profit whenever they bring on innovations.

Finally, the Government via Ghana central bank should spend on studying novelties in the banking sector. Ghana commercial banks whose processes are affected by any nationwide policy and podiums like raised in minimum capital requirement must be consulted and their worries be factored in such initiative afore execution.

Suggestion for Further Research

This research did not factor moderating variables such as management and leadership styles which mostly also affect performance.

Further research can be conducted on the moderating role of leadership and management styles of Ghana commercial banks in on their fiscal performance.

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APPENDIX

RESULTS OF SECONDARY DATA

VARIABLES	(1) NIM
ATM	-0.0322**
	(0.0129)
MB	2.539
	(1.916)
INTB	-4.216**
	(1.919)
LQD	0.0111
	(0.0364)
SIZE	9.77e-10*
	(5.18e-10)
GO	-0.00137
	(0.00733)
Constant	11.61***
	(0.716)
Wald Chi^2	12.60
F-statistic	0.00498
R-squared	0.1921
Observations	60
Number of BANK	6

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	(1) EPS
ATM	-0.0208
	(0.0139)
MB	-4.153**
	(2.053)
INTB	5.176**
	(2.056)
LQD	-0.0378
	(0.0390)
SIZE	4.46e-10
	(5.55e-10)
GO	-0.0219***

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	(0.00785)
Constant	1.818**
	(0.767)
Wald Chi^2	18.69
F-statistic	0.0047
R-squared	0.2607
Observations	60
Number of BANK	6

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Effect of bank innovation on NP

VARIABLES	NP
ATM	-113,005
	(168,347)
MB	57600000**
	(24930000)
INTB	-50150000**
	(24970000)
LQD	388,008
	(474,218)
SIZE	0.0793***
	(0.00674)
GO	17,622
	(95,356)
Constant	-17850000*
	(9316000)
Wald Chi^2	329.98
P-Value	0.0000
R-squared	0.8616
Observations	60
Number of BANK	6

Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

Source: Field Survey, (2019)

Descriptive statistics of variables

VARIABLES	(1) N	(2) Mean	(3) Sd	(4) Min	(5) Max
EPS	60	1.243	3.576	-13.19	18.28
NP	60	7.864	8.00	-6.34	8.58
NIM	60	10.14	3.192	4.300	19.40
ATM	60	57.13	45.03	20	206
MB	60	-	-	0	1
INTB	60	-	-	0	1
SIZE	60	9.100	9.083	6.122	9.67
LQD	60	7.530	11.55	0.423	47.71
GO	60	12.89	56.05	-0.999	295.0

Source: Field Survey, (2019).

Correlation Matrix

	NIM	NP	EPS	ATM	MOB	INTB	LQDTY	SIZE	GRW
NIM	1								
NP	-0.0519	1							
EPS	0.00363	0.0552	1						
ATM	-0.260*	0.649***	-0.102	1					
MB	-0.21	0.435***	0.00522	0.341**	1				
INTB	-0.286*	0.416***	0.145	0.312*	0.902***	1			
LQD	-0.0692	-0.0903	-0.0595	0.0499	0.00974	0.0745	1		
SIZE	-0.0858	0.920***	0.1	0.711***	0.412**	0.442***	-0.12	1	
GO	-0.0538	-0.0798	-0.319*	-0.0784	0.144	0.118	-0.132	-0.103	1