2nd UGBS Conference on Business and Development 2014

Conference Proceedings
SECOND UGBS CONFERENCE ON BUSINESS AND DEVELOPMENT 2014
This book of proceedings features a mix of conceptual and empirical research papers which set the agenda for discussion on key themes in accounting; finance, banking & insurance; marketing and customer management; operations and management information systems; organisation and human resource management; and public administration and health services management.

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FIRST CAPITAL PLUS SAVINGS AND LOANS
IS NOW
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"Welcome to the Capital of Customer Centric Banking Solutions"

First Capital Plus Bank

"...they see customers, we see lives"
Conference Welcome

The 2nd University of Ghana Business School Conference on Business and Development will take place at the University of Ghana Business School from 29th to 31st July, 2014. The theme of the conference this year is Sustainability and Enterprise Development. Growing numbers of business leaders and governments are calling for market transformation, organisational restructuring, institutional frameworks and a redefinition of development programmes to address the sustainability agenda.

In response to this call, the conference will seek to provide answers on how enterprises and institutions can be built for the future. The conference will deliberate on issues attendant to theoretical frameworks and empirical evidence on the conditions and tools for promoting and managing sustainable innovation and business models. Further, the conference will seek to touch on social entrepreneurship and social business models, sustainability policies and strategies of firms and government, accounting, assurance, communication of sustainability and sustainability in business education; as well as how the marketing of sustainability influences consumption and public opinion.

SECOND UGBS CONFERENCE ON BUSINESS AND DEVELOPMENT 2014

This book of proceedings features selected papers to be presented at the Second UGBS Conference on Business and Development. It consists of eighteen conference papers from seven track sessions, four doctoral extended abstracts and one case study. These research works cover a mix of conceptual and empirical research papers which set the agenda for discussion on key themes in finance, marketing, operations and management information systems, organisation and human resource management, and public administration. The authors of the papers include researchers, practitioners and university academics from institutions in Africa and the United Kingdom. Beyond the conference, a live version of the proceedings, capturing all other presentations, arguments and comments at the conference, will be featured on the UGBS Conference website: http://ugbs.ug.edu.gh/conference.

We encourage you to become an active participant in the conference, sharing your views and constructively questioning these presentations to establish a consensus on how Africa can benefit from businesses in terms of socio-economic development.

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CSED is an advocacy, training and research centre set up at the Business School at the beginning of 2014 and funded by DANIDA and it is specifically dedicated to promoting enterprise sustainability through research, education, skills training, outreach (dissemination) and international collaboration.
Executive Summary

The University of Ghana Business School (UGBS) conference was established in April 2013 on the back of the UN World Summit in September 2005 that identified sustainable development as critical for the world’s attention. In that summit, sustainable development ideals were identified as the three interdependent and mutually-reinforcing components of economic development, social development, and environmental protection. Nearly ten years after the world summit leading to the maiden UGBS conference, it was noted that governments, development agencies, private institutions and civil society organizations were striving to achieve the ideals of sustainable development that headlined the summit. Hence, the attempt by UGBS to institutionalize an annual conference, with a mandate to encourage academic - corporate discourse that seeks to address how the business community can contribute to Ghana and Africa’s strife to achieve sustainable development.

The theme for the maiden conference was Business and Development in Africa: Determining New Frontiers; and focused on the impact that different strategic choices in business have on economies and societies, and on the context in which those strategic choices are made. The questions raised in that conference were: How do businesses contribute to the socio-economic development of people and localities? What is the role of business in economic development and environmental protection?

In addition to the September 2005 UN World Summit, the 2nd UGBS conference scheduled for 29 - 31 July 2014, as a follow up to the maiden conference draws inspiration from the target of the seventh Millennium Development Goal (MDG7), to encourage macro and micro level integration of the principles of sustainable development. The theme of the 2nd UGBS conference this year, lead sponsored by First Capital Plus Bank (FCP) and the Bank of Ghana (BoG), is ‘Sustainability and Enterprise Development’, as a micro level adaptation from the MDG7, and as a response to calls by growing numbers of business leaders and governments for market transformation, organizational restructuring, institutional frameworks and the redefinition of development programmes to address the sustainability agenda.

The conference, therefore, seeks to unearth answers concerning how enterprises and institutions can be built for posterity. The conference will deliberate on issues regarding theories, frameworks, and empirical evidence on the conditions and tools for promoting and managing sustainable innovation and business models. Further, the conference seeks to touch on social entrepreneurship and social business models. It will also cover sustainability policies, in addition to the strategies of firms and governments, accounting, assurance, and communication of sustainability in business education, as well as how marketing of sustainability influences consumption and public opinion.

The thematic areas of this year’s conference are therefore as follows:
- Fiscal Policy and Sustainable Development
- Sustainability and Information Disclosure
- Sustainable Microfinance, Corporate Finance and Governance
- Marketing Communication and Consumer Behaviour
- Sustainable Marketing and Entrepreneurial Management
- Information Communication Technology and Sustainability
Out of the 75 papers that were received and reviewed, there are 42 accepted conference papers and 20 doctoral submissions. 19 of the 42 accepted conference papers were accepted only for oral presentations in 7 tracks, based on the above themes. The remaining 23, however, were accepted for oral presentation, as well as inclusion in the conference proceedings. There are several key findings identified in the accepted papers, some of which are stated below. Nonetheless, complete versions of these findings, among others are presented throughout the entire proceedings document.

Key findings and recommendations from track papers

- ECOWAS member countries must focus on improving the macroeconomic dynamics that form part of the currency convergence criteria, since the ECO would not be successfully introduced at the stipulated time of January 2015.
- Sustainable corporate performance and customer satisfaction in banking are positively influenced by bank’s personnel.
- Value-Added-Partnership (VAP) is a strategic means through which firms can leverage their resources and enhance their competitive edge.
- Bounded rationality and information asymmetry are key antecedents to brand switching.
- Using an integrated performance measure (TOPSIS), traditional big banks in Ghana are found to be relatively sustainable, whereas most of the smaller and newer banks are economically unsustainable.
- Employees (talents) are found to have strong appreciation for only two of the seventeen organizational culture indices at the workplace.
- Contrary to expectation, though bank tellers reported above average workload, workload is found to have a positive marginal effect on their job satisfaction. Besides, tellers’ age and years with banks had a negative correlation with perceived workload.
- Psychological factors predict career development, with organizational support moderating the relationship between psychological factors and career development.
- Nurses, pharmacists and non-clinical workers are among the most assaulted group of health workers.
- There is no discrimination, with respect to quality of care in hospitals between patients with health insurance and those without health insurance.
- Patients are generally satisfied with health services under the capitation system, even though their expectations are not being met.
Contents

Conference Welcome ................................................................. 1
Executive Summary ................................................................. 1
Contents ...................................................................................... 3
Chairs of Tracks, Workshop and Forum ........................................... 6
First Capital Plus Bank ................................................................ 8

First Capital Plus Bank Profile ...................................................... 10
First Capital Plus Bank: ................................................................ 14
Going Social as a Sustainable Marketing Tool ................................ 14

Accounting and Finance ............................................................. 27

Track Summary ............................................................................ 28
The Influence of Institutional Characteristics on Audit Quality in Ghana .................................................. 29
Developing Financially Sustainable Small and Medium Scale Enterprises in Ghana: Does Tax Planning Help? ................................................................. 39
Volatility Forecasts of Inflation in the WAMZ Area: Single-Digit Inflation Convergence Criterion ................................................................. 49
Corporate Social Responsibility (CSR) Reporting Assurance in Ghana: The Perspective of the Big 4 Accounting Firms ........................................................................ 63
Risk Disclosures in the Annual Reports Of Firms In Ghana ........................................................................ 75

Sustainable Marketing and Entrepreneurial Management ................. 89

Track Summary ............................................................................ 90
Sustaining Customer Loyalty in Ghana’s banking industry: What the Customers Want ................................................................. 92
Impact of Bounded Rationality and Information Asymmetry on Brand Choice, Satisfaction, and Customer Switching Behavior in Financial Services ................................................................. 105
Value-Added-Partnership (VAP) Strategy - A Necessary Ingredient for Managing, Growing and Developing a Sustainable and Competitive Global Business ........................................................................ 123
Market Orientation and Corporate Social Responsibility Relationship with Banks’ Profitability ........................................................................ 135
Female Entrepreneurship in Ghana: Strategies for Coping with Challenges ................................................................. 145
Contents

Operations Performance Management and Sustainability ................................................. 155
  Track Summary ............................................................................................................. 156
  Reducing delays in healthcare- A queuing theory approach........................................... 157
  Economic sustainability in the Ghanaian Banking Sector: An application of TOPSIS for
  bank performance ranking......................................................................................... 169
  Considering Favourability Indices as part of the Malmquist Index ......................... 183

Leadership, Gender, Project Management and Business Sustainability Track .......... 205
  Track Summary ............................................................................................................. 206
  Effective Organizational Culture Model for Retail Banks in Ghana ........................... 207
  Structural Empowerment Activities Enhancing Frontline Employees’ Task Performance
  in Ghanaian Retail Banks ................................................................................................. 231
  The Influence of Psychological Factors on Career Development: The Moderating Role
  of Organisational Support ......................................................................................... 241
  The Role of Key Activities within National Innovation Systems (NIS) in Achieving
  Innovation Capabilities: Ghana’s Experience ................................................................. 252
  Examining Gender Equity Research in Ghanaian Mines: A Meta–Analytical Approach .... 264

Health Services Management and Sustainability ......................................................... 273
  Track Summary ............................................................................................................. 274
  Health workers experience of violent assaults and risk assessment of mental hospitals:
  implications for sustainable mental healthcare delivery in Ghana ......................... 275
  National Health Insurance Scheme Capitation and Patients’ Satisfaction with Service
  Quality in Public Hospitals in the Ashanti Region of Ghana ........................................ 287

Public Sector Administration and Sustainability ......................................................... 299
  The Political Challenge of Protecting the Poorest: insights from the Ghana School
  Feeding Program ............................................................................................................. 300

Climate Change and Sustainable Development ............................................................ 314
  Climate Change and Business Education in Ghana: A Study of the University of
  Ghana Business School ................................................................................................. 315
2nd UGBS Conference on Business and Development – Conference Proceedings

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CASE STUDY

First Capital Plus Bank

By

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Head of Marketing and Corporate Affairs
First Capital Plus Bank
THE NO.1 RANKED BANK

"...they see customers we see lives"

FIRST CAPITAL PLUS BANK
SHAPES YOUR BUSINESS
First Capital Plus Bank Profile

OVERVIEW

First Capital Plus (FCP) Bank is a wholly-owned Ghanaian Bank that was given a class 1 universal banking license to operate as a Universal Bank effective August, 2013 following the issuance of a provisional universal banking license in July, 2012. However, First Capital Plus was established as a Savings & Loans company on the 29th of October, 2009. FCP’s strategic focus is to provide timely and relevant financial solutions to the SME market.

FCP’s vision is to become the leading provider of banking solutions in Africa. The bank’s mission is to be a committed and customer-driven institution which provides effective, supportive and timely banking solutions to our valued customers and other stakeholders through:

- The application of state-of-the-art technology
- Dynamic and well-motivated staff
- Customer excellence

First Capital Plus is noted for innovation and it’s the first financial institution to introduce a deposit solution dubbed SpeedBanking, which makes it possible for customers to deposit cash into their bank accounts anytime, anyday, anywhere through their mobile phones without having to visit the banking hall. The bank currently has fifteen (15) operational branches with its ultra-modern head office located at Capital Plaza on the Spintex Road in Accra.

THE ROLE OF BRAND POSITIONING AND COMMUNICATION IN A TRANSITION

The issue of brand positioning and communication is very dicey especially within a transitional period. When brands are in a transition the issue of how to effectively communicate the brand’s positioning in order not to cause any confusion in the minds of the consumer is crucial. This case study provides an overview of how First Capital Plus (FCP) Bank was able to effectively communicate its brand within a transitional period to stay highly visible and relevant within Ghana’s financial services industry.

Brand Positioning

FCP’s brand positioning is “They see Customer, We see lives”. The focus of this brand positioning is to communicate a more deep seated and holistic care for the customer’s well-being. This involves a focus on building deep-seated emotional and social bonds that transcends an ordinary business relationship. FCP classifies customers as “lives” since they need the best of care and nurturing in order to maximize the attainment of their goals. This orientation may be traced from the foundation of the bank because it started as a Trust focused on financial empowerment for the vulnerable before it metamorphosed into a Savings & Loans Company.
DRIVERS OF FCP’S BRAND POSITIONING

The key drivers of FCP’s brand positioning include: The bank’s cardinal value of God-Centredness / organizational culture, innovation, Corporate Social Responsibility.

Innovation

To compete effectively in the financial services market the company leveraged on innovation as a key competitive tool. FCP’s competitive strategy can be linked to the blue ocean strategy which focuses on using innovation to compete “away” from the competition. The bank’s innovation strategy is anchored on providing simple customer-focused solutions that can impact society. Therefore in order to impact society and also compete through innovation the bank launched the “SpeedBanking” solution in June, 2011. The “SpeedBanking” Service is an SMS-based solution which makes it possible for customers to deposit cash into their bank accounts, anytime, anywhere, anyday through their mobile phones with a “speedbanking’ scratch card.

Research conducted prior to the development of the speedbanking solution indicated that some of the factors that militated against financial inclusion included the following:

- It was time consuming
- Customers were embarrassed to deposit small amounts of money into their bank accounts and it was also not cost effective to board vehicles to deposit certain amounts of money into their accounts
- Some customers especially the illiterate were intimidated by the banking hall
- Some SME operators could not leave their work places to deposit cash during the bank’s working hours since most of them do brisk business late afternoon.
- Lack of trust of financial institutions

Speedbanking was therefore developed to improve financial inclusion by making it convenient for the unbanked segment of the market to develop an orientation towards savings. Specific objectives include;

- To improve financial inclusion by making banking attractive to the unbanked
- Encourage the habit of savings
- Remove the financial cost, psychological cost and time cost involved in visiting the banking hall to make cash deposits
- Decongest the banking halls and minimize customer waiting time
- Develop an innovative technology in line with the company’s mission of leveraging on technology and in line with the brand’s focus of being customer centric.

Speedbanking was positioned as a safe, fast and convenient cash deposit solution with the positioning statement…. “anytime, anyday, anywhere…. Speedbanking is fast, secure and everywhere!!!!” The company employed mobile bankers to take the cards to the customers in their work places, market centres and other places in order to bring banking to the homes and offices of customers.
Corporate Culture/Cardinal Value
FCP Bank traditionally operates an open organizational culture that fosters interpersonal relationships, and ensures a high level of responsiveness amongst staff. The bank’s organizational culture is shaped by its core value of God-Centredness. The bank espouses this cardinal value by having sanctuaries on the top floor of every branch, organizing morning devotions and monthly all night services. The bank also organizes free annual worship events and also sponsors various religious events and activities.

FCP believes that apart from helping to communicate the brand’s positioning the cardinal value of God-Centredness impacts positively on productivity since words of inspiration delivered at these staff congregations help to enhance staff attitudes and energize staff towards the achievement of their goals. It also fosters the development of social bonds and much deeper interpersonal relationships which foster team work and collaboration. FCP believes that these enhanced attitudes and motivation makes it easy for staff to exhibit the company’s other core values like integrity and trust, reliability, professionalism, speed and accuracy needed for maximizing productivity.

CSR & STRATEGIC BRAND COMMUNICATIONS IN A TRANSITIONAL PERIOD
The role of strategic brand communications became even more critical in July, 2012 when First Capital Plus Bank acquired a provisional universal banking license. Strategically FCP’s focus was to grow into a universal bank and traditionally the bank’s communication did not associate the brand with the Savings & Loans industry. FCP’s competitor analysis and benchmarking were all done against Universal banks of the same asset size.

After the acquisition of the universal banking license FCP had to move the brand communications away from the Savings & Loans Industry, at the same time FCP was legally constrained from embarking on an IMC campaign situating it as a bank. FCP therefore decided to avoid direct brand communication focused on its legal status but to deploy less advertising and strategically deploy relationship marketing tools based on high customer interactivity as well as the use of Marketing Public Relations and CSR to keep the brand visible. FCP also highlighted its core value of being God-Centered and sponsored various events and activities aligned with that core value to drive affection for the brand and also drive a sense of trust amongst the relevant target audience.

FCP also leveraged on innovation by developing more innovative solutions using its innovative SpeedBanking platform. Traditionally FCP’s campaigns have focused on using advertising as the primary tool to lead its integrated marketing communications efforts. However, FCP relegated advertising to the background and deployed CSR and Public Relations in the execution of its Marketing and Corporate Affairs Strategy.

The company’s CSR strategy focused on poverty alleviation amongst women and children, disability, education for the deprived, development of ICT Centers in deprived communities, sponsorship of various events in the various tertiary institutions and sponsorship of medical...
electives for medical students. FCP deployed an effective strategy of communicating these CSR acts to gain the needed visibility and also generate affection for the brand.

**IMPACT OF FCP’S APPROACH**

The use of MPR, CSR, Innovation, strong physical evidence, high customer interactivity coupled with our strong financial performance culminated in FCP winning awards from the Chartered Institute of Marketing Ghana and the Ghana Club 100 in 2013.

In September, 2013 FCP was adjudged the non-bank financial institution of the year 2012 by the Chartered Institute of Marketing Ghana for the company’s orientation to marketing & technological innovation, investment in Corporate Social Responsibility and strong financial performance. In October, 2013 it was awarded as the 10th best performing company for the year 2012, the best in the Non-Bank Financial Institutions sector and the 3rd fastest growing company at the prestigious Ghana Club 100 (GC100) Awards organized by the Ghana Investment Promotion Centre (GIPC). The Ghana Club 100 is a list of 100 most prestigious companies in Ghana and FCP’s performance as the 10th best company at the GC100 Awards was instructive as that was the first time the company was entering the Club 100 awards.
First Capital Plus Bank: 
Going Social as a Sustainable Marketing Tool

ABSTRACT

Social media networks have been used to improve companies' business processes, which in turn affect return on investment. Social media has been generally defined as internet based applications that allow the creation and exchange of user generated content. Some of these applications are Facebook, Twitter, LinkedIn, Instagram etc. Social media marketing, generally, is the application of social media platforms in marketing or to achieve marketing objectives. International firms like Starbucks, IKEA, BMW, Ford, Coca Cola and others have been able to successfully apply their social media platforms to reach their customers and deepen their relationship, thus leading to customer loyalty. The various means of social media application to business processes, and their successes and failures need to be known, especially by business graduates; so to allow for replication and fine tuning where necessary for corporate success, especially in the financial services industry where information asymmetry is high, traditionally. Hence the need for this case study. This case study looks at how First Capital Plus (FCP) Bank, a wholly owned Ghanaian financial institution in Ghana uses social media to improve upon its business activities, such as customer relationship management and corporate social responsibility programs. It looks at how the bank integrates the traditional communication tools, with their social media platforms to achieve the bank’s set goals.

Keywords: Social Media, Social Media Marketing, First Capital Plus, Internet

INTRODUCTION

This case study explores how and why First Capital Plus (FCP) Bank uses social media in doing business, and how that has contributed to the bank’s development. It outlines the motivations behind the use of social media platforms such as Blogs, Facebook and Twitter. It is hoped that this case study will help students understand why financial institutions would want to use social media, and some of the conditions or variables that must be considered when using social media platforms for business processes. One of the fundamental revolutions internet marketing has introduced into marketing and organizational structure is the concept of social media (Kietzmann et al., 2011). The concept of social media has become the top of decision making alternatives, which organizations are adopting today. Yet, its understanding and full implementation has not been fully utilized or has been under-implemented (Kaplan & Haenlein, 2010).

Recent research indicates that more and more people are using social media applications such as Facebook, Twitter, Instagram and LinkedIn for various reasons such as making new friends, socializing with old friends, creating business networks, receiving information, and entertaining themselves (Kaplan & Haenlein, 2010; Keckley & Hoffman, 2010; Shih, 2009;
Lenhart & Madden, 2007 and Sheldon, 2008). The social networking phenomenon as identified, is gradually being adopted by organisations for commercial purposes (Erdoğan & Cicek, 2012). Consequently, by extension social media marketing has become a part of society, and the 21st century digital marketing environment cannot do without it.
The number of people around the world using Social Networking Sites (SNS) such as Facebook, Twitter, and LinkedIn, has been increasing dramatically over the years (Halligan, Shah, & Scott, 2009). With the increase in use of modern media tools such as the internet, the difficulty of targeting specific and individualistic needs of customers are reduced and made easier (Scott, 2010). Previously, non-targeted marketing was the order of the day in marketing communication (Smith & Jordan, 2004). This is because before social media became mainstream, it was very difficult to group and find your most important customers. However, businesses today, through algorithms, are able to identify the specific audience they want to target, making them improve product sales and enhance their reputations in a cost-effective manner (Xu et al., 2012).

With the rising demand of knowledge by customers, social media has become a major concept and tool, influencing various aspects of consumer behaviour including awareness creation, information gathering and analysis, post purchase communication and product evaluations (Mangold & Faulds, 2009). As complicated as customers are becoming in the 21st century era of marketing, an understanding of how this phenomenon could factor into the emergence of the internet, has facilitated the development of the new era of marketing which is of immense importance to business success. The adoption of social media tools for business is becoming essential globally and Africa specifically Ghana as an emerging economy, has not been left out. Social media through the web has opened enormous opportunities which have aided marketers to reach buyers directly with targeted messages at much less cost, and also to interact directly with customers (Scott, 2010). According to Baines et al. (2010), the mix of media and changing ways of communication by marketers are evolving to new dimensions as a result of increasing internet penetration. Companies are left with fewer options in this technological era, to include the social media marketing tools into their marketing mix.

Through internet and mobile technology, social media has fulfilled the need for increased interaction between organizations, firms and people (Kaplan & Haenlein, 2009; Mangold & Faulds, 2009). Hoffman and Novak (1996), who are ascribed as one of the early researchers into Internet marketing and consumer behaviour relationships, described the emergence of the Internet as having facilitated the development of the new era of marketing. Hoffman (2000) described the Internet as “the most important innovation since the development of the printing press”, with the potential to “radically transform not just the way individuals go about conducting their business with each other, but also the very essence of what it means to be a human being in society”. Thus according to Hoffman (2000), the evolution of the Internet and its integration
A rising innovative bank: The First Capital Plus Story

FCP started using social media platforms in the year, 2011. The Facebook and Twitter accounts were operated in-house by an employee of the firm. Currently, a major social networking tool FCP uses is the blog. The blog focuses on providing well researched articles, as well as very educative, fun and entertaining content to readers. FCP puts a lot of thought into generating very insightful and user friendly articles with practical Ghanaian examples, which has been a source of knowledge for many readers. The second major social networking site is Facebook. FCP integrates the blog and Facebook to offer some form of synergy, by providing links on the Facebook page, to the updates on the blog. FCP does not use the social media pages for aggressive advertising, since the main focus is to provide knowledge and inspiration to fans of the page. However, advertising is in the future plans. The blog has received an overwhelmingly impressive feedback from people all around the world, which was quite unexpected. It has boosted the company’s reputation and many people have contacted the company to congratulate them on the insightful articles. In regard to CSR activities, FCP organizes a gospel musical concert in July every year, free of charge for the general public to feel inspired and have fun. Another major CSR activity that First Capital Plus has taken up, is the premier football league in Ghana. The company has taken it upon itself to support the league, since Ghana is a football loving nation and has done so impressively so far.

Since integration is fundamental for marketing communications to be effective, FCP has one major person taking care of the marketing communications. Therefore, the company’s CSR activities and other activities written in newspapers and on news sites are almost always uniform, and this is replicated on the blog and the Facebook page. It is a top priority to make sure that all media channels have one voice and a uniform theme running through to ensure uniformity and synergy.

Social media makes it easy for FCP to have an interpersonal relationship with customers. By doing so, they have received a lot of requests for information about products and services through the social media page, where solutions are targeted towards the individual’s needs; and this...
has been very positive. Nonetheless, FCP makes the effort to avoid flooding and bombarding fans on social media with sales and purchases, as this can irritate fans and push them away.

Admittedly, FCP has taken a laid back approach to social media because Public Relations (PR) has been the tool that has been used extensively for the company's marketing communications. However, a comprehensive strategy has been drawn up and will soon be implemented following a rebranding agenda. The rolling out of this plan will see social media as the primary communication tool of the bank, with more resources dedicated to it as the company realizes the phenomenal power of social media to cause a real change in terms of doing business. FCP has not seen any major challenges since the integration of social media, most probably for the reason that they have taken quite a relaxed approach to it, and therefore regular feedback is all they get. Though fortunately or unfortunately, the bank is yet to receive any negative response.

**ANALYSIS**

A pattern of key activities undertaken with the use of social media applications, and integration into business processes are identified. Some of these activities are corporate social responsibility reporting, customer and public relationship management, media relations, customer behaviour tracking and advertisement.

**Social Media and CSR**

*Has FCP used social media to communicate their social responsibility programs, and how do they use it?*

“FCP is more committed to improving the lives of the people we serve and we always wish to make their lives better. FCP has engaged itself in sponsoring activities that are of prime interest to the society, and one example is Ghana’s Premier League, which FCP is the first financial institution to have sponsored. FCP saw sponsoring the league as a social responsibility initiative. The bank said to itself that since Ghanaians are football lovers, they cannot be idle for the integrity of the league to be destroyed. Due to this, we sponsored the Premier League with an amount of 10 million dollars. The bank also took up the task, to maintain a leadership role in CSR and provide the club with
First Capital Plus (FCP) Bank is much focused on providing the best to their customers and improving their lives. The bank is engaged in lots of Corporate Social Responsibility (CSR) reporting, as social media has created an easy and more cost effective way of communicating such information to the general public. Schmeltz (2012) found from his research that, the media that can best communicate CSR are the newly evolving social media such as Facebook, Twitter and Blogs. The bank through their blog and Facebook page, communicate with their fans about matches of the Ghanaian Premier League which is helping to sensitize more Ghanaians to be interested in the local league. The manager also reiterated that,

"The bank has also committed itself in terms of providing the best in education, by establishing ICT centers in 10 deprived districts in Ghana; and to launch the project, we started with the Ajumako Enyan- Essian District in the Central Region by providing an Ultra-modern ICT center for them. So with our positioning statement of “they see customers, we see lives”, we are committed to impacting the lives of people, both our customers and the general public at large. Therefore, given the opportunities on social media, we try to make known to the general public, the CSR activities we are involved in, and state the reasons why we engage in them as well". (Interviewee MCAM, 16/06/2014)

Furthermore, the bank uses Facebook to communicate religious activities they engage in, more especially Christian gospel concerts. This has created a niche for the bank as they are the first financial and corporate organization to sponsor gospel concerts, and even organize one freely for people. This indicates that FCP is committed to touching every aspect of the lives of the general public. With these platforms, it makes them to be more inclined and committed to impact and give to society. The Facebook page and blog page are effectively being used by the bank, and that is helping to communicate their sole objective.

**Social Media and Customer Relationship Building**

**Using social media to build customer relationships, how does FCP do it?**
Knight (2010) postulated that building personal relationships with customers through the use of social media is really the primary advantage of using channel types such as social media. As observed by Malthouse et al. (2013), having a relationship with your customers encompasses knowing them; being responsive to their needs and ensuring that they know how important they are to you. FCP buys into these schools of thought, and has used the avenues provided by social media to have a personal relationship with their customers. It was thus noted that the company’s presence on Facebook has been used to;

"Build up our relationship with customers, and that has resulted in us not receiving negative comments on our social media sites. We also try to make our clients feel more a part of the service they receive, and so whenever a customer sends a comment online, the sales or treasury department is made to follow up to make the customer know the bank really cares, and is ready to help them in any way they can" (Interviewee MCAM, 16/06/2014).

In the instance of using their social media sites to collect information, the bank uses it to monitor comments that customers give and based on that use offline means to address such issues. FCP also uses its blog to build up relationships with the corporate world and consumers, especially concerning educative financial and marketing information.

The bank also uses these social media platforms to gather information about who their customers are, what they want and even where they are. Based on literature provided by Srinivasan and Moorman (2005) which talks about a company effectively combining their business strategy with their social media technologies, FCP combines its main aim of seeing lives in their customers, with engaging them on these social media platforms to make their lives better.
TARGETING THE RIGHT AUDIENCE USING SOCIAL MEDIA

Has does social media help FCP to target the right audience?

First Capital Plus is committed to serving customers with the best products and services. According to the Marketing and Corporate Communications Manager;

“Social media Marketing is more targeted and more precise in its offerings in that, it gives the bank the opportunity to interact personally with customers especially when they comment or like our social media pages” (Interviewee MCAM, 16/06/2014).

According to Wright et al. (2010) marketers must be able to segment and target their customers by defining or looking out for customers who share similar needs. Therefore, FCP has taken it upon itself to use social media to reach their targeted audience with the information that best suits them. The bank on its blog provides educative information about the financial sector, and the financial standing of the bank.

This information is usually targeted at students, financial experts and people who are interested in understanding financial problems. Using the blog as a platform, FCP is able to reach such audiences, unlike putting such information on the T.V which may not be significant to everyone. The bank uses lots of public relations as a means of communicating to their audience and with this; they sometimes need to communicate to the right people.

“When customers view or like our pages, we are able to view their profiles and know exactly who they are or have some background knowledge about them which helps us to provide more targeted products to them” (Interviewee MCAM, 16/06/2014)

Through the social media platforms, the bank is able to design and develop solutions that are more inclined to serving best these actual and potential customers. Therefore, the bank uses their blog and Facebook page to provide targeted information. Even on their blog, they do not only provide financial information, but also inspiration from “well –seasoned” speakers who give inspiring messages. This makes the bank not only a financial institution, but also an institution that seeks to make life better for their customers by targeting them with the information that are most relevant, at a particular point in time. As noted by Zarrella (2010), a company should be able to know their customers and deliver
the right products to them; and this is what First Capital Plus wants to achieve with its presence on social media, particularly Facebook and the blog.

SOCIAL MEDIA AND CONSUMER BEHAVIOUR

How has Social media affected your customer’s behaviour towards your firm?

“We have always focused on making a positive impression on customers. Social media has been able to affect customers in a way of providing them with a platform for developing an inter-personal relationship with us. I personally get lots of information and questions, even on my personal contacts because the blog provides such information to customers. This has influenced the general public or customers to be more inclined to the social media sites, because they provide information them. Also, using social media has had a positive impact on customers since the bank has not received any negative comments about the services that we provide. Social media has offered an opportunity for engagement with the customers” (Interviewee MCAM, 16/06/2014).

In terms of influencing their purchasing patterns of behaviour, the bank has done little in such fields but has achieved a lot in the area of making their customers know how caring and supportive they are as a financial institution.

SOCIAL MEDIA AND ADVERTISEMENT

Do you use Social media for advertisement as is done by other firms?

“First Capital Plus Bank seldomly uses social media as a means of advertising the services and products we have. Instead of the bank using our social media platforms to advertise offerings, the bank rather focuses on communicating more of educational and social responsibility programs. That notwithstanding, the bank once in a while advertises some services through Facebook.” (Interviewee MCAM, 16/06/2014).
As noted in the literature, researchers like Masterson and Tribby (2008) observe that social media has provided an opportunity for companies to maximize profit at a reduced cost. This means that, when a company wants to provide its services at a reduced cost, social media provides such an avenue. For example, the bank used its Facebook site to promote the speed banking services, which gives clients the opportunity to make deposits outside the banking hall through reloading an amount voucher on their phone.

**SOCIAL MEDIA INTEGRATION WITH TRADITIONAL MEDIA**

*Has FCP been able to integrate social media with their traditional media platforms?*

**FIRST CAPITAL PLUS’S MEDIA PLATFORM INTEGRATION**

“We usually use lots of Public Relations (PR) to communicate with our customers and with the adoption of social media, we have tried to use our platforms as a public relations medium. Because of the sensitive nature of information, we take high precaution about the information that we put on our social media pages. The integration is a fundamental part of the company’s communicative tools, by employing integrated..."
marketing communication tools. We carefully generate the information that must be delivered to the general public, and try not to have different information from what is in the papers, or traditional platform and information on the social media platform. This makes integrating both platforms very essential, and significant to the bank’s improvement in terms of information that is available” (Interviewee MCAM, 16/06/2014).

First Capital Plus integrates their social media platforms into the mainstream. The bank also uses selected media personnel collectively, called the “press-corp team” who basically are in charge of making information readily available to the public.

“We therefore integrate our marketing communication tools as a way of providing educative information and social responsibility information, both offline and on social media. We also try to synchronize our offline articles in our magazines with our social media platforms more especially the blogs” (Interviewee MCAM, 16/06/2014).

**CHALLENGES OF USING SOCIAL MEDIA**

**What are some of the challenges you have faced using social media?**

“We have not really experienced challenges since the implementation of social media, only few that I can think of though. One of the main problems is about connectivity or low speed of internet connection. This issue spans across the use of all online applications to do business especially in this country. Also one of the challenges is getting a credible agent or personnel to handle the social pages of the company. We cannot just trust anyone with our customer’s information” (Interviewee MCAM, 16/06/2014).

The respondent stated that, handling of such important parts of the banks customer information cannot be just entrusted to just anyone. Therefore the main challenge is with the availability of qualified personnel, who will be able to handle the banks social media platforms.
FUTURE OF SOCIAL MEDIA FOR FCP

What is the future of Social Media for First Capital Plus?

“The future of social media for the bank is that social media will become our primary tool of communication and as such, needs maximum commitment in order to best serve its purpose of implementation. We are also planning on outsourcing the handling of our social media platforms to agencies that are well trained and specialized to do so, but still not compromising on just any agency. We have to carefully produce the right information in the right construct, because customers will perceive the company by the kind of information the company puts out. We need to have a fully committed agency who will be able to handle such a task. We also want to go an extra mile in the future by using social media as a service recovery tool, implementing it through a service recovery paradox”. (Interviewee MCAM, 16/06/2014).

The future of social media for the bank is very huge and cannot be underestimated. Nevertheless, FCP acknowledges the difficulties associated with outsourcing such a delicate part of the company. A platform like the blog, which has so far worked extensively well for the company, will have to be utilized more, to provide more engaging information. Also, the bank is looking at using more of social platforms like LinkedIn, YouTube Google+ and Twitter in the future.

The manager suggested that, it is of high significance to a business if it is able to rectify a problem during or after service delivery. With high engagement between customers and the bank on their social media platforms, it offers the institution the opportunity to easily recover a failed service delivery by communicating with their customers first and imprinting positive information in their minds.
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Tracks A & B:

Accounting and Finance
Track Summary

Growth and development are highly affected in periods of economic downturns. Business leaders and governments are therefore often in search of strategies and policies aimed at forestalling such economic downturns in order to create sustainable growth and developments. This track as a result focused on issues of corporate governance, tax planning, macro-economic indicators and financial innovations for creating and sustainable growth and development.

Achieving sustainable growth and development includes creating a stable economy, through price stability and trading among countries. Member countries of the West African Monetary Zone (Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone) has the objective of establishing a monetary union (creation of single currency - Eco) to achieve price stability and to encourage trade among such countries; all in the hope of preventing economic downturns and to encourage growth and developments. A study in this track assessed a key convergence criterion for the creation of single currency - meeting single inflation - and further conducted a forecast on when the objective of a single currency may be possible. The study concluded that the Eco would not be successfully introduced at the stipulated time (January 2015) and recommend member countries to focus on improving the macroeconomic dynamics that form part of the convergence criteria.

Tax planning is a means of reducing once tax burden and hence can lead to improved financial performance. As a result firms that are attuned to their tax environment save, culminating to its total growth and development. This is done by taking advantage of the loopholes in once tax laws to their benefits. Using effective tax rate as a proxy for tax planning, a study in this track realized that manufacturing SMEs are not very successful in managing their tax burdens when compared with their service sector counterparts and thus they have lower tax savings. Auditing is an integral part of tax planning. Thus, the existence of audit unit has the ability to deter firms from engaging in any illegal act to reduce their tax burdens. Therefore, the quality of the audit unit is important. A study in the track examines the impact of institutional quality characteristics on audit quality and concludes that corporate governance structures should be focused on promoting audit quality. Further, the study finds institutional characteristics such as type of external auditors, type of entity, years of existence, audit period time, average audit team members, existence of audit committee, number of branches, non-influence of key personnel and non-influence of employees to have impact on audit quality.
The Influence of Institutional Characteristics on Audit Quality in Ghana

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ABSTRACT
The global demand for audit quality has increased after the global economic downturn and the collapse of multinational companies which was partly blamed on external auditors. This study examines the influence of institutional characteristics of assurance clients on audit quality in Ghana, an emerging economy in Africa. The study adopts the survey approach using Likert-scale modelled questionnaire based on a sample of 100 companies comprising private, listed and state-owned institutions. The ordinal regression method was adopted to test for the explanatory variables at 95% confidence interval.

The study finds a number of institutional characteristics as predictors with significant influence on audit quality. The variables include the type of external auditors, type of entity, years of existence, audit period time, average audit team members, existence of audit committee, number of audit committee members, number of branches, non-influence of key personnel and non-influence of employees. The findings of the study imply that institutional characteristics have influence on audit quality hence corporate governance structures should be used to promote audit quality.

Keywords: Audit Quality, Institutional Characteristics, Audit Committee, Ghana

INTRODUCTION
The audit quality is a basic ingredient in enhancing the credibility of financial statements to users of accounting information. According to Fairchild (2008) audits add credibility to financial information by providing an independent verification of management-provided financial reports, thus reducing investors’ information risk. Levitt (2000) notes that the perception of audit quality plays critical role in maintaining systematic confidence in the integrity of financial reporting. Modrich et. al. (2007) posit that true audit quality is when the audit does not result in a type 1 error (that is a failing company being given an unqualified report) or a type 11 error (that is a non-failing company being given a qualified report).
DeAngelo (1981) suggests that audit quality is defined as the probability that the auditor will uncover a breach and report the breach. In other words, audit quality is the joint probability that an existing problem is discovered and reported by the auditor. Titman & Trueman (1986) define auditor quality in terms of the accuracy of the information that the auditor supplies to investors. Davidson & Neu (1993) provide an audit quality definition that is based on the auditor’s ability to detect and report material misstatements or manipulations in reported net income. Vanstraelen (2000) also viewed audit quality as the auditor being capable of detecting and reporting material misstatements existing in the sample being investigated during the auditing process. As the auditor is able to detect and report on the existing misstatements, the audit process is considered as more effective and of high quality.

The democratic credentials of Ghana within the West African sub-region have positioned the country as one of the preferred destination for doing business in Africa. Ghana’s global image makes the country attractive for foreign direct investment, loans, grants and aids. This means that, Ghanaian Accountants like many other professionals will be engaged by these foreign investors and donors for external auditing. The opportunities created by the influx of multinational coupled with the benefits associated with gas and oil industry requires an assessment of the audit quality in Ghana.

During the past decade, scandals and economic events have made audit quality center of attention for debate. Several studies have attempted to evaluate possible explanatory variables for the state of audit quality (Arrunada & Paz-Ares, 1997; Healey & Kim, 2003; Brody & Moscove, 1998; Dopuch, King & Schwartiz, 2001; Myers et al., 2003). Studies argue that short-tenured auditor client relationship would weaken the audit quality because the auditors do not acquire sufficient client-specific knowledge (Meyer et al., 2007; Shockley, 1981). On the contrary Carcello & Nagy (2004) and Mansi et al. (2004) argue that long-tenured auditor client relationship enhances audit quality due to the fact that the client’s operations and reporting issues become much familiar and known to the auditor. The closeness developed between the auditor and client due to long-term tenure, becomes a factor that pushes the auditor to become less skeptical towards auditors’ rigorousness in terms of the audit procedures opted by the auditor and the accounting practices adopted by the client (Johnson et al., 2002; Boone et al., 2008).

In order to enhance audit quality, countries across the globe require companies to change their audit firms under the mandatory audit firm rotation period of five and nine years (Jackson et al., 2008). The study of Jackson et al, (2008) state that mandatory firm rotation does not increase the audit quality, rather the cost-benefit analysis of mandatory firm rotation shows that its costs are higher than its benefits due to the development of auditor and client relationship in the early stages. Adeyemi & Okpala (2011) in their study note that an audit firm’s tenure can result in a loss of auditor independence thereby reducing audit quality. Johnson et al. (2002) investigated the association between audit firm tenure and financial reporting quality by using reported accruals as proxy.

Prior studies have centred on accrual quality, audit tenure, rotation, change of auditors and variables relating to external auditors to evaluate audit quality (Skinner & Srinivasan,
2012; Ittonen et al., 2013; Gul et al., 2013 and Lennox et al., 2014). However, institutional characteristics have influence on the quality of the work of external auditors worth examining. Also, there are contextual and environmental differences existing between a developing and a developed country in research. Therefore, additional studies are needed to bridge the contextual and dimensional differences which accountancy regulators and auditors need to know which adds empirically to the literature. Finally, the study contributes to the literature by identifying the explanatory variables in relation to institutions characteristics which significantly influence audit quality.

The objectives of this study are to:

1. Determine and explain the institutional characteristics that significantly affect audit quality.
2. Determine the correlation between the significant predictors in (i) above and audit quality.

The rest of the paper will examine the reviewed literature and theoretical framework, data and methods, results and discussions and conclusion and implication of the study.

LITERATURE REVIEW

The study by Barbadillo & Aguilar (2008) reveals an inverse relationship between auditor tenure and audit quality and suggested that auditors tend to be more dependent in the early years of the auditing engagements. Firth et al. (2012) posit a positive effect of mandatory audit partner rotation on audit quality for firms located in regions with weak legal institutions. Johnson et al. (2002) argue that as the auditor-client relationship lengthens, there is the tendency that auditors may develop a “learned confidence” in the client which may reduce audit quality. However, Geiger & Raghunandan (2002) and Knechel & Vanstraelen (2007) show that longer auditor tenure does not deteriorate audit quality. Chi & Huang (2005) examine the relationship between both audit firm and audit partner tenure and earnings quality using Taiwanese data. They found that audit quality initially increases but starts to decrease as audit partner tenure exceeds five years. Shockley (1981) asserts complacency, lack of innovation, less rigorous audit procedures and a developed confidence in the client may arise after a long association with the client. Ghosh & Moon (2005); Gul et al. (2013) and Lennox et al. (2014) also found audit tenure and audit quality to be significantly related.

Audit committees play an important role in financial reporting and external auditing. According to McMullen (1996), it is expected that an independent audit committee is more likely to ensure that audit quality is maintained. Ittonen et al. (2013) found a significant association between audit committee and audit quality. However, Lennox et al. (2014) did not find a significant association between audit committee and audit quality. Skinner & Srinivasan (2012) found a negative significant association between owner-managed firms and audit quality. The board size, duality of role as board chairman and chief executive officer as well as number of board meetings have been found not to be significantly associated to audit quality (Lennox et al., 2014).
The study by McKeown et al. (1991) reveals that corporate size has influence on audit quality. The study argues that auditors may hesitate to report deficiencies large client for fear of losing fees that large clients generate. However, Ghosh & Moon (2005) did not find the size of a firm and audit quality to be significantly associated. Subsequent studies by Skinner & Srinivasan (2012); Ittonen et al. (2013); Gul et al. (2013) and Lennox et al. (2014) have found a significant association between size and audit quality. The number of branches has been found not to be significantly related to audit quality (Skinner & Srinivasan, 2012). Also, Lennox et al. (2014) did not find a significant association between the number of subsidiaries and audit quality.

The type of auditor has received mixed results about its influence on audit quality. Ghosh & Moon (2005) found a negative and significant relationship between the use of a Big4 external auditor and audit quality. Also, Lennox et al. (2014) found a significant relationship between auditor type and audit quality. Skinner & Srinivasan (2012) and Ittonen et al. (2013) did not see a significant relationship between auditor type and audit quality. Ghosh & Moon (2005) and Gul et al. (2013) found a significant influence of firm age on audit quality.

RESEARCH FRAMEWORK

The stewardship theory was used as the theoretical framework for the study. The theory is based on the assumption that managers act as stewards rather than rational economic agents with self-interest (Muth & Donaldson, 1998). The theory recognises a range of non-financial motives of managers such as achievements, recognition, work ethics, performance satisfaction and respect for authority (Muth & Donaldson, 1998). According to Donaldson & Davis (1991), managers should be seen as high achievers and capable of acting in the best interest of shareholders, safeguarding assets and loyal to the entity. The theory posits that faced with personally unrewarding course of action, a manager would act in the best interest of the institution (Etzioni, 1975).

The study holds the view that managers based on institutional characteristics created through their actions or inactions ensure audit quality for the interest of shareholders. As stewards, managers are likely to ensure and promote audit quality to support the claim as good stewards. As a result, managers are likely to ensure that all institutional structures and procedures support and promote audit quality.

RESEARCH METHODOLOGY

The survey approach was adopted for the study and questionnaire was used as the data collection instrument. The Likert scale was used to design the questionnaire. The scale was from 1 to 5, with 1 being the least representing ‘Strongly Disagree’ and 5 being the highest representing ‘Strongly Agree’. The following proxies were used:
Table 1 Proxies for Variables

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>The Predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identification of Control Weaknesses</td>
<td>1. Type of External Auditor</td>
</tr>
<tr>
<td>2. Auditor Reports Weaknesses</td>
<td>2. Type of Entity</td>
</tr>
<tr>
<td>3. Credibility of Audit Report by Third-Parties</td>
<td>3. Years of Existence</td>
</tr>
<tr>
<td>5. Documentation of Audit Process</td>
<td>5. Shareholding Structure</td>
</tr>
<tr>
<td>7. Number of Branches</td>
<td>7. Number of Branches</td>
</tr>
<tr>
<td>8. Audit Period Time</td>
<td>8. Audit Period Time</td>
</tr>
<tr>
<td>9. Average Audit Team Members</td>
<td>9. Average Audit Team Members</td>
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<tr>
<td>10. Existence of Audit Committee</td>
<td>10. Existence of Audit Committee</td>
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<tr>
<td>11. Number of Audit Committee Members</td>
<td>11. Number of Audit Committee Members</td>
</tr>
<tr>
<td>12. Tenure of External Auditor</td>
<td>12. Tenure of External Auditor</td>
</tr>
<tr>
<td>13. Board Oversight</td>
<td>13. Board Oversight</td>
</tr>
<tr>
<td>14. Audit Committee Monitors the External Auditor</td>
<td>14. Audit Committee Monitors the External Auditor</td>
</tr>
<tr>
<td>17. Competence of Audit Committee</td>
<td>17. Competence of Audit Committee</td>
</tr>
</tbody>
</table>

Source: Researcher’s Framework, 2014

The sample for the study is 100 companies with external experience. The ordinal regression was used to determine the explanatory variables with significant effect on each of the dependent variables because scale data were collected. The statistical significances were tested at a confidence level of 99%, 95% and 90%.

RESULTS

This section discusses the results of the study. The respondents consist of 84% private, 9% public and 7% state institutions. The respondents cut across diverse industries with 10% in banking, 34% in trading, 14% in manufacturing, 7% in mining and the rest in sectors. The average years of existence by the respondents was 11 and above and the average board size was 6-10. The sample was made up of 76% with 2-5 shareholders, 73% with less than 5 branches and 45% were medium, 53% large and 2% small entities. The average period of audit is 5 weeks and average audit team members for external audits is 5. 89% of the respondents have an audit committee with an average membership of 5. 19% of the respondents have a Big4 as an external auditor and the rest uses a local firm. The average period of association with the external auditor by the respondents is 6-10 years.
<table>
<thead>
<tr>
<th>The Predictors</th>
<th>Identification of Control Weaknesses</th>
<th>Auditor Reports Weaknesses</th>
<th>Credibility of Audit Report by Third Parties</th>
<th>Sufficient &amp; Appropriate Audit Evidence</th>
<th>Documentation of Audit Process</th>
<th>Trust in the Audit Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Co-ef</td>
<td>Sig.</td>
<td>Co-ef</td>
<td>Sig.</td>
<td>Co-ef</td>
<td>Sig.</td>
</tr>
<tr>
<td>Type of External Auditor</td>
<td>0.505</td>
<td>0.141</td>
<td>1.201</td>
<td>0.006***</td>
<td>-0.497</td>
<td>0.291</td>
</tr>
<tr>
<td>Type of Entity</td>
<td>0.610</td>
<td>0.067**</td>
<td>1.219</td>
<td>0.009***</td>
<td>1.560</td>
<td>0.011**</td>
</tr>
<tr>
<td>Years of Existence</td>
<td>1.110</td>
<td>0.115</td>
<td>1.422</td>
<td>0.016**</td>
<td>1.580</td>
<td>0.040**</td>
</tr>
<tr>
<td>Board Size</td>
<td>2.040</td>
<td>0.024**</td>
<td>0.759</td>
<td>0.323</td>
<td>6.089</td>
<td>0.000***</td>
</tr>
<tr>
<td>Shareholding Structure</td>
<td>0.994</td>
<td>0.085*</td>
<td>0.196</td>
<td>0.644</td>
<td>-1.680</td>
<td>0.056*</td>
</tr>
<tr>
<td>Company Size</td>
<td>0.457</td>
<td>0.577</td>
<td>0.217</td>
<td>0.706</td>
<td>0.608</td>
<td>0.470</td>
</tr>
<tr>
<td>Number of Branches</td>
<td>0.757</td>
<td>0.232</td>
<td>1.044</td>
<td>0.105</td>
<td>0.166</td>
<td>0.827</td>
</tr>
<tr>
<td>Audit Period Time</td>
<td>0.710</td>
<td>0.027**</td>
<td>-0.106</td>
<td>0.680</td>
<td>-0.963</td>
<td>0.015**</td>
</tr>
<tr>
<td>Average Audit Team Members</td>
<td>0.213</td>
<td>0.622</td>
<td>-1.190</td>
<td>0.007***</td>
<td>0.553</td>
<td>0.256</td>
</tr>
<tr>
<td>Existence of Audit Committee</td>
<td>0.910</td>
<td>0.682</td>
<td>-3.117</td>
<td>0.119</td>
<td>-2.734</td>
<td>0.336</td>
</tr>
<tr>
<td>Number of Audit Committee Members</td>
<td>0.245</td>
<td>0.622</td>
<td>-1.418</td>
<td>0.013**</td>
<td>-1.236</td>
<td>0.100</td>
</tr>
<tr>
<td>Tenure of External Auditor</td>
<td>0.058</td>
<td>0.921</td>
<td>-0.390</td>
<td>0.316</td>
<td>-2.021</td>
<td>0.018**</td>
</tr>
<tr>
<td>Board Oversight</td>
<td>1.353</td>
<td>0.187</td>
<td>-1.846</td>
<td>0.066*</td>
<td>-4.059</td>
<td>0.010***</td>
</tr>
<tr>
<td>Audit Committee Monitors the External Auditor</td>
<td>1.092</td>
<td>0.278</td>
<td>2.715</td>
<td>0.012**</td>
<td>3.124</td>
<td>0.048**</td>
</tr>
<tr>
<td>Non-Influence of Key Personnel on External Audit</td>
<td>3.693</td>
<td>0.005***</td>
<td>3.661</td>
<td>0.000***</td>
<td>5.652</td>
<td>0.000***</td>
</tr>
<tr>
<td>Non-Influence of Employees on External Audit</td>
<td>0.238</td>
<td>0.663</td>
<td>-0.883</td>
<td>0.116</td>
<td>-0.528</td>
<td>0.490</td>
</tr>
<tr>
<td>Compliance of Audit Committee</td>
<td>0.515</td>
<td>0.541</td>
<td>0.290</td>
<td>0.746</td>
<td>1.409</td>
<td>0.214</td>
</tr>
</tbody>
</table>

Model Fitting Information: 0.000*** 0.000*** 0.000*** 0.000*** 0.000*** 0.000*** 0.000***

Pseudo R-Square (Cox & Snell): 0.659 0.624 0.725 0.629 0.684 0.696

Source: Research Survey, 2014  Legend: *** and * mean significant at 1%, 5% and 10% respectively
DISCUSSION

a. Identification of Control Weaknesses

The ordinal regression using the audit quality proxy, identification of control weaknesses as dependent variable and the explanatory variables in Table 1 above, show that the predictive power of the model is significant as shown in Table 2 below. The explanatory variables used according to the Cox and Snell R-Square (R2) explain 66% of the variations in dependent variable, identification of control weaknesses. The results as shown in Table 2 show that three (3) institutional characteristics have significant influence on audit quality relating to identification of control weaknesses. These are Board Size, Audit Period Time and Non-Influence of Key Personnel on External Audit. Board Size and Non-Influence of Key Personnel on External Audit are positively correlated to the identification of control weaknesses. This means that the larger the board size and the higher the likelihood that key personnel of the institution would not influence external audits, the more likelihood that control weaknesses would be identified. On the contrary, Audit Period Time is negatively correlated to identification of control weaknesses. This means that the longer the audit period time, the chances of identifying control weaknesses reduces due to erosion of auditor independence. The finding on board size is contrary to the findings of Lennox et al. (2014) who did not found this significant association. The contribution of this study to empirical literature is the identification of audit period time and non-influence of key personnel on external audit as significant predictors of audit quality.

b. Auditor Reports Weaknesses

The predictor power of the model was significant at 1% and the predictors used for the model explain 63% of the variations in audit quality based on the proxy, Auditor Reports Weaknesses (see Table 2 above). The study finds seven (7) institutional characteristics with significant influence on audit quality. Out of the seven (7) predictors, five (5) are positively correlated to audit quality and the rest are negatively correlated. The type of external auditors, type of entity, years of existence and monitoring by audit committee and non-influence of key personnel on external audit increase reporting of control weaknesses by auditors. However, the higher the average audit team members and number of audit committee members, the lower the possibility of the auditor reporting weaknesses. The type of auditors as a significant predictor of audit quality supports the findings of Ghosh & Moon (2005) and Lennox et al. (2014). The findings of Ghosh & Moon (2005) and Gul et al. (2013) that the years of existence is significantly related to audit quality is confirmed by this study. The significant influence of audit committees on audit quality found by this study supports the findings of Ittonen et al. (2013).

c. Credibility of Audit Report by Third Parties

The predictive power of the model was significant at 1% and the predictors explain 75% of the variations in dependent variable, audit quality with the proxy credibility of audit report by third parties (see Table 2 above). The study finds eight (8) predictors with statistical significant influence on audit report credibility. The type of entity, years of
existence, board size, monitoring by audit committee and non-influence of key personnel on external audit are the institutional characteristics that are positively correlated to ensure the credibility of audit reports. The remaining three (3) characteristics namely, audit period time, tenure of external auditor and board oversight are negatively correlated to credibility of audit reports. This means that increase in these variables leads to a reduction in the credibility of audit reports. The finding on the tenure of external auditors as a significant predictor of audit quality confirms the posits of Ghosh & Moon (2005); Gul et al. (2013) and Lennox et al. (2014).

d. Sufficient and Appropriate Audit Evidence

The predictive power of the model for this proxy of audit quality was significant at 1% and the predictors explain 70% of the variations in this proxy (see Table 2 above). The study finds five (5) explanatory variables with statistical significance on the audit quality. The years of existence, number of branches, non-influence of key personnel and non-influence of employees are four (4) of these variables which are positively correlated to audit quality. The likelihood of obtaining sufficient and appropriate evidence increases when these predictors are present as according to the results. The fifth variable, average audit team members, is negatively correlated to audit quality. The number of branches as a significant predictor of audit quality does not supports the findings of Skinner & Srinivasan (2012) and Lennox et al. (2014).

e. Documentation of Audit Process

The predictors used by the model explain 68% of the variations in audit quality represented by audit documentation and this predictive power of the model was significant at 1%. The study finds three (3) predictors with significant influence on audit quality. Audit documentation improves when there is no influence of key personnel on audits and based on the competence of the audit committee. However, board oversight is negatively correlated to audit documentation. The influence of the audit committee and board oversight on audit quality found by the study confirms the finding of Ittonen et al. (2013). Also, it supports the assertions of McMullen (1996) that an independent audit committee is more likely to ensure that audit quality is maintained.

f. Trust in the Audit Performance

The model’s predictive power was significant at 1% and the predictors explain 70% of the variations in audit quality represented by trust in the audit performance. The study finds seven (7) institutional characteristics with significant influence in the trust in audit performance. Out of this number, four (3) are positively correlated to audit quality and the rest are negatively correlated to audit quality. The four (4) are type of entity, years of existence, board size and non-influence of key personnel. Those negatively correlated to audit quality are type of external auditors, existence of audit committee and the number of audit committee members.
The type of auditors found as a significant predictor of audit quality supports the findings of Ghosh & Moon (2005) and Lennox et al. (2014). The findings on years of existence, board size and audit committee have been noted above.

CONCLUSION

The study adds to empirical literature by determining the institutional characteristics with significant influence on audit quality. Specifically, the study identifies new predictors from institutional characteristics with significant influence on audit quality. These variables are board oversight, type of entity, non-influence of key personnel, non-influence of employees, the number of audit committee members, audit period time and monitoring by audit committee. The study implies that corporate governance structures must be used to ensure that institutions contribute to audit quality by deploying these characteristics in the appropriate ways to safeguard audit independence.

This study has determined the institutional characteristics with significant influence on audit quality and the association between them. As earlier noted, managers as stewards, create institutional characteristics over time which ensures audit quality. Therefore, the findings fit into the stewardship theory. The study concludes that institutional characteristics have influence on audit quality. Therefore, institutions must act in appropriate ways to safeguard the integrity of external audits based on these characteristics.

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Developing Financially Sustainable Small and Medium Scale Enterprises in Ghana: Does Tax Planning Help?

Samuel Simpson¹ᵃ, Mohammed Amiduᵇ, Cyprian Amankwahᶜ

ABSTRACT
This paper examines the tax planning activities of SMEs and explores how such activities support their financial sustainability. A quantitative research design was employed, drawing on the annual reports for a period of 3 years (2010-2012) of 122 SMEs sampled from the database of the National Board for Small Scale Industries (NBSSI). Results show difference in the ETRs of SMEs in the manufacturing and services sector and between three financial years, hence suggest differences in the tax planning activities of SMEs. SMEs in the service sector have lower tax rate, hence have a higher level of tax aggressiveness than manufacturing SMEs in Ghana. This means that SMEs in the services sector have more aggressive tax savings than those in the manufacturing sector; hence they are likely to be more financially sustainable than those in the manufacturing sector.

Keywords: Tax planning; Effective Tax Rate (ETR), SMEs, Ghana

INTRODUCTION
Most businesses in developing countries, including Ghana can be classified as Small Medium Enterprises (SMEs). SMEs contribute to 85% of manufacturing employment of Ghana compared to other developing economies such as South Africa (61%), Malaysia (59%) (Abor & Quartey, 2010). In fact, statistics from the Ghana Statistical Service (GSS, 2012) indicate that about 90% of businesses in Ghana fall within the SME category. SMEs have the potential of helping generate greater sustainable economic and social benefits through employment creation, equitable distribution of income, inter-industry linkages and can help people expand their asset base, build wealth, and exit poverty.

Despite the vital role that they play, the survival rate of SMEs is not impressive, due to myriad of problems such poor management and administrative systems, poor financial management skills, difficulty of absorbing large fixed costs, the absence of economies of scale, high taxes and other related cost of doing business. This paper explores the possibility of SMEs to use tax planning to improve their survival. Specifically, this study seeks to ascertain the nature of the tax planning of SMEs, and assess whether there are differences in effective tax rates of SMEs in various sectors.

¹ The first and second authors are Lecturers in the Department of Accounting, University of Ghana Business School. The third author is a student of the same Department
Murphy (2004) posits that a company that is not properly attuned to its tax environment may never truly realize its full potential, however agile, efficient and progressive it may be. To be successful therefore SMEs must plan their taxes in such a way as to reduce cost. From developing countries, including Ghana, there are doubts about whether SMEs are exploiting the supposed loopholes in the tax laws to proactively plan their taxes for their benefits. Since taxes are considered as a significant cash drain on SMEs, there is a proposition that SMEs may be planning their taxes to avoid humongous tax payments albeit in an undocumented way. Since it is not yet known how SMEs are spending effort to minimize their tax payments legally given the opportunities that exist in Ghana’s tax laws that SMEs can exploit to reduce their tax burden many questions remain unanswered.

OVERVIEW OF THE LITERATURE

This section presents the literature review of the study. The researcher reviewed both theoretical and empirical literature relating to the research problem. Theoretically, the agency theory derived from the agency problem that mostly exists between managers and shareholders is said to provide some explanations. Specifically, the agency problem occurs when management uses the discretion available to them within the boundaries of the law to manipulate tax liability for their own or their shareholders’ benefit. One area where agency problem is clearly seen is in the linking of tax planning with top executive compensation or executive/corporate culture. Evidence that this occurs frequently has been documented in numerous empirical studies. Desai and Dharmapala (2009) Frank et al, (2009), Dyreng et al, (2010) and Rego and Wilson (2008) among others examined this relationship and found that both executive compensation and incentives of top management have a significant impact on the investing, financing, and operating decisions of the firm, although these can help in tax planning. From this backdrop, Chen and Chu (2005), Crocker and Slemrod (2005), and Desai and Dharmapala (2006) among other researchers examined corporate tax planning using the agency theory. It may be useful in explaining tax planning activities of SMEs as this study sought to do.

Also, the political cost theory advanced by Jensen and Meckling (1976) and Zimmerman (1983) appears relevant here. This theory posits that large firms are subject to greater public scrutiny due to their larger size and higher visibility and thus become victims of greater regulatory actions by government. They as a result incur a ‘political cost’ and taxes are a part of the total political costs borne by firms. The theory claims that larger firms have higher ETRs than small firms because of the political cost of greater government and public scrutiny as governments and regulatory authorities find ways to effectively restrict and reduce their tax avoidance efforts. As a result, large firms are less likely to circumvent their tax responsibilities by choosing tax reducing accounting methods (Watts and Zimmerman, 1978). Omer et al. (1993) obtained empirical evidence in support of Zimmerman’s political cost hypothesis that large size leads to higher ETR by examining the relationship between ETRs and firm size of US corporations during 1920-1986 and. Omer et al. (1993) also obtained empirical evidence in support of Zimmerman’s political cost hypothesis by using five different tax measures to examine the relation between effective tax rate and firm size during 1980-1986.
From the literature, tax planning strategies differ for SMEs since they are deemed to be a “small business entity” (SBE) under the Tax Act of different countries as such studies on effective tax rates among companies have led to conflicting results. Although in some countries tax rules provide opportunities and access to a range of concessions for SMEs, not much is known about tax planning of SMEs particularly given the informal nature of the SME sector. In developing economies especially, the difficulty of tax administrators to locate SMEs makes it difficult to ensure they pay their fair share of taxes (Ahmed and Braithwaite, 2005).

Most SMEs have been found to be non-tax compliant in majority of studies, particularly, those on developing countries (James, Barbour and Stern, 2007; Ayoki, 2007; Terkper, 2003). In fact, the situation in developed countries appears different. For instance, although specific tax rules for SMEs lower their effective tax rates, these companies bear a higher tax burden than multinationals investing abroad” (Nicodeme, 2007, P.4). Much more research is needed to know tax planning of SMEs especially in developing countries including Ghana.

METHODOLOGY

The quantitative research design was employed to examine the tax planning of by SMEs using the effective tax rate (ETR) as proxy. This design was helpful in the assumption that tax planning by SMEs in Ghana is a ‘reality’ in the economy that needs to be investigated. Thus taking a positivist stand, the researcher used a quantitative methodology to provide a vivid description of the phenomenon and test relationships that constitute this economic reality (Zigmund, 1997).

Moreover, the selection of SMEs to achieving the objectives of this study was based on the National Board for Small Scale Industries (NBSSI) database. From that database, 1223 fell under the small and medium enterprises (SMEs) category and therefore became part of the target population of the study. To select the sample size the stratified sampling technique was used, the data was thus first stratified into the two sectors or business categories. After that random sampling (without replacement) was used to select 10% from each sector and that formed the sample of the population of interest. 10% of the target population of 1223 SMEs was therefore drawn by this procedure. Thus the sample that was used for the empirical analysis consisted of 122 SMEs (chosen to reflect the two sectors of the economy; manufacturing and services sectors).

Variable Measurement

The measure of tax planning used in this study was the effective tax rate approach. SMEs were assumed to have similar tax planning opportunities in Ghana and their tax planning behaviour could be captured with this technique. Effective tax rate (ETR) has been used to measure corporate tax planning in the literature (Stickney and McGee, 1982; Gupta and Newberry, 1997; Dyreng et al, 2010; Wilson, 2009; Hanlon and Slemrod, 2009; Robinson et al, 2010; Chen et al, 2010). The use of effective tax rate (ETR), which has its origin in Accounting and Economics, to measure corporate tax aggressiveness has a long history. The
Cost of Capital model of Hall and Jorgenson (1967) was the first major work that set the framework for ETRs. ETR gained an ascendency in use in the United States of America from the 1980s. Even in recent times ETR is the most used measure of tax planning.

In using effective tax rate (ETR) as proxy of effective tax planning, the study restricted the ETRs to [0, 1] consistent with prior studies (Zimmerman (1983); and Nurshamimi and Rohaya (2012)). To obtain a meaningful measure of ETR, the researcher eliminated sampled SMEs with negative profit before interest and tax. This is because SMEs with a negative pre-tax income create tax saving which will bring down the company’s ETR in different years due to the carry-forward provision provided in the Ghana’s tax laws. Thus SMES with ETR greater than one or less than zero were recorded as in previous studies (example Rohaya, Nor’Azam, and Bardai 2008; and Rohaya, NurSyazwani and Nor’Azam, 2010). The recoding of the ETR was done as follows. SMEs with negative tax expenses which produced a negative ETR were recorded as ‘0’. SMEs with an ETR above 100% (greater than one) that is the SMEs with tax expense exceeding the pre-tax income were recorded as ‘100’. The recoding of the data was necessary since the ETR does not have any economic meaning but the findings can be distorted in cases when its denominator is zero or negative.

ANALYSIS AND DISCUSSION OF RESULT

This section presents the results of analysis of data and discussion of the findings of the study. Tables and graph are used to present the analyses and discussions of the results of the study to readers.

Variations in Tax planning by SMEs in Manufacturing and Services Sector

Thus the study sought to confirm the perceived differences in effective tax rates of SMEs in the two sectors in the sample over the three-year study period. In other words, the study sought to find out how ETRs of SMEs in the sample differ across sector and with time (years). To see the variation of ETR within and across sectors over time, an analysis of the sectors; manufacturing and services and by three years, 2010, 2011 and 2012, were done as shown in Table 1 below.

Table 1: Variations of Effective Tax Rate of SMEs across Sectors and Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Sector</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manufacturing</td>
<td>Service</td>
</tr>
<tr>
<td>2010</td>
<td>0.2</td>
<td>0.15</td>
</tr>
<tr>
<td>2011</td>
<td>0.19</td>
<td>0.13</td>
</tr>
<tr>
<td>2012</td>
<td>0.19</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Table 1 above illustrates variation of the effective tax rate of the sampled SMEs across sectors categories (manufacturing and services) and years (2010 to 2012). From the results it is clear that no sector reported ETR less than 0 or greater than one. The ETRs were all
within the acceptable range of between 0 and 1. However within-sector results of ETRs of sampled SMEs show variations across the three years. In the manufacturing sector for example, the ETR for 2010 is 0.2 while the ETRs for both 2011 and 2012 are 0.19. Also, there are variations in the services sector, ETR was 0.15 in 2010, 0.13 in 2011 and 0.21 in 2012. Within-sector ETR variations are indicative of individual differences among SMEs in their tax planning effort confirming the argument of Ali-Nakyea (2007), Murphy (2007), among others that not all companies have the same level of inclination to tax planning.

A comparison across the sectors show that SMEs in the manufacturing sector have on average, higher ETRs than SMEs in the services sector. Differences in sector ETRs are indicative of sector-specific factors that account for tax planning activities of SMEs in that sector and which may offer advantages or disadvantages to SMEs in that sector in their tax planning.

Overall, ETRs of all sampled SMEs for 2010, 2011 and 2012 are 0.17, 0.16 and 0.2 respectively. These results contradict arguments that SMEs may be experiencing higher tax burden because of their size which results in an inability to lobby tax authorities and the lack of scale, scope, expertise and resources to reduce their liability. Also, the results confirm the argument that SMEs may enjoy lower tax burdens because of their size which makes tax authorities unable to track their tax behavior because they are less visible and escape scrutiny.

**Tax Savings of Sampled SMEs in Manufacturing and Services**

Related to tax planning, which examines the actual tax burden of firms is tax savings. Tax planning provides expected tax savings. The effectiveness of an SME in planning its tax liability will translate into tax savings for that SME. Thus, the investigation of the association between tax planning and tax savings of SMEs was done in this study to find out which SMEs have higher tax savings. The results of the analysis of the tax savings of the two sectors from 2010 to 2012 are reported in Table 2 below.

**Table 2: Tax Savings of Sampled SMEs in the Sectors from 2010 to 2012**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sector</th>
<th>Manufacturing</th>
<th>Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td>0.10</td>
<td>0.12</td>
<td>0.11</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>0.09</td>
<td>0.16</td>
<td>0.13</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>0.08</td>
<td>0.10</td>
<td>0.09</td>
</tr>
</tbody>
</table>

The results on the tax savings of the two sectors from 2010 to 2012 show that on average, SMEs in the services sector have more tax savings than those in the manufacturing sector. Overall, the results show that the studied SMEs have low ETRs of SMEs and this suggests aggressive tax planning of SMEs. However, the results show that SMEs in the manufacturing sector have on average higher ETRs than those in the services sector. This implies that SMEs in the manufacturing sector appear to engage in more conservative tax planning than those in the services sector for the period studied. The conservative tax planning means that
manufacturing SMEs were not effective in reducing their tax burdens compared to SMEs in the services sector and this means lower tax savings for them.

With regards to the level of tax savings, prior studies posit that the level of tax planning saving is a function of the statutory rate and the effective tax rate. Thus, the level of tax savings can be determined by comparing the statutory tax rate (STR) and the effective tax rate (ETR). Therefore, SMEs' tax savings could be explained by any unexplained excess of STR over ETR which can be the result of tax planning. All things being equal, the wider the gap between the STR and ETR (i.e. STR>ETR) the higher is the tax planning intensity. It is therefore expected that SMEs strive to achieve lower ETR which will result in a significant gap between STR and ETR as this represents tax savings; how efficient SMEs are in managing their tax expenditures.

From the study, the statutory tax rate is 25%, so, the overall effective tax rates of the sampled SMEs for the study period are compared with the STR and the difference is the tax savings. These relationships are illustrated in figure 1 below.

**Figure 1: Graph showing Statutory Tax Rate, Effective Tax Rate and Tax Savings**

As can be seen from the graph, the STR is the highest over the period under consideration. That means SMEs tax savings are the unexplained differences between the statutory tax rate and the effective tax rate arrived at after adjusting for reliefs and rebates. The magnitude of the tax savings is very large compared to what pertains in the literature. The results also contradict what is in principle common in most countries.

In most countries low statutory tax rates are advertised in order to show that their tax environment favours doing business cost-effectively. They do this to attract more businesses.
Thus from theory it was expected that the statutory tax rate will be lower than the effective tax rate. However from the results of the analysis as reported in the graph above, the ETR is lower than the STR. This means that in reality SMEs’ ETR is far lower than the applicable statutory tax rate. This is understandable since accounting profit is different from taxable profit. This confirms that STRs are only partly indicative of the tax cost of doing business in a country. In Ghana, the Internal Revenue Act, 2000 (Act 592) contains reliefs and rebates that have the potential of reducing the general statutory rate of twenty five per cent (25%). Since the actual tax burden, ETR is arrived at after adjusting for all reliefs and rebates the study results showing a higher statutory tax rate in Ghana and low ETRs of SMEs is reflective of reality. The ETR is therefore more indicative of the true tax costs to SMEs of doing business in Ghana as they take into account, for example, tax reliefs and differences in incentives and tax credits.

On the nature of the SME tax savings, whether it is conservative, moderate or aggressive, the results can be seen on table 3. On the whole, SMEs in the manufacturing sector have higher figures for conservative (60%) and moderate (6.67%) tax savings compared to SMEs (50.65% and 2.6% respectively) than SMEs in the services sector. SMEs in the services sector have a higher figure for tax aggressiveness, 46.75% compared to 33.33% of manufacturing SMEs. These results imply SMEs in the manufacturing sector have lower tax savings and confirm the higher ETRs obtained for SMEs in the manufacturing sector. However SMEs in the services sector are more tax aggressive and have more tax savings which confirms the lower ETRs firms in this sector are found to have. These findings confirm that sampled SMEs in the services sector have on average lower ETRs and this means that they have effectively planned their tax burdens for the period of the study than those in manufacturing. It can be argued from the results that SMEs in the services sector probably invest more in tax planning than their counterparts in the manufacturing sector and this may be what allows them to achieve greater tax savings relative to those in the manufacturing sector.

Table 3: Nature of Tax Savings of SMEs

<table>
<thead>
<tr>
<th>Sector</th>
<th>Conservative</th>
<th>Moderate</th>
<th>Aggressive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>36</td>
<td>60</td>
<td>4</td>
<td>6.67</td>
</tr>
<tr>
<td>Service</td>
<td>39</td>
<td>50.65</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>54.74</td>
<td>6</td>
<td>4.38</td>
</tr>
</tbody>
</table>

|          | Frequency    | %        |
|          |              |          |
|          | 56          | 40.88    |
|          | 137         | 100      |

CONCLUSION

From the result it is concluded that the effective tax rates give a clearer picture of the true tax burden faced by SMEs than statutory tax rates because ETRs implicitly take into account varying tax reliefs given by the government. The researcher concludes based on the findings that a higher statutory tax rate among SMEs in Ghana and lower ETRs means that ETR is more indicative of the true tax costs SMEs in Ghana face as ETR takes into account varying tax reliefs given by the government.
account, for example, tax reliefs and differences in incentives and tax credits. The study reveals that there is a difference in ETRs of SMEs in the manufacturing and services sector and between three financial years. The effective tax rates provide a glimpse of how SMEs and entire sectors of the economy really stack up against one another. The study finds that SMEs in the manufacturing sector have among the highest effective tax rates than those in the service sector. The researcher concludes that manufacturing SMEs are not very successful in managing their tax burdens compared with their services sector counterparts and thus they have lower tax savings. A policy implication is that if these SMEs compete with each other in the marketplace, the substantial differences in ETRs can give advantages to SMEs with lower ETRs and higher tax savings, and large disadvantages to those with higher ETRs and lower tax savings. It was found that tax aggressive SMEs are characterized by higher tax savings. Thus another conclusion of the study based on this finding of the study is that SMEs tax planning is a controllable cost which when well managed can lead to more tax savings for them.

REFERENCES


ABSTRACT

This work seeks to augment policy directions on single-digit inflation rates convergence. The paper resorted to both univariate and multivariate forecasting procedures to predict the inflation rates of the member countries in the West African Monetary Zone (WAMZ) area, on the proposed date for the introduction of the Eco. Essentially, we did not find enough evidence that the introduction of the Eco will materialize on the set date. The paper cautions against a hasty introduction of the Eco. WAMI should therefore continue to create avenues for assisting member countries to improve their macroeconomic dynamics.

Keywords: Single-Digit Inflation Convergence, Eco, West African Monetary Zone

INTRODUCTION

This paper establishes that the Eco (a single currency for the West African Monetary Zone) will not be introduced on January, 2015 as planned. It applies various forecasting tools on the monthly inflation rates and succinctly advises that the West African Monetary Institute should further shift the introduction of the common currency as macroeconomic indicators do not support the birth of the Eco, since member countries exhibit varying degree of convergence to the single digit rate of inflation—a prime constituent of the four primary convergence tool. The West African Monetary Institute (WAMI), since 2000, has the objective of establishing a monetary union among six member countries—Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone— which will culminate in the introduction of a single currency (Eco). The prime end is that if the introduction of the Eco was successful, it would serve as a foundation for the ultimate establishment of a single currency among all West African countries when the Eco is eventually merged with the CFA Franc. Aside the common currency, the monetary union also seeks a common central bank. It is the expectation that the monetary integration dream should result in enhanced inter-trading activities among member countries and also enhanced stronger currency to boost price stability in the sub-region. The West African Monetary Institute (WAMI) in Accra has been vested to

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2 The authors are first year PhD students of the University of Ghana Business School. The authors submitted the paper as a class assignment which required them to forecast inflation the West African Monetary Zone using specific models.

3 Gambia, Ghana, Guinea, Nigeria and Sierra Leone are the founding members of the WAMZ, Liberia joined the union in 2010.

4 The CFA Franc is an established currency used by the French speaking West African countries excluding Guinea and Mauritius.
coordinate and monitor macroeconomic activities of member countries to ensure that the Eco came into being.

Accordingly, the WAMI has proposed two set of 10 convergence criteria: the four primary convergence criteria (FPCC) and the six secondary convergence criteria (SSCC). The FPCC include (1) a single-digit inflation rate at the end of each year (2) fiscal deficit ceiling of 4% of GDP (3) a central bank deficit-financing ceiling of 10% of the previous year’s tax revenue; and (4) Gross external reserves that can cover for a minimum of three months. In the same token, the SSCC include (1) prohibition of new domestic default payments and liquidation of existing ones; (2) Tax revenue should be equal to or greater than 20 percent of the GDP; (3) wage bill to tax revenue equal to less than 35 percent; (4) public investment to tax revenue equal to or greater than 20 percent; (5) a stable real exchange rate and (6) a stable real interest rate.

The problem is that, all the six member countries have consistently failed to meet even the four primary convergence criteria in a single year. Available data also showed that average inflation rate rose to 12.6 per cent in June 2012 from 11.6 per cent in June 2011, driven by price increases in non-food items within the zone. Fiscal deficit as a ratio of GDP was however, below the minimum four per cent in four of the six countries, while gross external reserves was enough to cover at least three months of imports in five countries. None of the countries have so far, satisfied all the four primary convergence criteria. The closest the countries have achieved was: Four countries - The Gambia, Guinea, Liberia, and Nigeria - complied with three primary criteria, while Ghana achieved one criterion as at the end of 2012. Analysts have stated that, the inflation and fiscal deficit criteria have been the most challenging for the member states. The performance on the secondary convergence criteria has also been abysmal. As at the end of 2012, four countries - The Gambia, Guinea, Nigeria and Sierra Leone - had met only two out of the six criteria, while Ghana satisfied only one and Liberia met none.

Against this, the establishment of the Eco has had its deadlines shifted on countless occasions from 2003, 2005, 2009 and now to 2015. There is even no indication that member countries would achieve all the convergence thresholds given the current deadline.

This paper conducts volatility investigation into the possibility of meeting one of the FPCC, a single inflation rate among member countries. The thesis statement is that if the WAMZ countries at least want to share similar economic and political aspirations, the rates of inflation in these countries should follow a common volatility process notwithstanding the measures of volatility applied. We apply the forecasting potency of the autoregressive conditional heteroskedasticity (ARCH) model introduced by Engle (1982), the generalized autoregressive conditional heteroskedasticity (GARCH) model by Bollerslev (1986) and VAR approaches to forecast inflation rates, in order to ascertain the exact period the Eco could be introduced.

The premise upon which the volatility ideology rests is that, time series data used to be evaluated for stationarity based on the autoregressive, AR(p), process. Such processes break the standard regression of the time varying series into expected and unexpected components. According to Engle (1982), the unexpected components of economic series can further be modeled to ascertain the inherent volatility which the AR(p) process in the original series overlooks on the assumption that the shock component follows identical independent distribution (iid). The AR(p) process is not robust in determining the volatility clustering effect inherent in high frequency series. Therefore, the homoscedastic qualities
normally ascribed to time series variables may sometimes be a mere oversimplification. There may be conditional heterogeneity which can only be fished out when the AR(p) process is conventionally applied to the square of the innovation term. Engle (1982) called such a process autoregressive conditional heteroscedasticity (ARCH). This study operationalizes this approach to test the volatility of the inflation rates of all the six countries in the WAMZ area.

Empirically, Engle (1982, 1983) found that the ARCH process exhibit non-decaying properties when it was applied to determine the relationship between the rate of inflation and the inflation uncertainty because the ARCH effect assumed large lag values in the conditional variance function. To address this issue, Bollerslev (1986) introduced a modified but parsimonious version of the ARCH model dubbed the generalized autoregressive conditional heteroscedasticity (GARCH) which has been robust in most empirical volatility estimations. Our empirical estimation continues to apply the GARCH process to determine the relationship between inflation rates and inflation uncertainties in the WAMZ area to ascertain whether the inflation dynamics in the sub-region follows the same volatility trend. Again, a robust check is conducted to test the high-data-frequency hypothesis in the forecasting process. Several variations to the GARCH (p,q) model abounds. For instance, Nelson (1991) revised the GARCH model to account for unrestricted coefficients of the GARCH (p,q) parameters and called his version the exponential GARCH (EGARCH) approach. In this paper, we also explore how the relationship between the inflation rate and inflation uncertainty in the WAMZ area can be established by applying the EGARCH process.

The rest of the paper follows the following structure. Section two provides recent survey on the empirical literature, which highlight the versatile applicability of the various volatility models. Section three relates with the description of the primary models with innovations to fit the current study. Section four takes a closer look at the data and describes its nature. Section five provides the discussion of the various results emanating from the estimations. The final section concludes and provides recommendations for policy making and further investigations.

EMPIRICAL LITERATURE REVIEW

Engle (1982) provided a major breakthrough in financial economic modelling when he modelled that in period of larger and smaller unpredictable market fluctuations it would be erroneous to assume that the innovation term in the standard ordinary least square assumes a zero mean and a constant variance – a situation econometricians have captured homoscedasticity. This is because volatility tend to cluster in both periods of high and low fluctuations in the financial series (A pattern known as heteroscedasticity). In such condition, volatility may not be review with the autocorrelation (ACF) and partial autocorrelation (PAC) functions. Therefore, a model has to be performed to detect the inherent heterogeneity in the errors using autoregressive process, which is conditioned on the innovation term in order to determine the volatility in the error process. Since that milestone exposition, Bollerslev (1986) has provided a more simplified and generalized version, the generalized autoregressive conditional heteroscedasticity (GARCH) model, which leverages
Empirical results on the application of the ARCH and its various variations abound in the extant literature. In the first instance, Iqbal (2001) applied the root mean square error procedure to compare forecasting reliability of the ARIMA, ARCH, VAR, and ECM models for export and money supply. The export data were monthly whilst the money supply data were annual. The result showed that the ARIMA model outperformed the others for exports whilst the GARCH (1,1) model performed better for money supply. The performance of the multivariate analysis (VAR and ECM) was therefore found to be abysmal. Similarly, Chin and Fan (2005) applied the ARIMA and ARCH models to analyze the nature of price dynamics in the Singaporean private housing market. They found that private house prices should be better modelled a ARIMA (1,1,0) with corresponding dummy variables than ARIMA with ARCH, howbeit, contributing only a marginal improvement in model fit. This finding was collaborated by Fleming, Kirby and Ostdiek (2006) who found no ARCH effect with regards to trading volume and volatility nexus. Similarly, Cook (2009) investigated the level of stationarity in inflation rates using the maximum likelihood estimation of a unit root testing and GARCH procedures and found a more robust evidence of GARCH effect than a previous study, which obtained mixed results. In the same token, Liu and Cao (2011) employed the GARCH model to investigate the impact of thirteen (13) macroeconomic indicators on foreign exchange market based on the value at risk framework and realized that the GARCH process increased the VaR results.

Other studies have also utilized the exponential GARCH (EGARCH) process to investigate the ARCH effect of the impact of foreign exchange and interest rates changes on US bank’s stock return. In the estimation, the EGARCH model performed better than other conventional volatility estimates of relationships (Joseph & Vezos, 2006). Similarly, in Ghana, Adjasi, Harvey and Agyapong (2008) employed the EGARCH process to model the nexus between the movements in exchange rates market and that of the stock market volatility. More recently, the TGARCH model has also been found robust in forecasting daily stock index in Romania (Gabriel, 2012). Also, in Turkey, Karahan (2012) applied the ARMA-GARCH model to confirm the hypothesis that inflationary period culminates in high inflation uncertainty. But, the VARMA model has also been stronger on forecasting macroeconomic indicators in Romania between 2012 and 2013 as compared to the VAR and AR models (Simionescu, 2014).

Furthermore, Wu (2006) has found that, the GARCH model performs better under both Monte-Carl simulated data and also real-world data. The ARCH model has also been evaluated on the basis of forecasting both the one-day-ahead VaR and the realized intra-day volatility of two equity indices in the Athens Stock Exchange. The evidence proved that the GARCH model could be applied under restrictive conditions as the theory stipulates (Angelidis & Degiannakis, 2008). As expected, the EGARCH process has also been found to be superior to the parsimonious GARCH model (See Chen, 2008). The EGARCH model also produced robust results when applied to examine the volatility of housing prices in capital cities in Australia (Lee, 2009). More interestingly, Misati et al (2012) applied the Granger causality and VAR approaches to investigate the possibility of inflation targeting policy in Kenya. The empirical estimation proved that inflation targeting could thrive well in Kenya. The GARCH model has also been applied in order to ascertain responsiveness of the changes in the volatility in stock prices to bonus and write issue announcements.
(Malhotra, Thenmozhi & Kumar, 2013). More recently, away from its financial and economic time series application, Liang (2013) found that the GARCH model is also application in engineering, helping predict the volatility of failure data for repairable system, which illustrates that the GARCH model has versatile applications.

Thus, the empirical evidence highlights the multi-area applicability of the ARCH and its evolutionary other volatility indicators. It has also stretched the robustness of the models across geographical contexts. This study seeks to augment the soaring literature on the application of the volatility and multivariate models to make a case for or against the introduction of the Eco in January, 2015. The premise is that, if at least one of the convergence criteria is unmet, then the Eco would not be introduced. This study is unique because its combines both univariate and multivariate estimations to predict inflation rates in the WAMZ area.

METHODOLOGY

This study involves estimates of the relationship between inflation rates and its volatility in the WAMZ area. We first estimated the autoregressive process for each of the endogenous variables to determine how their lagged values influence their non-stationarity. Subsequently a unit root test was conducted to determine the order of stationarity. Depending on the order of stationarity, first we investigated the ARIMA (p, d, q) process and subsequently, the ARCH process was applied on each of the inflation series from the WAMZ countries. We realized that, the monthly inflation series for Ghana was stationary at levels, so the level series was used in the ARCH, GARCH and the VAR forecast. For robustness check, we also carried out cointegration analysis to determine the long run relationship among inflation rates in the WAMZ area.

The ARCH and cointegration tests require that we investigate the existence of unit root (non-stationarity) and to know the order of integration of the inflation rates. The unit root test also assist in establishing the model fit for the ARIMA process. There are varieties of methods to test for unit root such as the Dickey-Fuller (DF) test, the augmented Dickey-Fuller (ADF), Philip-Perron (PP) test among others. The study used the ADF test. ADF procedure, which allows for serial correlation unlike (Dickey Fuller (DF) method), is the most popular test. The null hypothesis to be tested is that the variable under investigation has a unit root against the alternate hypothesis that there is no unit root. In each case, the lag-length is chosen using information criteria such as Akaike Information Criterion (AIC) and Swartz Information Criterion (SIC) for the ADF. We adopted the AIC criterion. The basic formulation of the ADF is specified as follows:

\[
\Delta Y_t = \alpha + \delta t + \beta Y_{t-1} + \sum_{i=1}^{k} \rho \Delta Y_{t-i} + \mu_t
\]  

(1)

Where \( Y_t \) denotes the series at time \( t \), \( \Delta \) is the first difference operator, \( \alpha, \delta, \beta, \varphi \) are parameters to be estimated and \( \mu \) is the stochastic random disturbance term. The ADF tests the null hypothesis that a series contains unit (non-stationary) against the alternative hypothesis of no unit root (stationary). That is:
If the tau value or t-statistic is more negative than the critical values at a significant level, we reject the null hypothesis and conclude that the series is stationary. Conversely, if the tau statistic is less negative than the critical values, we fail to reject the null hypothesis and conclude that the series is non-stationary.

We also operationalized Engle’s specification of the ARCH model as follows:

\[ \frac{\text{INF}_t}{\text{INF}_{t-1}} \sim N(\mu, \sigma) \]

\[ \sigma = \alpha_0 + \alpha_1 \varepsilon_1^2 + \cdots + \alpha_p \varepsilon_{1-p}^2 \]

\[ \varepsilon_T = \text{INF}_t - \mu \]

\[ l = \frac{1}{T} \sum_{t=1}^{T} l_t \]

\[ l_t = -\frac{1}{2} \log \sigma - \frac{1}{2} \varepsilon_T^2 / \sigma \]

Where \( \mu \) is \( k \times 1 \) Vector of lagged dependents variable, inflation (INF) and its parameters. The ARCH property is derived from the diffusion of the stochastic innovation term \( \varepsilon_t \) conditional on the realized values of the set of variable lagged dependent variables, \( \varphi_{t-1} = \{ \text{INF}_{t-1} \ldots \text{INF}_{t-p} \} \).

In its first empirical application to ascertain the relationship between the rate of inflation and its uncertainty in UK, Engle (1982, 1983) realized that large lags of \( p \) were necessary in the conditional variance function. This required that large number of parameter needed to be considered given the inequality constraints. To simplify matters, he proposed that the parameter of the conditional variance be estimated as follows:

\[ \sigma_t = \alpha_0 + \alpha_1 \sum_{i=1}^{p} w_i \varepsilon_{t-i}^2 \]

Where \( w_i \) are the weights which are given by:

\[ w_i = \frac{(p+1) - 1}{\frac{1}{2} p (p + 1)} \]

The weights reduces asymptotically so that \( \sum_{i=1}^{p} w_i = 1 \). The ensuing question was that, in cases where only few parameters are needed to ensure decaying weights, do we still need to specify a large parameters?

Bollerslev (1986) has proven that empirically, we do not need to specify large lags in the ARCH modelling when only few parameters are needed to estimate the conditional variance function. He therefore proposed a parsimonious ARCH extension, which also has the lagged values of the error term of the conditional variance function as part of the independent variables. He called such a process the generalized ARCH (GARCH) which is specified as follows:
\[\sigma_t = \alpha_0 + \alpha_1 \epsilon^2_{t-1} + \cdots + \alpha_p \epsilon^2_{t-p} + V_1 \sigma_{t-1} + \cdots + V_q \sigma_{t-q}\]  \hspace{1cm} (3)

Which forms a GARCH \((p,q)\) process where the constrained terms are also given as follows:

\[\alpha_0 > 0\]
\[\alpha_i \geq 0 \text{ for } i = \{1, \ldots, p\}\]
\[V_i \geq 0 \text{ for } i = \{1, \ldots, q\}\]

We also adopted vector autoregression (VAR) to forecast systems of interrelated endogenous time series and for analyzing the dynamic impact of random disturbances on the system of variables. The VAR approach is devoid of the need for structural modeling inherent in univariate modelling by treating every endogenous variable in the system as a function of the lagged values of all of the endogenous variables in the system. Financially, since the VAR approach takes into consideration the effect the lagged value other endogenous variables, it defeats the problem of heterogeneity bias that is associated with structural modelling.

We present the general form of VAR mathematically as follows:

\[y_t = V_1 y_{t-1} + \cdots + V_p y_{t-p} + U x_t + \varepsilon_t\]  \hspace{1cm} (4)

Where \(y_t\) is a \(k\) vector of endogenous variables, \(x_t\) is \(r\) vector of exogenous variables, \(V_1 \ldots V_p\) and \(U\) are matrices of parameters to be estimated and \(\varepsilon_t\) is a vector of innovations that may be contemporaneously correlated but uncorrelated with their own lagged values and uncorrelated with all the right-hand side variables.

Given the inflation rates of Ghana (GHA), the Gambia (GAM), Guinea (GUI), Liberia (LIB), Nigeria (NIG) and Sierra Leone (SIE) are our endogenous variables, the reduced forms of the (4) is represented by the following matrix relation:

\[
y_t = \begin{bmatrix} GHA_{t-p} \\ GAM_{t-p} \\ GUI_{t-p} \\ LIB_{t-p} \\ NIG_{t-p} \\ SIE_{t-p} \end{bmatrix} + \begin{bmatrix} GHA \\ GAM \\ GUI \\ LIB \\ NIG \\ SIE \end{bmatrix} \]  \hspace{1cm} (5)

\[
y_t = (GHA, GAM, GUI, LIB, NIG, SIE)_{p, i = \{1,2,3,4,5\}}\]

\[U = \sum_{i=1}^{q=5} u_i, \quad i = \{1,2 \ldots 5\}\]
The determinant of the residual covariance is represented by:

\[ | \hat{\Omega} | = \det( \sum \varepsilon_t^2_t / F) \]

Where \( \varepsilon_t \) is as defined above, a k vector of residuals and F, the total number of observations. In the same token, the log-likelihood value is calculated by assuming the Gaussian (normal) distribution as follows:

\[ l = -\frac{Tk}{2} (1 + log2\pi) - \frac{1}{2} \log | \hat{\Omega} | \]

and the information criteria are calculated as:

\[ AIC = - \frac{2l}{F} + \frac{2n}{F}, \quad SC = - \frac{2l}{F} + \frac{n \log F}{F} \]

Where n = k (d:pk) is the number of estimated parameters in the VAR.

DATA AND DATA DESCRIPTION

We obtained monthly series for inflation rates in the WAMZ area from the World Bank’s World Development indicators (WDI), online edition (2014), from the period 1994:06 to 2014:03 (238 observations). There are however gaps in the series for Guinea, Liberia and Sierra Leone, the series of which starts from 2005:01. Table 1 provides a summary statistics of the series under investigation.

The Jarque-Bera statistic tests the hypothesis that the series are normal. As its probability values indicate, with the exception of Guinea’s inflation rate series, none of the rest of the series are normally distributed. This is further explained by the great disparities between the mean and the median. In such cases, the median serves better as a measure of averages, and therefore describes the data better than the mean, since the mean is worse affected by extreme values in the series. In all, Nigeria’s and Ghana’s inflation experience the greatest degree of volatility, reporting standard deviations of 17.61% and 14.16% respectively. This shows that these countries have experienced some forms of economic turmoil in various phases of their economic history.

Table 1: Description of the Data

<table>
<thead>
<tr>
<th></th>
<th>GAM</th>
<th>GHA</th>
<th>GUI</th>
<th>LIB</th>
<th>NIG</th>
<th>SIE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>4.712872</td>
<td>15.30722</td>
<td>17.51882</td>
<td>8.797261</td>
<td>12.15289</td>
<td>13.45203</td>
</tr>
<tr>
<td>Maximum</td>
<td>20.97554</td>
<td>70.97235</td>
<td>42.70743</td>
<td>26.45115</td>
<td>90.62500</td>
<td>18.38380</td>
</tr>
<tr>
<td>Minimum</td>
<td>-3.200034</td>
<td>8.377818</td>
<td>1.284966</td>
<td>-1.082767</td>
<td>2.605863</td>
<td>7.796614</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>4.477419</td>
<td>14.16189</td>
<td>9.983991</td>
<td>4.786615</td>
<td>17.33801</td>
<td>2.929563</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.403204</td>
<td>1.947898</td>
<td>0.413831</td>
<td>0.872865</td>
<td>2.651701</td>
<td>0.056435</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>5.149919</td>
<td>6.583395</td>
<td>2.496529</td>
<td>3.786112</td>
<td>9.762162</td>
<td>1.773459</td>
</tr>
</tbody>
</table>
Table 2 reports on the degree of association among the inflation series in the WAMZ area. The evidence shows that the relationship among the inflation rates are predominantly weak. Prices in one country in the WAMZ area have no effect on prices in other countries in the economic bloc.

Table 2: Ordinary correlations Matrix of the Inflation Series

<table>
<thead>
<tr>
<th></th>
<th>GAM</th>
<th>GHA</th>
<th>GUI</th>
<th>LIB</th>
<th>NIG</th>
<th>SIE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAM</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHA</td>
<td>0.044647</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GUI</td>
<td>-0.417164</td>
<td>-0.259445</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIB</td>
<td>-0.022624</td>
<td>0.346139</td>
<td>0.144792</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIG</td>
<td>0.080469</td>
<td>0.359167</td>
<td>0.033433</td>
<td>-0.102995</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>SIE</td>
<td>-0.167788</td>
<td>-0.416452</td>
<td>0.247398</td>
<td>0.125201</td>
<td>-0.103238</td>
<td>1.000000</td>
</tr>
</tbody>
</table>
Figure 1: Graphical Description of the Inflation Series
Figure 2: The Graphical view of the Forecasted Inflation series using VAR

Figure 2 indicates that convergence is possible for some countries like Ghana and Nigeria whilst other countries are drifting away from convergence at the stipulated time 1st January, 2015. When one traces the graphs for Ghana and Nigeria for instance, at the tail end, one finds that there is a possibility of the graphs to intersect. Convergence in this case means that the inflation rates among the countries could be the same but not necessarily at a single digit.

EMPIRICAL RESULTS

It was imperative that unit root tests were conducted. Table 3 shows that inflation rates for Ghana and Liberia were stationary I(0) ab initio without estimating the first difference before working with both series. But is true that stationarity implies absence of volatility and that the error term under such a condition follow just a white noise process? The ensuing GARCH estimations actually proved volatility even under stationarity as argue by the likes of Engle (1982, 1983) and Bollerslev (1982) etc. The rest of the series were nonstational (has unit roots in them) and therefore had to be differenced once to achieve stationarity. These were then used for the various forecasts.
Table 3: Unit Root Results for Monthly Inflation Rates in the WAMZ Area

<table>
<thead>
<tr>
<th>Var.</th>
<th>ADF Statistics</th>
<th>Lags</th>
<th>First Difference (Intercept)</th>
<th>ADF Statistics</th>
<th>I(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAM</td>
<td>-2.0034(0.2853)</td>
<td>14</td>
<td>-5.2519(0.0000)</td>
<td>I(1)</td>
<td></td>
</tr>
<tr>
<td>GHA</td>
<td>-3.705(0.0046)</td>
<td>14</td>
<td>-6.6073(0.0000)</td>
<td>I(0)</td>
<td></td>
</tr>
<tr>
<td>GUI</td>
<td>-2.0408(0.2692)</td>
<td>12</td>
<td>-6.6526(0.0000)</td>
<td>I(1)</td>
<td></td>
</tr>
<tr>
<td>LIB</td>
<td>-3.7937(0.0038)</td>
<td>13</td>
<td>-13.8887(0.0000)</td>
<td>I(0)</td>
<td></td>
</tr>
<tr>
<td>NIG</td>
<td>-1.5585(0.5022)</td>
<td>14</td>
<td>-10.7346(0.0000)</td>
<td>I(1)</td>
<td></td>
</tr>
<tr>
<td>SIE</td>
<td>-2.5925(0.0977)</td>
<td>12</td>
<td>-12.1046(0.0000)</td>
<td>I(1)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 reports the general form of the model fits and also the exact forecasted figures at 1st January, 2015, the planned date for the introduction of the Eco. The premise is that, if the various ARIMA and GARCH process were true, then they could be relied on to predict the long term relationship between inflation and inflation uncertainty thereby aligning the rates of growth in prices to its previous values. Panel (a) shows the model fits for ARIMA and GARCH processes. As it were, the Gambia’s inflation series is predicted by the ARIMA (1,1,1) process just like Ghana’s, Nigeria’s and Siera Leone’s. However, only Guinean and Liberian inflation rates follow GARCH (1,1) in predicting its uncertainties.

Table 4: Model Fit and Forecasting Results for ARIMA, GARCH and the VAR Estimates

<table>
<thead>
<tr>
<th></th>
<th>GAM</th>
<th>GHA</th>
<th>GUI</th>
<th>LIB</th>
<th>NIG</th>
<th>SIE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel (a): Model Fits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARIMA</td>
<td>(1,1,1)</td>
<td>(1,1,1)</td>
<td>(0,1,0)</td>
<td>(0,1,0)</td>
<td>(1,1,1)</td>
<td>(1,1,1)</td>
</tr>
<tr>
<td>GARCH</td>
<td>(0,1)</td>
<td>(0,1)</td>
<td>(1,1)</td>
<td>(1,1)</td>
<td>(0,1)</td>
<td>(0,1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>GAM</th>
<th>GHA</th>
<th>GUI</th>
<th>LIB</th>
<th>NIG</th>
<th>SIE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel (b): Forecasted inflation Rates to 1st January, 2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARIMA</td>
<td>5.85</td>
<td>13.96</td>
<td>8.54</td>
<td>5.76</td>
<td>4.50</td>
<td>7.79</td>
</tr>
<tr>
<td>GARCH</td>
<td>-0.04</td>
<td>-36.13</td>
<td>-0.04</td>
<td>5.46</td>
<td>7.52</td>
<td>-0.26</td>
</tr>
<tr>
<td>VAR</td>
<td>5.46</td>
<td>12.64</td>
<td>11.07</td>
<td>8.04</td>
<td>13.53</td>
<td>13.67</td>
</tr>
</tbody>
</table>

Having established the model of best fit, we went to investigate the forecasting potency of the ARIMA, GARCH and the VAR processes. Whereas the evaluation of the forecasting models were important, we were concerned more about the ability of each of the models to decide the WAMI and its stakeholder whether, Eco could be introduced in January 2015. But, it is visible that the GARCH model is deficient in producing credible forecast results. For example, it reports that Ghana’s inflation figure would be negative by 36.13 which does not support current evidence. It would take a miracle for the inflation rate to reach that threshold from its current double digit rate of about 14.50%. The ARIMA and the VAR forecasts are closer to the actual.

The predictive deficiency of the GARCH model can be attributed to its inability to accept turmoil event such as unexpected “high positive” and “high negative”. Nelson (1991) proposes that in such condition the EGARCH process is robust. Next, assuming that both the

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5 Detail report about the various estimation carried in this study can be found in the supplementary submissions.
ARIMA and VAR forecast are robust, we still encounter situations where non gives us the evidence that the Eco should be introduced since by then, we will still have Ghana’s inflation rate in double digit. Implication is that, at least one of the four convergence criteria would be mixed in at least Ghana if we go by the ARIMA forecast.

It must be reiterated that forecast evaluation procedure such as the root mean squared error could facilitate the choice of the best forecasting model. Sadly, however, our program in that respect produced no results in the estimation output. In order to overcome this challenge we applied the EVIEWS 8 commands.

CONCLUSION

This study has employed the ARIMA, GARCH and VAR processes to predict that the Eco would not be successfully introduced at the stipulated period (January 2015). Member countries of the WAMZ countries should focus on improving the macroeconomic dynamics that form part of the primary and secondary convergence criteria. We used EVIEWS 8 in all our estimations. The usable ARIMA and VAR forecasted values indicate that because at least, Ghana cannot reach the single inflation criterion by January 1, 2015, WAMI should shift the introduction date ahead for the fourth time. Focus should be on how member countries would manage their economies effectively and efficiently to effect improvement in the convergence dynamics. This may involve stringent measures to implement inflation targeting policies. Improvement in output, unemployment situation, and policy laden industrializations have also been suggested as panacea for improving macroeconomic dynamics. The non-correlation of the inflation regimes amongst the countries in the zone could be attributed to low level of trade amongst member states.

The forecasting models could also be applied on the other nine convergence indicators. In addition future studies could result to other variations in the GARCH model, vector autoregressive moving averages (VARMA) and its variations as well as cointegration procedures for further forecasting.

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Corporate Social Responsibility (CSR) Reporting Assurance in Ghana: The Perspective of the Big 4 Accounting Firms

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ABSTRACT
This paper explores the state of Corporate Social Responsibility (CSR) report assurance and ascertains the factors that influence the assurance of CSR reports in Ghana. The study adopts a qualitative research approach, drawing on evidence from the big Accounting firms in Ghana using semi-structured interview. Results show that assurance of CSR reports is mostly associated with multi-national companies operating in Ghana. Ghanaian companies including those listed on the Ghana Stock Exchange (GSE) do not undertake external assurance on their CSR reports. Reasons for this evidence include the perceived high cost of assurance and the uncertainty about the merits of CSRRA. The study focuses on providers of external assurance services, but for a better examination of the practice requires the inclusion of beneficiaries of the CSR report assurance services. Results suggest that assurance of CSR reports is likely to attract some attention in developing countries, particularly, Ghana, when regulatory and supervisory bodies begin to promote and encourage the practice by highlighting the potential benefits. This study is first of its kind in developing countries, particularly, those in sub-Saharan Africa.

Keywords: CSR Reporting, CSRR Assurance, Ghana

INTRODUCTION
One of the fastest growing areas in modern corporate reporting is Corporate Social Responsibility (CSR) Reporting (CSRR) (Gray, 2000). This growth of CSRR has been associated with an upsurge in CSR Assurance (CSRRA) with an understanding that the CSRRA would enhance the credibility and improvement in CSR reporting (Deegan et al., 2006; Jones and Solomon, 2010). Moreover, CSRRA has become particularly important over the past few years given the voluntary, unregulated nature of CSR which allows companies to pursue their self-interest, including impression management6. In fact, the suspicions of CSR reports being a mere public relations tool and management of companies

6This entails the opportunistic behaviour of managers to take advantage of information asymmetries and use discretion inherent in corporate narrative reporting by means of manipulating the presentation and disclosure of information (Neu, 1991; Neu et al., 1998; Merki-Davies, et al., 2011).
reporting what they just want their stakeholders to hear has caused many stakeholders to demand for the external independent assurance of these reports to determine their credibility (Spence and Gray, 2007).

Empirically, several studies on CSRRA have been carried out in many countries from different continents such as; USA (Cho et al., 2014), Europe (O’Dwyer and Owen, 2005; Ball et al., 2000, Edgley et al., 2010; O’Dwyer et al., 2011), United Kingdom (UK) (Jones and Solomon, 2010), Australia and Japan (Deegan et al., 2006), Malaysia (Sawani, Zain and Darus, 2010; Darus et al., 2014) and South Africa (Marx and Van Dyk, 2011; Ackers, 2009). However, these studies focused on European and Asian countries, showing that the literature on CSRRA in Africa, particularly Sub-Saharan African countries, is fairly underdeveloped. Moreover, many of the existing studies in developed countries have also tended to be more concentrated on the perspectives of CSR managers or representatives (Jones and Solomon, 2010; Cho et al., 2014), content analysis of assurance statements (Ball et al., 2000; O’Dwyer and Owen, 2005) with recent trends examining the assuror’s perspective of CSRRA (Edgley et al., 2010; O’Dwyer et al., 2011). In fact, the few studies of CSRRA on developing countries have been mainly content analysis of CSRRA statement (Marx and Van Dyk, 2011; Ackers, 2009) or examining managerial perceptions of CSRRA (see Park and Brorson, 2005; Darus et al., 2014).

From the foregoing, it is evident that not much research work has been done on CSRRA from the perspectives of the independent assurors in developing countries, despite evidence that the Big 4 accounting firms have been the dominant provider of CSRRA in both developed and developing countries (Ackers, 2009). Therefore, this study represents one of the attempts to fill this research gap; drawing on evidence from Ghana, an emerging country.

In Ghana, large scale multi-national companies, especially those in the extractive industry, are leading the path in the area of CSR (Ampomsah-Tawiah and Dartey-Baah, 2010). In fact, several organisations in Ghana have begun issuing their CSR reports through media such as the annual reports and corporate websites (see Ofori and Hinson, 2007; Hinson, Boateng & Madichie, 2010). With this upsurge in CSR reporting in a developing country like Ghana, it is academically imperative to explore the state of external assurance on CSR report produced by firms in Ghana, focusing on the Big 4 Accounting firms operating in the country. In fact, since the year 2006, Ghana has been making efforts, including the launching of the Ghana Business Code (GHBC), which seeks to provide comprehensive documentation on CSR in Ghana. These developments influence the choice of Ghana for the current study. To achieve the afore-mentioned general objective, the following specific objectives were pursued:

a) To assess the extent of CSR report assurance in Ghana; and
b) To determine the factors that influence Ghanaian firms to undertake external assurance of their CSR reports.

The rest of the paper is organized as follows. The next section presents an overview of the relevant literature covering CSR reporting and CSRRA, including empirical studies and the theoretical underpinnings of the concept and CSRRA practices. This is followed by the presentation and justifications of the research method and approach adopted for the study. The penultimate section presents and discusses the findings and the final section presents the possible conclusions.
LITERATURE REVIEW

Corporate Social Responsibility Reporting (CSRR)
The concept of CSR has always been given a new definition to serve changing needs and times, hence, has no universal definition. For instance, CSR has been variously defined as the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large (see the World Business Council for Sustainable Development, 1999). However, the basis of CSR remains the same everywhere, but with varying areas and levels of emphasis in different parts of the globe (Atuguba and Dowuona Hammond, 2006). In fact, each company responds in its own unique way to CSR issues and the extent of their response is influenced by factors such as the specific company’s size, the particular industry, the firm’s business culture, and stakeholder demands and how historically progressive the company is, in engaging in CSR (see Ofori and Hinson, 2007). Moreover, while some firms narrow their CSR to just a single area like the community, others aim to incorporate CSR in all aspects of their operations, others including customers, employees, business partners, communities, and investors.

The reporting of CSR issues is generally referred to as CSR reporting. Other scholars define CSRR as the process of assessing and publicly disclosing social, environmental, and economic performance (Fonseca, 2010), the external reporting of social, ethical, and environmental aspects of a business organisation (Belal, 2008), the preparation and publication of an account about an organisation’s social, environmental, employee, community, customer and other stakeholder interactions and activities and, where possible, the consequences of those interactions and activities (Gray, 2000). Also, other scholars prefer to use terminologies such as Sustainability Reporting, Social and Environmental Reporting, Integrated Reporting, Triple Bottom Line, Corporate Responsibility Reporting, Corporate Social Disclosures, Social Accounting and Social, Environmental and Ethical Disclosures to describe CSRR. However for the purpose of this study, the term CSR Reporting is used.

CSR Reporting Assurance (CSRRA)
Enhancement in the credibility and improvement in CSRR is seen as the primary objectives of CSRRA (Deegan et al, 2006; Jones and Solomon, 2010; Darus et al., 2014). Stakeholders want to be sure that the report presents a fair picture and that it is actually more than just a public relations (PR) instrument (KPMG, 2006). Commission of the European Communities (2001) advocates that external assurance of CSR reports is necessary to deter criticism that CSR reporting is simply a public relations exercise without substance.

Assurance has been defined as:

- the methods and processes employed by an assurance provider to evaluate an organization’s public disclosures about its performance, as well as underlying systems, data and processes against suitable criteria and standards in order to increase the credibility of public disclosure (AccountAbility, 2008).
Adams and Evans (2004) add that all of a company's internal policies, structures and systems should be externally assured to ensure the credibility of CSR Reports. Park and Brorson (2005) and Perego and Kolk (2012) assert that CSRRA helps provide guidance on how to develop efficient internal reporting systems. Further, O'Dwyer and Owen (2005) comment that the whole objective of CSR Reporting is undermined without robust assurance processes. An additional benefit of the CSR Reporting Assurance is the transparency, accountability and added value it gives to the CSR Report (see also Deegan et al., 2006). Also, CSRRA can add value to CSR report by showing that management is serious about environmental and social reporting.

Despite these benefits associated with external assurance of CSR reports, some companies are reluctant to undertake such activity. The two main reasons given by most of these companies for their reluctance in conducting external CSRRA is the high cost of assurance and the uncertainty of the merits of external CSRRA (Park and Brorson, 2005; Jones and Solomon, 2010; Darus et al., 2014). Jones and Solomon (2010) explain that the lack of majority support for CSRRA can be attributed to the fact that generally those calling for such assurance are commentators or users for whom CSRRA is a relatively costless exercise unlike managers of firms, who are well aware of the cost and difficulties and therefore more skeptical about the true benefits of the CSRRA. These costs are not only in terms of the monetary value but the managerial resources as well. In the study by Jones and Solomon (2005) on CSR representatives from top twenty UK listed companies, interviewees were divided as to whether external assurance is necessary. Even some of those interviewees in favour of external assurance were reluctant, arguing that most managers use CSRRA as a way of reinforcing CSR reporting and give a favourable impression of the company to the outside stakeholders. Further, Park and Brorson (2005) report from interviews with twenty-eight (28) Swedish companies that managers were demotivated by the lack of evidence that third party assurance would result in enhanced credibility.

Other reasons on why some companies are reluctant to conduct CSRRA include; the complexity of CSRRA, reluctance to benefit the assurance and the apparent lack of independence of CSR report assurors (Jones and Solomon, 2010); risk towards corporate reputation and exposure to public scrutiny (Darus et al., 2014). Many companies clearly still believe that CSRRA should simply be one ingredient of a company's system of internal control rather than a subject of external assurance.

Should all these points as enumerated above truly discourage and deter companies from undertaking external CSRRA? Jones and Solomon (2005 p. 30) sum up the reason assurance of CSR report is necessary despite these observations, "Indeed, prima facie, all of the reasons given are easily rebutted if the assumption is made that CSRRA is a legitimate and important activity. If it is, then it would no longer lack importance and it would be worth paying external assurors substantial sums to tackle its complexity. If financial audit remains the most important area, then inevitably this will continue to absorb most audit resources".

Apart from the above, other several studies have suggested some factors that could be considered as the driving forces for CSR reports assurance. Park and Brorson (2005) report that the driving forces for the future development of assurance practices will most probably consist of a combination of proactive approaches from leading companies, generally accepted reporting guidelines and assurance methods, increased pressure from
stakeholders and the general acceptance that third-party assurance creates benefits for the company and its stakeholders. Darus et al. (2014) also suggested that further initiatives or pressure from stakeholders or regulatory authorities may be needed to convince the companies in emerging countries of the benefits of undertaking third-party assurance practices. From the developed economy perspective, Cho et al. (2014) find that industry membership and disclosure extensiveness both appear to influence the choice to attain third-party assurance on CSR reports in the USA.

Theoretical Background to CSR practices

Several theories have been used in studies concerning CSR reporting and assurance, but the notable ones include the stakeholder theory (Gao and Zhang, 2006), legitimacy theory (Mobus, 2005) and institutional theory (Bondy et al., 2012; Brown et al., 2009; Othman et al., 2011). These related theories provide by far more interesting and insightful perspectives of CSRR and CSRRA, hence referred to as systems-oriented theories and are typically defined within the context of Political Economy Theory (Gray et al., 1995).

The stakeholder theory generally posits that the management of different stakeholder groups in the society is critically important for the survival of the organization. In the context of CSRRA, if CSR reporting is viewed as an effective management strategy for dealing with stakeholders, a positive relationship between stakeholder power, social performance and CSRRA is expected. Related to the stakeholder theory is the legitimacy theory which focuses on the generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions (Suchman, 1995). It is concerned with how organisational structures as a whole have gained acceptance from a key stakeholder such as society at large. In relation to CSRR, the assurance is considered a measure for companies to legitimate themselves.

Institutional theory is a widely accepted theoretical posture that emphasizes rational myths, isomorphism and legitimacy (Scott, 2004). It considers the processes by which structures, including schemes, rules, norms and routines, become established as authoritative guidelines for social behaviour (Scott, 2004). Institutional theory explains how legitimacy mechanisms become institutionalised.

A critical underpinning of this theory is what is referred to as isomorphism. Isomorphism refers to the adaptation of an institutional practice by an organisation. Moreover, it may be mimetic, coercive or normative in nature (DiMaggio and Powell, 1983). Whilst, the mimetic isomorphism comprises tendencies of an organisation to model itself after similar organisations in its field which it perceives to be more legitimate or successful (DiMaggio and Powell, 1983), coercive isomorphism subsumes forces imposed upon an organisation from external sources (DiMaggio and Powell, 1983; Fogarty, 1992). In fact, mimetic isomorphism involves internally initiated change rather than change imposed by an outside agent (Fogarty, 1992), but coercive pressures stem from more powerful organisations (for example, the government, regulatory agencies and other important organisations in the environment), that, force or persuade less powerful ones to adopt generally accepted norms via rules, laws and sanctions or financial dependency (DiMaggio and Powell, 1983).
The normative isomorphism is the responsiveness to group norms and values which is driven by pressures to achieve standards of professionalism and directs individuals to conform to the ideal types of professional practice (Fogarty, 1992). Members of the same profession would exchange ideas and adopt techniques that are considered by the professional community to be up to date and effective. Interactions among members generally establish and re-enforce those practices which are regarded as acceptable or legitimate by the profession. This would result in homogenous attitudes and behaviour in adopting similar practices through training programmes and professional networks.

RESEARCH METHODOLOGY

A qualitative approach is used for this research where data was obtained using interviews. This approach was considered useful for this study because the researchers wish to improve the understanding of a new phenomenon (Saunders et. al. 2009) such as CSR report Assurance and assess a phenomenon in a new light (Robson, 1993), i.e. explore CSRRA in the context of a developing country. Within the qualitative approach, case study strategy was employed; specifically, multiple case-study research strategy was adopted. It allowed the researchers to pursue the research objectives through detailed, in-depth data collection involving multiple sources of information, case descriptions and case-based themes (Creswell, 2007).

Yin (2003) posits that there is no universally acceptable number of cases for case study research, so this study is based on the Big 4 accounting firms operating in Ghana. The choice of these cases stems from evidence that they are reputed to be gaining a growing market share in the area of CSRRA in both developed and developing countries (O’Dwyer, Owen, and Unerman 2011; Ackers, 2009). Moreover, Jones and Solomon (2010) observed that, though external CSR assurance can be performed by other professionals such as the environmental consultants, the independence of the Big 4 accounting firms makes them more suitable for such an assurance. Also, it is expected that if there is any such practice of external assurance of CSR Reports in Ghana, then it will be performed by any of the Big 4 accounting firms.

Data was primarily collected through interviews. According to Parker and Roffey (1997), interview methodology has been considered the most appropriate means of researching ethical and social responsibility dimensions of accounting and finance. A senior staff from each of the Big 4 accounting firms in Ghana namely, PWC, Ernst and Young, KPMG and Deloitte were interviewed. The interviews were conducted between the periods January 2014 to February 2014 in interviewees’ office with each lasting between 1 to 2 hours. The questions were semi-structured which encourage the interviewees to talk generally about the various thematic areas covering CSRRA with emphasis on the Ghanaian environment.

For ease of reference in discussing the interview findings, the two accounting firms that engage in CSRRA are termed Partakers with the Advisory Manager coded “AM” whiles the Chartered Environmentalist will be coded “CE”. The audit managers belonging to the non-partakers will not be individually coded since their answers to the questions were very similar if not the same.
DISCUSSION OF RESULTS

This study primarily explores the state of external assurance of CSR reporting in Ghana using evidence from the Big 4 accounting firms in Ghana as a case study. Starting with the state of external assurance on CSR report, all interviewees were of the view that it is only being done by internationally connected or multinational firms in Ghana. Interviewees stated in no uncertain terms that local firms do not undertake any CSR assurance. Some of them explained that:

As far as I am aware, I have no knowledge of any wholly owned Ghanaian company that undertakes CSR Assurance, such things are purely being done by the multinationals (Non-Partakers).

Local Ghanaian firms do not show interest on issues bordering on sustainability, it is the multinational companies that do show a lot of interest in sustainable development practices (CE).

These findings as espoused by the interviewees are not different from previous research on independent CSRRRA in emerging countries. In a study by Darus et al. (2014) on independent CSRRRA practices among manufacturing companies in Malaysia, the authors found out that despite the argument that independent CSRRRA appraisals would improve the credibility of information disclosed, the majority of CSR reports in Malaysia are still not independently assured. However, though South Africa is a developing country in Africa, its CSR assurance prevalence is growing (Ackers, 2009). Perhaps this positive growth may be due to the mandatory requirement of all listed companies in South Africa to publish their CSR reports. The increased prevalence of CSR reports is bound to have a corresponding increase in CSRRRA. Moreover, the voluntary demand by multi-national companies can be explained by their willingness to enhance sustainability reports credibility vis-a-vis stakeholders (Perego and Kolk, 2012).

On the reason Ghanaian firms failed to conduct external assurance on their CSR reports, the Big 4 audit firms were unanimous in their answer - high cost and relative unimportance of CSRRRA. One of the interviewees noted:

The Ghanaian firms do not see the importance of this type of assurance, so why should they put their monies there in the first place (Non-partaker).

These views were similarly expressed by Park and Brorson (2005), Jones and Solomon (2010) and Darus et al. (2014); that the major reasons for companies’ reluctance to adopt independent CSRRRA is the high cost of assurance and the uncertainty of the merits of CSRRRA.

Other interviewees (e.g. AM) added that stakeholders respond quickly to CSR-related issues in the developed countries because companies expect to see an increase in their market values by publishing their CSR reports or conducting an assurance on such reports. This increase in market value is supposed to be derived from an increase in sales and more importantly the share price if the company is listed. Likewise is a firm likely to suffer loss in its market value if it engages in any negative CSR practices. AM explained that in the capital market could best be described as weak, so producing CSR report or otherwise, a firm is likely to maintain the same level of revenue.
He therefore suggested that it is only regulation and its enforcement that could bring about a change in the Ghanaian firms’ attitude on CSRRA. Local firms which are even listed on the stock exchange will not saddle themselves with additional cost in generating CSR Report or/and undertaking assurance of its CSR Reports when no material benefits such as an increase in share price or patronage of goods or services will be achieved. He concludes that:

*The cost benefit analysis on the conduct of CSR Assurance by most Ghanaian firms will show that the cost far outweigh the benefits (AM).*

The results from a study by Cho et al. (2014) are at variance with the above assertions on CSRRA in developed countries. In that study by Cho et. al. (2014) on CSRRA in the USA, the authors found out that assurance is not necessarily associated with higher market value for report-issuing companies.

With regards to the factors that influence the external assurance of CSR report, the interviewees were of the opinion that mimetic and coercive isomorphism provide the reasons for multinational firms in Ghana that undertake assurance on their CSR reports. They add that if local Ghanaian firms are to embrace the culture of conducting assurance on their CSR reports, then there must be a strong regulation or policy framework in that direction.

One of the interviewees explained that multinational firms in Ghana will have their CSR Reports assured because their parent companies also conduct their own CSR Reporting Assurance and will issue Sustainability Assurance Statements for the whole group. He specifically asserted that:

*The head office of MTN has been issuing a Sustainability Assurance Statement for the entire group, this invariably means that, CSR Report of MTN Ghana has been assured (CE).*

Another noted:

*Multinational firms in the mining industry are all now conducting assurance on their CSR reports and issuing Assurance Statements. One cannot afford to be lagging behind in this highly stakeholder sensitive industry” (Non-Partakers).*

Others explain that CSRRRA will become prevalent if CSRR becomes a mandatory exercise. As companies report on their CSR, the next phase will be how credible these statements are, leading most companies to conduct assurance on their CSR reports. One of the interviewees noted:

*In South Africa, Sustainability Reporting is mandatory for listed firms, you are therefore likely to experience a lot of Sustainability Reporting Assurance among South African listed firms and their subsidiaries in Ghana (CE).*

All interviewees were of the opinion that a policy framework or regulation by a regulatory body is what will motivate Ghanaian firms to conduct CSR Reporting Assurance:

*.... the regulatory body making it mandatory or a legal requirement for firms not only to report on their CSR activities but to conduct an assurance on it as well (AM).*

*What will motivate the local firms are regulation and capacity building (CE).*
A policy framework mandating firms to do CSR Reporting Assurance is the way forward. Currently the Ghana Stock Exchange does not have any strict guidelines on sustainability issues (Non-Partakers).

The dilemma as put by CE is, who will actually drive the regulatory process? Is it going to be the sector minister, industries or the stock exchange? He recommends that the industries and the Ghana Stock Exchange must drive the regulatory process. He further noted:

CSR Assurance encourages transparency and trust from investors. Foreign investors will be willing and ready to pump in money since they are assured that the business will be sustainable (CE).

The above assertions suggest that coercive isomorphism is what will encourage the practice of CSR Reporting Assurance in Ghana. This stance confirms Darus et al. (2014) position that the single most important way for emerging countries to experience an upsurge in independent CSRRA is the pressure from stakeholders and regulatory authorities.

The interviewees added that, aside regulation, one important element needed for the smooth and proper implementation of CSR Reporting and Assurance in Ghana is capacity building. One of them noted:

Organisations must change their perspective of CSR being a damage control tool. They must learn to integrate the people, business, environmental and social factors in how they make money not just how they spend it. CSR managers must change their role of only coordinating CSR activities to aligning CSR to strategy (CE).

CE's comments seem to be in line with the views of Wood (1991), which suggest that for implementation of CSRRA, it must be aligned with the company's objectives.

Related to the above is the capacity of accounting firms to provide assurance on CSR reports. From the data collected, only one accounting firm that had set up a unit to cater for CSR and sustainability assurance issues. The reasons are quite predictable, some of which had been already explained. The three accounting firms who had no such unit were unanimous in their response by stating that unless a regulation is passed for which they know an avenue for revenue has been created, they will not bother setting up a department. One of the interviewees noted:

Why set up a whole unit when within a year, only one or two jobs will be done. It will not make economic sense (Non-Partakers).

They further explained that, currently, assurance of CSR reports by multinational firms in Ghana is conducted by the overseas branch of the accounting firm where the headquarters of the multinational firm is located. The delegation from the overseas branch of the accounting firm arrives in Ghana and picks some few staff of the local branch of the accounting firm to assist them in the conduct of the CSR assurance. It is only this kind of on-the-job training that is offered staff of these three accounting firms. No formal training in the field of CSRRA is given. For instance, one interviewee who has leading the Ghana team in his firm on CSRRA noted:
I happen to be a team leader by default when an opportunity came for me to put together a proposal on one of the assignments. Assistance is always sought from our parent company. The parent company sees this kind of on-the-job training as a way of building the capacity of local staff (AM).

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Publications.
Risk Disclosures in the Annual Reports Of Firms In Ghana

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ABSTRACT

Information on risks affecting business has become a concern for both stakeholders and academia. However, there are issues to be addressed in the area as calls have been made for studies in different cultural context. In addition, the effect of adopting International Financial Reporting Standards (IFRS) on risk disclosure for developing countries remains an issue; researchers have not looked into the issue in the context of developing countries. This study fills this gap in literature by examining risk disclosure of firms on the Ghana Stock Exchange (GSE) pre- and post-adoption periods of IFRS. Analysing the content of annual reports of firms on the GSE, a paired t-test is used to ascertain the differences in risk disclosure levels pre- and post-IFRS adoption. The study reveals that the amount of risk information disclosed by listed firms in Ghana is very low although it has improved after the adoption of IFRS.

Keywords: Risk, Disclosure, Annual Report

INTRODUCTION

Within the context of corporate reporting and disclosure, information on risk has become important because modern businesses have become complex and these complexities have exposed firms to a lot of risks. Every business faces risk in its operations, systematic or/and unsystematic, hence stakeholders of whom investors form an important component, are interested in the risks faced by firms. Moreover, investors need to understand the risks a company takes to create value; as they also want to have information on the sustainability of current value-creation strategies (Beretta & Bozzolan, 2004).

Traditionally, accounting has been concerned with the provision of financial information. However, modern accounting standards have made the provision of non-financial information an important component of financial reporting. Cole and Jones (2005) argue that there is demand for more disclosures especially in the non-financial section of the annual report because of corporate scandals and fraud. Hence modern financial reporting standards seek to improve on the level of disclosure in order to aid decision making of users. Risk disclosure forms part of the non-financial section of financial reporting, which is being advanced by new financial reporting standards (see IFRS 7). Ghana adopted International Financial Reporting Standards (IFRS) in 2007 and all listed firms are...
mandated to report under the new reporting framework. With the adoption of IFRS, it is expected that there will be improvement in the quality and transparency of reporting.

Although the concept of risk and its management has attracted attention lately, research into this area remains an issue as acknowledged in the literature (Linsley & Shrives, 2006; Dobler, 2008; Lungu et al., 2009; Atan et al., 2010). Dobler (2008) posits that, aside the financial sectors, research work on risk reporting has been limited. Atan et al. (2010) highlight that, researchers are focusing on disclosure issues such as corporate social responsibility and voluntary disclosure of companies, leaving risk management and disclosures, with little research if any. In view of the increased demand for disclosure in the non-financial segment of the annual report, research into the disclosure practices of companies has also increased but the area of risk management has not received much attention. An examination of the literature also reveals that, literature on the disclosure of risk in the annual report by firms in Ghana is scarce.

Following from Gray's (1988) argument that culture has an effect on the level of disclosure provided by managers, there have been calls for research on disclosure in different cultural context since culture is deemed an important determinant of disclosure (Gray & Vint, 1995; Akhtaruddin, 2005; Rajab & Handley-Schachler, 2009). Rajab and Handley-Schachler (2009) explain that demands of investors and regulators in different countries differ because culture can affect their demand for information; hence the possibility of differences in risk disclosure by firms in different countries. In addition, the adoption of IFRS is expected to lead to increased transparency and quality of financial reporting (Jeanjean & Stolowy, 2008). Ghana adopted IFRS in 2007; however, the effect of Ghana’s IFRS adoption on risk disclosure is yet to be investigated. Moreover, there have been conflicting results on the effect of IFRS adoption on the level of risk disclosure (Oliveira et al., 2011). In addition, Ghana has a cultural system with its own values, which is different from that of other countries. This raises issues whether there has been a cultural shift after the adoption of IFRS in relation to the level of risk disclosed. There is therefore the justification to pursue the study to note the extent to which the risk disclosure phenomenon is adhered to in corporate financial reporting.

Hence, this study specifically investigates the level of risk disclosure of listed firms in the context of a developing country (Ghana) for an eight-year period (2004-2011), which envelopes a four-year pre- and another four-year post-IFRS adoption.

The paper seeks to provide answers to the following questions:

1. What is the level of risk disclosure in the annual report of listed firms from 2004 to 2011?
2. Is there a significant change in risk disclosures of listed firms from 2004 to 2011?

The rest of the paper is organised as follows. The next section provides a review of relevant literature, followed by the research framework and methodology employed. The last section considers the findings, discussion and conclusion.
LITERATURE REVIEW

Researching in the area of risk disclosure requires a definition of the concept since there is a difficulty in defining the concept (Linsley & Shrives, 2006). Beretta and Bozzolan (2004: p.269) define risk disclosure as “the communication of factors that have the potential to affect expected results”. In a risk disclosure study, Linsley and Shrives (2006) also define risk disclosure as any information disclosed to readers on any opportunity, prospect, hazard, harm, threat or exposure that has already impacted or may have an impact upon the company or management in future. These operational definitions mitigate the notion that risk connotes only negativity. However, this paper adopts the operational definition by Linsley and Shrives (2006), which also encapsulates reporting on positive, negative risks and uncertainties faced by firms.

Amran et al. (2008) explore the availability of risk disclosures in the 2005 annual reports of 100 public listed companies from the Main and Second Board of Bursa Malaysia by focusing on the non-financial section of the reports. They find that Malaysian companies disclose some narrative risk information which consisted mainly of strategic risk, operations risk and empowerment risk mainly in the chairman’s statement with some additional information in MDAs’ reports and operating review of the reports. In the same country, Atan et al. (2010) examine the extent of mandatory and voluntary risk disclosure practices using the 2006 annual reports of 150 listed companies in Malaysia. Through the content analysis methodology, the study reveals that the level of risk disclosures in the annual reports of Malaysian companies is fairly low.

van Oorschot (2010) employs two frameworks; one measuring quantity and the other measuring quality for a study of risk disclosure in the German banking industry. Using content analysis methodology, the author provides evidence of significant increase in the quantity and quality of disclosure between the periods 2005-2006 and 2007-2008 and alludes to the increase in demand for disclosures since the introduction of IFRS 7. Similarly, Taylor et al. (2010) conduct a study on financial risk disclosures of firms in the Australian extractive industry by examining the effect of IFRS adoption on risk disclosures. It is found that there is a significant increase in both mandatory and voluntary disclosures for the first year annual report following IFRS adoption. However, some studies have documented conflicting results on the effect of IFRS adoption on risk disclosure (see PWC, 2006, 2008; Woods et al., 2008; Bischof, 2009). A mixed picture is painted in the literature as seen from the above, a depiction of some need for further explorations. Again, the effect of IFRS adoption on risk disclosure in the context of a developing country is yet to be studied. Moreover, since the implementation processes of IFRS in developing countries are not the same, it is important to do country-specific examination to note the effect of IFRS adoption on the level of corporate risk information disclosure.

THEORETICAL FRAMEWORK

According to Lopes and Rodrigues (2007), the phenomenon of disclosure is not explained by a single theory, researchers selecting whichever theory links best with their hypothesis (Linsley & Shrives, 2000). A similar position is posited by many authors in their study of risk
disclosures. For instance, in the work of van Oorschot (2010: p.149) it is mentioned that, “the rationale behind risk reporting can be explained by the agency theory, the information asymmetry perspective, the information risk perspective, the modern portfolio theory, the political cost perspective and the signalling perspective”.

In studying the level of risk disclosures for firms on the Ghana Stock Exchange (GSE), this study adopts the institutional theory, specifically the mechanisms of institutional change as identified by DiMaggio and Powell (1983). The three mechanisms of institutional change are Coercive Isomorphism, Mimetic Isomorphism and Normative Isomorphism. The coercive isomorphism is the changes that an organisation goes through as a result of pressures from other organisations which include requirements by law, reporting requirements and others (DiMaggio & Powell, 1983). Ghana adopted IFRS in 2007 and listed firms were mandated to comply with the provisions of IFRS by 2008. Hence any change in the amount of disclosures from 2008 could be attributed to the mandatory adoption of IFRS. It is noted that the adoption of IFRS by the country may not lead firms to conform. As identified by Oliver (1991), there are five responses to institutional pressure for change: acquiesce, compromise, avoid, defy and manipulate. However, listed firms’ response to the change in reporting standards is influenced by the pressure from regulatory bodies; Institute of Chartered Accountants Ghana (ICAG), Security and Exchange Commission (SEC) and the GSE. The sanctions that these bodies can give to non-complaint firms coerce listed firms to conform. Additionally accountants in listed firms due to their membership and association with the national accounting body may influence their organisations to comply, thus demonstrating normative isomorphism.

Though it may seem the mimetic isomorphism is not so clear, it acts together with the other isomorphic pressures in the achievement of institutional change. DiMaggio and Powell (1983) concede that the three isomorphic pressures may operate simultaneously thus making it difficult to ascertain which form exerts more influence. However, the decision to adopt IFRS by the country has been influenced by forces of market economics and international politics (Ball, 1995). These forces suggest that there is improvement in the information environment (transparency) with the adoption (Ball 2006; Choi & Meek 2005; Horton et al., 2013; Jermakowicz & Gornik-Tomaszewski, 2006). Differences in risk disclosure over the study period could be attributed to the various institutional changes that have occurred. Moreover, accounting is regarded as a social-technical activity (Violet, 1983); the behaviour of preparers in terms of disclosure can be explained by a social theory. This research seeks to investigate the changes in risk disclosures in listed firms’ financial reports the selected pre and post-IFRS adoption period.

HYPOTHESIS

The paper tests the hypothesis that:

\( H_1: \) The level of risk disclosure after the adoption of IFRS is significantly different
RESEARCH METHODOLOGY

Population and Sample Selection
The population for this research is the companies listed on the GSE. The characteristics of the listed companies enhance the study since they have had a similar reporting format over the years. Moreover, to identify the changes of IFRS adoption on risk disclosures, the listed companies have been mandated to comply with the provisions of IFRS. Using the purposive sampling technique, a sample was selected of twenty one (21) listed companies. As at the end of 2011, there were thirty three (33) listed companies. Nine (9) companies are excluded because they were listed after 2004. AngloGold Ashanti Limited and Camelot Ghana were also excluded because their data was not available. The selected sample represents majority of industries identified on the GSE. The distribution is depicted in Table 1 as follows:

Table 1: Distribution of Companies by Industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of Companies Listed</th>
<th>Number Included in Sample</th>
<th>Percentage Included in Sample</th>
<th>Percentage in Relation to Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>8</td>
<td>7</td>
<td>88%</td>
<td>33%</td>
</tr>
<tr>
<td>Mining &amp; Exploration</td>
<td>3</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Banking, Finance &amp; Insurance</td>
<td>2</td>
<td>1</td>
<td>50%</td>
<td>5%</td>
</tr>
<tr>
<td>Printing &amp; Publishing</td>
<td>10</td>
<td>6</td>
<td>60%</td>
<td>29%</td>
</tr>
<tr>
<td>ICT</td>
<td>2</td>
<td>1</td>
<td>50%</td>
<td>5%</td>
</tr>
<tr>
<td>Distribution &amp; Trading</td>
<td>2</td>
<td>1</td>
<td>50%</td>
<td>5%</td>
</tr>
<tr>
<td>Food &amp; Beverage</td>
<td>4</td>
<td>3</td>
<td>75%</td>
<td>14%</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>21</td>
<td>64%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Research Study, 2014

Data Collection
The annual report of the companies is the main source of data for the research. Although Vandemele et al. (2009) assert that annual reports do not constitute the only means of reporting by corporate entities, the annual report is selected since it is considered the official and legal means of communication between companies and their stakeholders (Gray et al., 1995a). Moreover, due to the availability and wide coverage of annual reports, they are considered an influential means of communication for corporations (Beretta & Bozzolan, 2004). The annual reports also provide a common basis for assessing all the companies, since it is a statutory requirement for all the firms.

Data on risk disclosure in the annual report is collected using the content analysis methodology, which is mostly used in disclosure studies (see Ernst & Ernst, 1978; Abbot & Monsen, 1979; Guthrie & Parker, 1990; Lajili & Ze’ghal, 2005; Linsley & Shrives, 2006). The content analysis approach involves determining the research question, the codable
document, the coding unit, disclosure categories, coding mode, reliability of the coding, and interpretation and validation (Rajab & Handley-Schachler, 2009). The codable document is the annual report which is the official means of communication between listed firms and their stakeholders in Ghana. Sentences as a coding unit is selected for this study since it is considered “to provide complete, reliable and meaningful data for further analysis” (Milne & Adler, 1999: p.243); again a preferred written communication option when there is the need to infer meaning (Gray et al., 1995b). The classification scheme is based on the model of Linsley and Shrives (2006), which was developed from a risk classification model created by ICAEW (1998). The model identifies six disclosure categories of risk: financial, operations, empowerment, information processing and technology risk, integrity risk and strategic risk.

The mode of coding in the content analysis for this study is manual and performed by human. According to Krippendorff (1989), the selection between a human coder and computer involves a trade-off between meaningfulness and reliability. The reliability of the coding scheme in this paper is stability, which is the ability of a coder to code in the same way each time coding is performed. The stability test becomes useful when a single coder performs the content analysis.

DATA ANALYSIS

The contents of the annual reports are analysed for attributes of risk using the framework by Linsley and Shrives (2006). A value of one (1) is given for each item disclosed by a firm while items not disclosed are given a value of zero (0). All the items are treated equally as the study adopts an un-weighted disclosure index. The un-weighted index is selected because assigning of weights to each disclosure item increases the level of subjectivity in the study. The risk disclosure level for each company and each year is measured by the formula:

\[
RDISCL = \frac{\text{Total number of items disclosed}}{\text{Maximum number of items}}
\]

A total number of thirty (37) disclosure items are expected from each firm. The maximum disclosure score that can be obtained by a company is one (1) while the minimum is zero (0). Thus, specific disclosure score for each firm is computed for each year considered for the study (2004 to 2011). To test for any significant differences in the level of risk disclosure before and after the adoption of IFRS, a paired t-test is performed to test the differences between the means of risk disclosure (RDISCL) before and after the adoption of IFRS. This is followed by a test for differences between the mean risk disclosures (RDISCL) for consecutive years involved in the study as used in Taylor et al. (2010).

RESULTS

Level of Risk Disclosure in Ghana

The level of risk disclosed by firms in their annual reports for the eight-year study period is less than 30% (Fig. 1). The highest level of disclosure was recorded in 2011 with a value of 29.73%. From the analysis, the level of risk disclosed in the annual reports of listed firms in
Ghana is generally low. This is because the average score obtained for all the companies over the period was 24.28% which is below 50%.

**Figure 1: Average risk disclosure level**

![Average risk disclosure level chart](source: Research Study, 2014)

Figure 2 shows the proportion of each category of risk that contributes to the total level of risk disclosed by the sampled firms over the period. Of the total attributes of risk disclosed, operations risk is 36.05%, financial risk 24.52%, strategic risk 21.01%, empowerment risk 8.42%, integrity risk 5.10% and information processing and technology risk 4.90%.

**Figure 2: Distribution of Risk Disclosed by Categories**

![Distribution of risk disclosed by categories](source: Research Study, 2014)

Using the average disclosure score for each industry as a benchmark, Table 3 shows that eight (8) firms representing 38% of the sampled firms obtained scores above their industry average; three (3) firms representing 14% obtained scores which equal industry average And ten (10) firms representing 48% obtained scores below their industry average.
Table 3: Classification of Firms by Industry Average

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number of Companies</th>
<th>Percentage in Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Level</td>
<td>8</td>
<td>38%</td>
</tr>
<tr>
<td>Moderate Level</td>
<td>3</td>
<td>14%</td>
</tr>
<tr>
<td>Low Level</td>
<td>10</td>
<td>48%</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Research Study, 2014

From Figure 3, the average risk disclosure score increased steadily from 2004 to 2008 for all the companies. The risk disclosure score of 19.18% in 2004 increased to 19.69% in 2005, 19.82% in 2006, 22.27% in 2007 and 29.09% in 2008. In 2009 the risk disclosure score fell to 27.93%, and 26.51% in 2010 before increasing to 29.73% in 2011. Although the disclosure score fell in 2009 and 2010, they were still higher than the scores in the pre-IFRS adoption era for all the companies.

Figure 3: Trends in Risk Disclosure pre- and post-IFRS Adoption (2004 – 2011)

Source: Research Study, 2014

**Paired t-test results**

In Table 4, the mean level of risk disclosure for the pre-IFRS adoption period (2004-2007) is 20.24% while that of the post-IFRS adoption era is 28.31%. The paired t-test is performed using 84 observations from the disclosure scores of twenty (21) companies for a four-year period before and after the adoption year. The test statistic of 8.451 obtained from the test is significant since the p-value for both the one-tail and two-tail are less than 0.05.
Table 4: Paired t-test Results for Difference in Risk Disclosure pre- and post-IFRS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>0.2831</td>
<td>0.2024</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
<td>0.0074</td>
<td>0.0067</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>0.4556</td>
<td></td>
</tr>
<tr>
<td><strong>Hypothesized Mean Difference</strong></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Df</strong></td>
<td>83</td>
<td></td>
</tr>
<tr>
<td><strong>t Stat</strong></td>
<td>8.4541</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) one-tail</td>
<td>.0000***</td>
<td></td>
</tr>
<tr>
<td><strong>t Critical one-tail</strong></td>
<td>1.663420175</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>.0000***</td>
<td></td>
</tr>
<tr>
<td><strong>t Critical two-tail</strong></td>
<td>1.988959743</td>
<td></td>
</tr>
</tbody>
</table>

*** denotes significance level of 1%
Source: Research Study, 2014

Table 5 gives further analysis. The mean level of risk disclosure for the twenty-one (21) firms in 2004 is 19.18% while that of 2005 is 19.69%. The difference between these two means is statistically not significant since the p-values for the one-tail and two-tail tests are 0.3348 and 0.6670 respectively. Consequently, the mean risk disclosure of 19.82% in 2006 is higher than the mean in 2005. However the results of the paired t-test for the differences in the means show that the difference is statistically not significant. The mean risk disclosure level for 2007 was 22.27% which differs from 19.82% in 2006. However, a test of the difference in means by the paired t-test indicates that the difference is not statistically significant. The mean level of risk disclosure decreases in 2009 from 29.09% in 2008 to 27.93% in 2009. However, the difference in the means between the two years is not statistically significant. The test statistic was 0.9101 with a p-value of 0.1868 and 0.3736 for one-tail and two-tail tests respectively, which are greater than 0.05. Again, a comparison of the mean risk disclosure scores for 2009 and 2010 show that, the average level of disclosure reduces in 2010 to 26.51%. However, the difference between the mean for 2009 and 2010 is not statistically significant as the test statistic of 0.9300 with p-values of 0.1817 and 0.3635 for one-tail and two-tail tests respectively, are greater than 0.05. The mean risk disclosure level for 2011 is 29.73% and is higher than that of 2010 which is 26.51%. The paired t-test for the difference between the means suggests that it is statistically significant. The test statistic of -2.2343 has p-values of 0.0185 and 0.0370 for one-tail and two-tail tests respectively, which are less than 0.05.
Table 5: Paired t-test of Risk Disclosure for Consecutive Years (2004 – 2011)

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.1918</td>
<td>0.1969</td>
<td>0.1982</td>
<td>0.2227</td>
<td>0.2909</td>
<td>0.2793</td>
<td>0.2651</td>
<td>0.2973</td>
</tr>
<tr>
<td>Variance</td>
<td>0.0072</td>
<td>0.0083</td>
<td>0.0056</td>
<td>0.0060</td>
<td>0.0073</td>
<td>0.0056</td>
<td>0.0086</td>
<td>0.0086</td>
</tr>
<tr>
<td>Observations</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Pearson Correl.</td>
<td>0.8103</td>
<td>0.9038</td>
<td>0.6345</td>
<td>0.5870</td>
<td>0.7424</td>
<td>0.6719</td>
<td>0.7470</td>
<td></td>
</tr>
<tr>
<td>H_0/H_1 Diff.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Df</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>t Stat</td>
<td></td>
<td></td>
<td>-1.7230</td>
<td>-4.2058</td>
<td>0.9101</td>
<td>0.9300</td>
<td>-2.2343</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) 1-tail</td>
<td>0.3348</td>
<td>0.4416</td>
<td>0.0502*</td>
<td>0.0002***</td>
<td>0.1868</td>
<td>0.1817</td>
<td>0.0185**</td>
<td></td>
</tr>
<tr>
<td>t Critical 1-tail</td>
<td>1.7247</td>
<td>1.7247</td>
<td>1.7247</td>
<td>1.7247</td>
<td>1.7247</td>
<td>1.7247</td>
<td>1.7247</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) 2-tail</td>
<td>0.6670</td>
<td>0.8831</td>
<td>0.1003</td>
<td>0.0004</td>
<td>0.3736</td>
<td>0.3635</td>
<td>0.0370**</td>
<td></td>
</tr>
<tr>
<td>t Critical 2-tail</td>
<td>2.0860</td>
<td>2.0860</td>
<td>2.0860</td>
<td>2.0860</td>
<td>2.0860</td>
<td>2.0860</td>
<td>2.0860</td>
<td>2.0860</td>
</tr>
</tbody>
</table>

* *, **, *** denote levels of significance of 10%, 5% and 1% respectively.
Source: Research Study, 2014

DISCUSSION

The results indicate that the level of risk disclosed by listed firms in Ghana is very low as the average disclosure score for all the years under the study is less than 30%. Using the industry average as a benchmark, the study reveals that 38% of the sampled firms disclose more risk information in their annual reports than other firms within their industry, hence are classified as high risk disclosing firms. 14% of the sampled firms are classified as moderate risk disclosing firms. This suggests that 48% of the sampled firms disclose less risk information in their annual report than other firms within their industry. Thus, they are classified as low risk disclosing firms. Cumulatively, 62% of the sampled firms obtained scores equal or below their industry average, reaffirming the low level of risk disclosure by firms on the GSE. Atan et al. (2010) document an average risk disclosure score of 44.24% for listed firms in Malaysia, a developing country, and put forward that the level of risk disclosure is relatively low considering the importance of such information to users of the annual report.

An examination of the risk categories disclosed indicates that the least disclosed category is information processing and technology risk with an average score of 1.19%. This is similar to the findings of Linsley and Shrives (2006) as the information processing and technology risk was the least reported category of risk by forming 0.7% of the total risk sentences identified in the annual reports of UK firms.

Observing the trends in risk disclosure for the sampled firms, it is found that the average level of risk disclosed appears to have improved after the adoption of IFRS. There was a
significant increase in the level of risk disclosure in 2008 (22.27% in 2007 to 29.09% in 2008). The significant increase may be attributed to the mandatory adoption of IFRS by listed firms in 2008, a case consistent with the study of Taylor et al. (2010) for listed firms in Australia, where financial risk disclosures are found to have increased after the adoption of IFRS. Hence, the adoption of IFRS leads to increased transparency of financial reporting (Jeanjean & Stolowy, 2008). To test for statistical significance in the level of risk disclosed pre and post-IFRS adoption, the paired t-test is used. The result indicates that the difference between the mean of 28.31% in 2008 and 20.24% in 2007 is statistically significant at 1%. This can be explained by the fact that the listed firms were all mandated to comply with the provisions of IFRS by 2008 in their reporting. Hence, one can conclude that the adoption of IFRS leads to increase in the amount of risk information disclosed by listed firms. Similar findings are presented by Taylor et al. (2010) and van Oorschot (2010). To reaffirm the change in risk disclosure level as a result of IFRS adoption, the results from the paired t-test of mean disclosure scores for each consecutive year can be interpreted to mean that the adoption of IFRS from 2008 has affected the level of risk information included in the annual reports of firms on the GSE. This is because, at a level of significance of 1%, only the difference in mean disclosure for 2007 and 2008 is found to be significant.

CONCLUSION

The study has looked at the risk disclosure practices of listed firms in their annual financial reports. Sampling twenty-one (21) listed firms, the content analysis methodology was used to collect and analyse data on risk disclosure from the annual reports of the sampled firms for the sampled period. Linsley and Shrives's (2006) framework for risk attributes analysis was employed for the analysis.

It is realised that listed firms per the sample disclose little information on risk in their annual reports, an evidence that risk disclosure in Ghana is at its infancy stage. There have been steady increases in the level of information disclosed between 2004 and 2011 with the most significant increase being recorded in 2008. The mandatory adoption of IFRS by the firms on the GSE was in 2008 and a comparison of the level of disclosure from that period to the period before adoption provides evidence to support the institutional change theory. The regulators of financial reporting of firms in Ghana such as the ICAG should encourage firms to disclose more risk-related information since the level of disclosure is very low. Although the adoption of IFRS has led to an improvement in the extent of risk information included in the annual reports of firms, the requirement of IFRS focuses on only financial risk. The development of a comprehensive risk reporting framework for firms will thus be useful. Given that the adoption of IFRS could improve risk disclosures, the regulation on risk information could also enhance transparency in financial reporting. The users of financial information in Ghana should also advocate for the voluntary disclosure of risk information that is not required by IFRS, since the risk faced by firms can have an effect on the firms’ operations and profitability. The low levels of risk information currently provided may not aid the decisions of interested stakeholders. The firms on the GSE should also respond to the demand for more risk information since the adoption of IFRS has made their financial
statements comparable internationally. To appeal to other investors outside the country, firms in Ghana ought to follow the practice in other parts of the world regarding the disclosure of risk information to meet the information needs of such user groups.

This study on risk disclosure is longitudinal in nature, focusing on the level of risk disclosed by only firms on the GSE from 2004 to 2011. This is aimed at comparing the effect of the adoption of IFRS on the level of risk disclosed by firms. Since the extent of risk information disclosure obtained by the study is different from that of previous research in other jurisdictions, future studies can focus on the level of risk disclosure across countries in order to examine the effect of national culture on risk disclosure. Additionally, a comparison of the differences in risk disclosure levels between listed and unlisted firms or public sector organisations could also be considered for future studies.

The level of risk in this study is measured by a disclosure quantity index. However, there could be some difference in the quantity and quality of risk information disclosed. Future studies could measure the quality of the risk information that is disclosed. The codable document used for the content analysis in this study is the annual report, though there are other media for communication such as the company websites, press releases, company bulletin and other special reports. It is recommended that other studies examine the amount of risk information disclosed through these other media of communication.

REFERENCES


Track C:
Sustainable Marketing and Entrepreneurial Management

Where Green Business Connects with Great Marketing
Track Summary

Decision making is seen as a major function of management; one that hinges on firm sustainability. It is noted in the literature that decision making is highly influenced by culture, with its implications ranging from staff motivation to the firm’s bottom line. In this track, an author employs the acclaimed Hofstede Cultural Index, in an attempt to categorize Ghanaian marketing managers’ decisions. Surveying 50 marketing managers of indigenous Ghanaian companies, to understand where their decision making lies within Hofstede’s cultural dimensions. The findings reveal that power distance is somewhat pronounced among marketing managers of indigenous Ghanaian companies, in addition to the collectivist cultural dimension.

Another aspect of firm sustainability is its customer, whose acquisition and maintenance requires quality service delivery. In a study, "Sustaining customer loyalty in Ghana’s banking industry...", the author notes that providing and sustaining the right level of service quality, is regarded as an important marketing imperative for customer satisfaction, leading to loyal customers, that affects the firm’s bottom-line. This paper makes a conceptual reference to the SERVQUAL model, which measures service quality on a five dimensional scale including tangibles, assurance, empathy, responsiveness and reliability, and raises the question: Which of the 5 dimensions contributes more to sustaining customer loyalty? Surveying 220 retail banking customers in Ghana, the findings show that service quality; especially empathy and reliability, amongst others are important determinants of customer satisfaction and loyalty.

The brand is vital to the long term profitability and survival of businesses. Whereas that is not contested, the process through which effective brands are developed has been at the centre of most debates in the branding literature. Functional brand attributes, for example have been identified as one of the many constructs for developing effective branding to achieve customer satisfaction and corporate performance. Hence, the need to assess the impact of functional quality variables such as bank personnel, brand trust, tangibles, convenience and efficiency on customer satisfaction and corporate performance in Ghana. The paper employs principal component analysis to help undertake impact measures, importance-performance assessment (IPA) and the gap method to develop functional brand quality models. By way of findings, the paper notes a direct negative correlation between tangibles, corporate performance and customer loyalty, whereas bank personnel have a positive influence on customer satisfaction and corporate performance.

From the demand side, it is noted in this track that information asymmetry and bounded rationality, affect consumer brand familiarity, customer switching behavior, brand trust and ultimately brand choice, especially in financial services where information asymmetry is more pronounced. The study employs BPO step wise regression in computing a bounded rationality model. The study results show that customers have cognitive limitations with regard to information processing, including that of brands that offer best interest rate, and may significantly explain their "reluctance to switch". The results also affirm the importance of information asymmetry, as a key switching antecedent.
Despite the reluctance to switch, as noted above, it is also observed in the literature that consumer loyalty to brands have become uncertain, as a result of competitive offerings by rival firms. These two issues, reluctance to switch and uncertain loyalty means firms must find new ways of attracting and retaining customers, hence the emergence of the Value-Added-Partnership (VAP), where businesses enter into alliances or partnerships as part of their strategic means to leverage their resources and enhance their competitive edge. Though beneficial in many respects, the VAP has its own attendant issues, especially at its implementation, and they differ based on the method of implementation. The objective of this paper is to demonstrate the need for an improved understanding of VAP strategies for the emerging forms of organizations, through the use of network technology (Internet, Intranet, Extranet and Mobile networks- Mnet) for managing, growing and developing a successful and sustainable global business. The research focuses on SMEs in the UK and Ghana.

The intense competitive environment also means that not only do firms need to adopt new structural forms like VAP to approach the market; they also need fusion orientations, such as Market Orientation and Corporate Social Responsibility (MO-CSR). Survey findings of some 357 role managers in all the registered commercial banks in Ghana show that the interactive effect of MO-CSR could result in sustainable banking, which affects the banks’ bottom line. Using hierarchical regression analysis, as a method to test the research hypotheses, the study findings suggest that the interaction of MO-CSR has a positive and significant relationship with banks’ profitability. The results lead the authors to suggest that banks are better off with the integration of economic and social strategies, confirming the theory of integrating marketing strategic frameworks for bank performance, both in the short and long term. Hence, the authors encourage bank managers to pursue economic and social strategies at the marketplace as means to improve profitability, and ultimately sustain bank performance.

Finally, the track also looks at sustaining female entrepreneurship in Ghana, focusing on the coping strategies in dealing with challenges that face women entrepreneurs. In a qualitative study of 20 respondents located in the Accra metropolis, the results show challenges ranging from balancing family responsibilities with entrepreneurial roles, to being taken advantage of by their male suppliers or customers. As coping strategies, the study findings note, among others, time management, pre-emptive planning and continuous updating the other spouse on issues concerning the business, to be able to counter the identified challenges.
Sustaining Customer Loyalty in Ghana's banking industry: What the Customers Want

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ABSTRACT
Sustaining service quality is regarded as an important marketing imperative to attract loyal customers which would lead to increased market share and profitability for many businesses. Conceptual studies show that service quality has five dimensions including tangibles, assurance, empathy, responsiveness and reliability. The theoretical perspective is that competitive pricing as well as a company’s image and reputation contribute to customer satisfaction and that service quality along a number of pathways drives customer loyalty and profitability. The question arises that for all the 5 dimensions of service, which dimension contributes more to sustaining customer loyalty?

Analysing perspectives of over 200 retail customers in the banking industry in Ghana, and by disaggregating the 5 dimensions of service, we showed that while service quality (especially empathy and reliability) and bank image and reputation are important instigators of customer satisfaction and loyalty, competitive pricing showed a weak linear relationship with customer satisfaction and loyalty (r<0.5). We further showed that there was a mismatch between service quality that banks render and service quality that customers prefer. We then discuss the management implications of the study in terms of customer retention and profitability strategies for the banks in Ghana. We emphasize that in order to sustain customer loyalty, the kind of service management provides should focus more on empathy and reliability.

Keywords: Service, service quality, competitive pricing, sustainability, customer loyalty, profitability

INTRODUCTION
Financial institutions play a crucial role in facilitating the accumulation and allocation of capital by channeling individual savings into loans to governments, businesses and individuals. In Ghana, the role of the banking sector in capital concentration and distribution cannot be disputed. Banks are the most common in terms of spread and contribution to the economy because they account for about 70% of the financial sector (Bawumia, 2008). Institutions that adopt strategies to compete better are more likely to be sustainable in the long term. Within the banking sector, sustaining customer loyalty is one
A way of keeping banking businesses competitive since customer loyalty is a driver for improved market share and profitability (Best, 2009).

Prior to 1983 the formal banking system in the country was dominated by state owned banks that had a monopoly in terms of their spread and operations (Hinson and Hammond, 2006). It is worthy to note that prior to Ghana’s independence, the banking system was structured to suit the colonial economy. After independence, banking in the Ghanaian economy concentrated on commercial banking often led by state-owned banks with the aim to leverage governments' developmental aspirations by providing funds for prioritized sectors, departments, ministries and state owned enterprises. Banks were therefore not positioned to run on competitive lines but to bridge the imbalance created by the colonial banking system (Nukpezah and Nyumuyo, 2010).

During this period, the thrust of government was to use the financial sector for savings mobilization and avenue for directing funds into productive activities for accelerated economic development. By the 1980s, the banking sector was afflicted by lofty non-performing assets (toxic assets in today's parlance), inefficiency, bank losses (Leite, 2000) and dominance by few foreign and Ghanaian banks. Thus the controlled banking activities hindered the development of a competitive banking environment of continual product development, increased product choice and a modernized technology culminating in poor service, delayed time and worst still lost confidence. These challenges paved way for a restructuring agenda for the banks.

After 1983, there was the passage of the universal banking law that allows all types of banking to be conducted under a single corporate banking entity. This greatly reorganizes the competitive scopes of several banking products in Ghana. Thus the current banking landscape is well organized in terms of competition and banks with no clear competitive strategy would be forced into competitive exclusion. Banks are using all sorts of strategies to differentiate themselves from others and by so doing have a sustainable competitive edge. One key strategy is service differentiation which can lead to customer loyalty and profitability.

However one needs to understand the drivers for customer loyalty in Ghanaian banks in order to provide an action plan for sustaining customer loyalty for improved profitability and growth. In other words one needs to understand what the customer wants in order to be loyal to a bank. This study fills this gap. Among other things we seek to also empirically test the theory that service quality leads to customer satisfaction which leads to customer loyalty. Our study objective is therefore to investigate the drivers of customer loyalty in the banking industry in Ghana drawing on empirical evidence from retail customers of the banks. This would provide avenue for evidence based strategies by banks in their bid to have competitive edge over rivals.
LITERATURE REVIEW

Two important concepts at the heart of this study are service quality and customer loyalty. Two schools of thoughts have been developed regarding the conceptualization of service as a construct. The European school of thought held the view that consumers perceive service from two perspectives-technical and the functional quality of the service. While the technical quality relates to whether the service meets customers’ expectations, the functional quality measures how consumers perceive the production and delivery of the service. However although this distinction is technically feasible, both are required to influence consumers’ service quality evaluations and loyalty (Richard and Allaway, 1993). Later conceptualization of service-the American school of thought leans on the work of Parasuraman et al., (1985, 1988). They conceptualized service quality as the overall assessment of the difference between perception and expectation of service delivery. Further, in a more elaborate work, Parasuraman et al (1988) pointed out that there are 5 dimensions of service quality that consumers rely on to form their judgment of perceived quality. These dimensions include reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customers and provide prompt service), assurance (employees’ knowledge and courtesy and their ability to inspire trust and confidence), empathy (caring, individualized attention given to customers) and tangibles (appearance of physical facilities, equipment, personnel and written materials). A scale known as SERVQUAL consisting of 22 items was developed to operationalise the five dimensions of perceived quality based on a gap score whereby customers provide two scores, in identical likert scales, for each of the 22 service attributes. SERVQUAL measures service quality based on the gap between perception (P) and expectation (E) and has been used in numerous studies (Tsoukatos and Rand, 2006).

Notwithstanding the popularity of SERQUAL (Pollack, 2009), and its application among managers and academics (Buttle, 1996) its reliability, operationalisation of the gap scores (Brown et al., 1993), definition of expectation (Teas, 1994), generalization of the dimensions and the definition of good service quality (Peter et al., 1993) have been questioned by critics. This has led to alternative conceptualization of service quality. Cronin and Taylor (1992) argued that the conceptualization and operationalisation of SERVQUAL was inadequate and developed a performance based measure of service quality labeled SERVPERF. Brady et al (2002) argued that SERVQUAL measures only the service process dimension but not the perceived quality of the service outcome. Along similar lines, Babakus and Boller (1992) questioned the universal applicability of SERVQUAL. Consequently adaptation of the model became the norm. Other researchers such as Peter et al (1993) and Dabholakar et al (2000) attempted to combine expectations and perceptions into a single measurement scale that is more effective, reliable and valid.

In this study, we have not made a blanket adoption of SERQUAL for the measurement of service quality. We take the view that P-E measures service process dimension (Brady et al., 2002). Hence although we include P-E in our research model, our measurement of service quality is based on Perception, P (since E is insignificant- Cronin and Taylor 1992; Brady et al., 2002).
Customer loyalty has now been accepted as indispensable in strategic decision making because it cost more to attract new customers than to retain old ones. Customer loyalty has two dimensions - attitudinal and behavioural. According to Fornier (1994), attitudinal loyalty reflects a situation whereby different feelings create an individual’s overall attachment to a product, service or organization. These feelings define the individual’s cognitive degree of loyalty (Hallowell, 1996). Behavioural loyalty on the other hand reflects the degree to which attitudinal feelings are translated into loyalty behavior. Loyalty behaviours may include repeated purchase from the same supplier, recommending a product to others and increasing the scale and scope of a relationship (Yi 1990; Best, 2009). Thus other researchers have used purchase frequency and word of mouth recommendation as indicators of loyalty behaviors (De Ruyter et al., 1998). Despite the detail work done with regards to the conceptualization of service and customer loyalty, a gap exist with regards to the empirical examination of these constructs. The present study fills this gap.

RESEARCH FRAMEWORK

Our research framework is based on the idea that service quality leads to customer satisfaction which in turn leads to customer loyalty. The framework of our research model is presented in Figure 1.

Based on the work of Parasuraman et al., (1988) that provided evidence that perceived service quality is based on multidimensional factors relevant to the context, and that service quality is an antecedent to customer satisfaction and loyalty, we investigate the relevance of this relationship in the Ghanaian cultural setting and hence hypothesise that:

- H1: Service quality instigates customer loyalty

However the dimensions of service quality (reliability, tangibility, responsiveness, assurance and empathy) may contribute to customer satisfaction to different degrees and hence the need to take a disaggregated view of their contributions to customer satisfaction and loyalty. Further, the five dimensions may by itself be inadequate to generate loyalty needed. For example, Reichheld (1996) and Rust et al., (1996) in their respective works did not see a significant relationship between satisfying customer need through service quality delivery and long-term customer loyalty and return on investment. A customer led bank needs to adopt strategies that differentiate its services and products from others. It is important to understand subtle concepts such as brand image and reputation, the competitive price (price satisfaction) and the overall satisfaction. Thus customer loyalty management rises above mere satisfaction to include processes and relationships that connect customer needs and the banks’ objective of creating financial value to the banks. Hence we further hypothesise that:

- H2- The five dimensions of service quality vary in the degree to which they drive customer satisfaction and loyalty
- H3- Competitive pricing (Price satisfaction) determines customer satisfaction and loyalty
- H4- Perceived bank image and reputation motivate customers’ loyalty
Figure 1 below illustrates customers perceived service quality premised on the Parasuraman et al., (1988) seminal model (SERVQUAL) as well as that of Brady and Cronin (2001) and Cronin and Taylor (1992; SERVPERF). In our framework, service quality is conceptualised through two pathways—first as P-E (gap between perception and expectation) and subsequently as P since the expectation measurement is insignificant (Cronin and Taylor, 1992). Hence what we measure is the perception. Therefore we use a single set of questionnaire to elicit responses on customer perception (Brady and Cronin, 2001) and not two set of questionnaires that measured perception and expectation differently and finding the difference as was done by Parasuraman et al., (1988).

**Figure 1: Research model**

Legend: The model shows that the 5 service quality dimensions are antecedents to overall service quality and influences service expectations (E) and perceptions (P).

Since the influence of expectation (E) is insignificant, P-E≈P. The model also shows that perceived service quality instigates customer satisfaction which in turn influences customer loyalty. Also, bank image and reputation as well as competitive pricing influence customer satisfaction through the pathways shown.

**RESEARCH METHODOLOGY**

A questionnaire was designed to elicit responses on the main constructs investigated in this study to gather primary data. Next we carried out a pilot study to test the relevance of the questions. Based on the feedback, we modified the questionnaire to eliminate vague and unclear questions. The questionnaires were then distributed via e-mail contacts and also
face to face between April and May 2009. Feedback was received till the end of June 2009. An achievable sample of 200 questionnaire responses was targeted. We however received 190 through face to face and 30 through e-mail making up a total of 220 responses received. Twelve questionnaires were rejected for excessively missing data making the total questionnaires accepted and analysed to stand at 208, 8 more in excess of our original target. The fact that several reminders were sent through repeat e-mails for those who responded electronically and a friendly and polite approach for those who responded face to face might have contributed to the high response rate. Additionally, filling the questionnaire was not cumbersome. It took on average ten minutes and this likely also contributed to the high response rate.

The questionnaire involved questions that extracted information on demographic profile of the respondents and the banks they are associated with, the extent to which customers are satisfied with the quality of service they receive from their banks, the degree of their satisfaction, their perceptions of their banks’ image and reputation, price competitiveness of their banks’ services and products, as well as their loyalty perceptions to their banks. Degree of customer satisfaction was evaluated on a 7 point Likert scale (Likert, 1932). This ranged from 1 = strongly disagree, 2 = somewhat disagree, 3 = slightly disagree, 4 = neutral, 5 = slightly agree, 6 = somewhat agree to 7 = strongly agree. Further, to test the hypothesised relationships, the main constructs/attributes measured in this study include the following: (1) service quality (2) customer satisfaction (3) customer loyalty (4) competitive pricing (price satisfaction) and (5) customer perception of bank’s image and reputation. Many of the instruments used are adapted from existing literature. Others are however developed based on the extant conceptual studies (e.g. items for price satisfaction and Image and reputation index).

Service quality was assessed in two ways both as antecedents (Wang et al., 2004) based on Parasuraman et al’s (1988) five dimensions namely, tangibility, reliability, responsiveness, assurance and empathy as well as overall service quality. The measurement made use of 22 items on a 7 point Likert scale to measure the five dimensions. The scores were averaged for each service quality dimension and also for the overall service quality to obtain a “service quality index”.

Customer satisfaction was evaluated using 3 items rather than a single item on a 7 point Likert scale. According to Wang et al., (2004) there are many shortcomings associated with measuring a construct with a single item. Wang et al., (2004) point out that it often fails to capture the richness and complexity of a theoretical construct or latent variable that is not directly measurable. Hence multiple item scales help to average out the variance due to random errors, specific items, and method factors (Yi, 1990) as well as subtle differences in respondent perception. Customer loyalty was computed from four question items reflecting both attitudinal and behavioural aspects of loyalty on a 7 point Likert scale. This characterisation is based on customer retention and recommendation intentions and is consistent with the characterisation of Best (2009).

Our customer survey gauged price satisfaction by including questions that elicited responses on paying high interest rates on deposits, low charges on loans and charging low service
charges among others. The responses were averaged to develop an index representing satisfaction with price (“price satisfaction index”).

Bank image and reputation was computed as an index based on itemised questions that reflect customers’ perception of how reputable they deem their banks to be. Analytic methods for the study focused more on quantitative approach although qualitative methods were also used. We made use of correlation analysis using excel analysis toolpak to test hypothesised relationships.

ANALYSIS OF RESULTS AND DISCUSSION

Here we present analysis of the main hypotheses tested. We tested hypotheses 1-4 using correlation analysis. These hypotheses denoted as H1 to H4 stated as follows:

In order to test and draw conclusions on the four hypotheses, we make the following relevant formulations:

Null hypotheses
- (H01): Service quality and customer satisfaction are independent
- (H03): Competitive pricing and customer satisfaction and loyalty are independent
- (H04): Perceived bank image & reputation and customer loyalty are independent

Alternative hypotheses
- (HA1) Service quality and customer satisfaction are dependent
- (HA3): Competitive pricing and customer satisfaction and loyalty are dependent
- (HA4): Perceived bank image & reputation and customer loyalty are dependent

In order to verify the above hypotheses we established whether there was a correlation among the various variables. Correlation depicts the strength of linear relationship between two variables. Correlation coefficients run from -1 to +1. Correlation coefficients close to -1 show a strong inverse relation while a coefficient close to +1 denotes a strong direct relation. Mathematically, a correlation between 2 variables X and Y is given by:

\[
\text{Correl}(X,Y) = \sum (x - \bar{x})(y - \bar{y}) / \sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}
\]

(1)

Where \( \bar{x}, \bar{y} \) are the samples means (Iversen and Gergen, 1997).

Table 1 below shows the correlation matrix obtained based on customers’ perception scores of the various constructs measured in the study.
Table 1: Correlation matrix showing strengths of relationship amongst the various variables

<table>
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<tr>
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<tbody>
<tr>
<td>1. Tangible</td>
<td>1</td>
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<tr>
<td>2. Reliability</td>
<td>0.61</td>
<td>1</td>
<td></td>
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<tr>
<td>3. Responsiveness</td>
<td>0.65</td>
<td>0.81</td>
<td>1</td>
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<tr>
<td>4. Assurance</td>
<td>0.66</td>
<td>0.73</td>
<td>0.78</td>
<td>1</td>
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<tr>
<td>5. Empathy</td>
<td>0.69</td>
<td>0.69</td>
<td>0.76</td>
<td>0.81</td>
<td>1</td>
<td></td>
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<tr>
<td>6. Service quality</td>
<td>0.61</td>
<td>0.73</td>
<td>0.72</td>
<td>0.72</td>
<td>0.78</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Customer satisfaction</td>
<td>0.63</td>
<td>0.74</td>
<td>0.74</td>
<td>0.70</td>
<td>0.75</td>
<td>0.85</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>8. Customer loyalty intentions</td>
<td>0.62</td>
<td>0.70</td>
<td>0.69</td>
<td>0.68</td>
<td>0.70</td>
<td>0.77</td>
<td>0.85</td>
<td>1</td>
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<tr>
<td>9. Price competitiveness</td>
<td>0.30</td>
<td>0.36</td>
<td>0.36</td>
<td>0.45</td>
<td>0.43</td>
<td>0.36</td>
<td>0.44</td>
<td>0.47</td>
<td>1</td>
<td></td>
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<tr>
<td>10. Image &amp; Reputation</td>
<td>0.57</td>
<td>0.65</td>
<td>0.64</td>
<td>0.66</td>
<td>0.67</td>
<td>0.72</td>
<td>0.78</td>
<td>0.80</td>
<td>0.53</td>
<td>1</td>
</tr>
</tbody>
</table>

Legend: Nos. 1-10 on first row are codes as follows- 1=Tangible, 2=Reliability, 3=Responsiveness, 4=Assurance, 5=Empathy, 6=Service quality, 7=Customer satisfaction, 8=Customer loyalty intentions, 9=Price competitiveness and 10=Image & Reputation

From the correlation matrix (table 1), the correlation coefficient between service quality and customer satisfaction is 0.85. This indicates a strong direct linear relationship. In addition, the correlation coefficient between service quality and customer loyalty intentions is 0.77 again indicating a strong relationship. Similarly, the correlation coefficient between customer satisfaction and customer loyalty intentions is also strong (0.85). We therefore reject the null hypothesis (H01) that service quality and customer satisfaction are independent but do not reject the alternative hypothesis (HA1) that service quality and customer satisfaction are dependent. To state formally, we conclude that “service quality instigates customer satisfaction and loyalty”.

Again we infer from table 1 to test and analyse hypothesis 2. From the table, the 5 dimensions of service quality which serve as antecedent to overall service quality show different correlation coefficients. The correlation coefficient between tangibility and customer satisfaction is 0.63 and that between reliability, responsiveness, assurance and empathy on the one hand and customer satisfaction on the other hand are respectively 0.74, 0.74, 0.70 and 0.75. Further, the correlation coefficient between tangibility and loyalty intentions is 0.62 and that between reliability, responsiveness, assurance and empathy on the one hand and loyalty intentions on the other hand are respectively 0.70, 0.69, 0.68 and 0.70 respectively. Although all these correlations show strong relationships we found out that the strengths of the relationships vary. Thus the five service quality dimensions vary in the degree to which they drive customer satisfaction and loyalty. Thus within the Ghanaian banking industry the most important drivers of customer satisfaction and loyalty are empathy, reliability, responsiveness, assurance and tangibility (in descending order based on the strength of their correlation coefficients). Tangibility is the least important driver of both customer satisfaction and customer loyalty. This finding is significant and it is in sharp contrast with what currently pertains at the banks. Indeed the mean rankings of the 5 dimensions based on customer perception showed that the banks placed more emphasis on tangibility instead of empathy (customers perceive the banks mean effort at tangibility to be 5.07- the highest).
There is therefore a mismatch between service quality the banks render and service quality the customers preferred. The implication here is that there is the need for management to take a look at strategies that emphasise service delivery as it relates to relationship issues since the study shows through the correlations that banks that score well in empathy have customers with high loyalty intentions compared with the loyalty intentions of customers whose bank focuses more on tangibility. In other words, customers who perceive their bank staffs to be empathetic (caring and giving individualised attention) tend to be more loyal than those who perceive their banks to be investing more in tangibles. Put another way, providing customers with care and individualised attention is more important than providing a conducive business environment to the customer. Hence in order to retain customers, there is the need to focus on the most important drivers of customer satisfaction and loyalty revealed thus far.

From the above analysis it is clear that there is differential importance in the degree to which the five service quality dimensions instigate customer satisfaction and loyalty. We therefore do not reject hypothesis 2 that “the five dimensions of service quality namely tangibility, reliability, responsiveness, assurance and empathy vary in the degree to which they drive customer satisfaction and loyalty”.

From table 1 again, the correlation coefficient between price competitiveness and customer satisfaction on one hand and price competitiveness and customer loyalty on the other hand are 0.44 and 0.47 respectively. Both of these correlations are less than average (0.5). This shows weak linear relationship among these variables. We therefore do not reject the null hypothesis (H0) that “Competitive pricing and customer satisfaction and loyalty are independent”. We reject the alternative hypothesis (HA) that “Competitive pricing and customer satisfaction and loyalty are dependent”. To state formally there is not enough evidence that “competitive pricing determines customer satisfaction and loyalty”. Thus in the Ghanaian banking industry, the current product charges and benefits are relatively not important drivers for customer satisfaction and loyalty. This may be due to price insensitivity among the banks’ customers or that the differences in pricing policies of the various banks may not be significant to influence customers’ loyalty intentions. Thus it may be more reasonable to suggest that customers are price insensitive at current pricing level.

In addition, from our analysis, customers’ perception of the image and reputation that their banks have built over time is an important determinant of customers’ satisfaction and loyalty. The correlation coefficient between customers’ perception of their banks image & reputation and their satisfaction levels returned a correlation coefficient of 0.78 while image & reputation with customer loyalty returned 0.80. These indicate strong linear relationships. We therefore reject the null hypothesis (H0) that “Perceived bank image & reputation and customer loyalty are independent” but do not reject the alternative hypothesis (HA) that “Perceived bank image & reputation and customer loyalty are dependent.” We therefore conclude that “Perceived bank image and reputation motivate customers’ satisfaction and loyalty”.

From the analyses of hypotheses 1-4 the following points can be succinctly made: The most important drivers of customer satisfaction in Ghana’s banking industry based on the data
analysed are (in descending order of importance) service quality (correlation coefficient $r = 0.85$) and bank image & reputation ($r = 0.78$). The most important dimensions of service quality that drives customer satisfaction are empathy ($r = 0.75$), reliability ($0.74$), responsiveness ($r = 0.74$), assurance ($r = 0.70$) and tangibility ($r = 0.63$). Similarly the important drivers for customer loyalty are image and reputation ($r = 0.80$) and service quality ($r = 0.77$). The important dimensions of service quality that influence customer loyalty are empathy ($r = 0.70$), reliability ($r = 0.70$), responsiveness ($r = 0.69$), and assurance ($r = 0.68$) before tangibility ($r = 0.63$) (see figures 1 and 2 below).

Figure 1: Drivers of customer satisfaction in Ghana's Banking Industry

(1a)

Relative importance of the drivers of customer satisfaction

(1b)

Relative importance of service quality dimensions that drive customer satisfaction
CONCLUSION

Disaggregating the dimensions of service quality that influence customer satisfaction and loyalty, it can be concluded that within the banking sector in Ghana, the most important drivers of customer loyalty are banks’ image and reputation and service quality. The most important dimension of service quality that customers want is empathy followed by reliability. Currently, customers perceive the banks to be placing more emphasis on tangibles which is the dimension of service they least want. Additionally, it can be said that while customers loyalty affiliation to their banks are related to their perceptions of the banks image and reputation, retail bank customers are not driven to be loyal based on the
banks competitive pricing policies at the time of the study. Finally in order to sustain customer loyalty, the kind of service management provides should focus more on empathy and reliability. Thus at the core of it, the most important drivers for customer loyalty are relationship issues.

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Impact of Bounded Rationality and Information Asymmetry on Brand Choice, Satisfaction, and Customer Switching Behavior in Financial Services

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ABSTRACT

Purpose – Brand distrust and customer dissatisfaction are seen as a major problem in financial services. This is largely due to bounded rationality and information asymmetry. The main objective of this study is to incorporate psychology into the bounded rationality assumption in order to examine the impact of bounded rationality and information asymmetry on satisfaction, customer switching behaviour and brand trust in financial services and whether there are equal bargaining positions in financial services which might result to some extent in bounded rationality.

Design/methodology/approach – The study employed BPO step wise regression for the computation of bounded rationality model.

Findings – The magnitude and statistical significance of this finding clearly indicate that customers have cognitive limitations to process information in the form of brands that offer best interest rate and that these limitations may have an important impact on customers' brand decisions. Thus, bounded rationality can be a significant component in explaining the "reluctance to switch". It is important to note, however, that the results obtained for the sample of customers under investigation do not represent a generalizable “finding” with regard to the extent of bounded rationality and information asymmetry on customer switching behaviour, satisfaction and brand trust.

Originality/value – Complementing research on customer bounded rationality and information asymmetry, the study examines the demand side of the financial services brands. The paper tested six main hypotheses which, to the authors’ knowledge, have not previously been examined through empirical surveys.

Keywords: Bounded rationality, Financial Services, information asymmetry, switching behaviour, familiarity
INTRODUCTION

Brand is subjective and perceptual phenomenon that is formed through bounded rationality and information asymmetry (Weber and Mayer, 2010). The productive linkages between these two issues are not well advanced in financial services sector. The underlying reason according to Hanson et al (1999) is due to over-reliance on personal selling in the industry and substantial information asymmetry on the part of service providers and bounded rationality on the part of consumers, leading to potential abuse and mis-selling (Diacon and Ennew, 1996). This has been a major challenge to marketing practitioners in the industry (Hanson et al, 1999).

Bounded rationality and information asymmetry undoubtedly play a critical role in financial services branding. Bounded rationality theory has been less prescriptive. However, neither theory has been clearly linked with evolutionally theories of the stochastic type developed by Nelson and Winter (1982) and Nelson (1987) and neither appears to have gone out of its way to shed light on the diversity of human behavior and its consequences. While these theories have their limitations, they are not fundamentally flawed. They deal with extremely pertinent brand management issues. It is therefore very surprising that in the wake of competitive competition, little attention has been given to the impact of bounded rationality and information asymmetry on financial services brands. This study is an attempt to fill this gap.

The main purpose of the study is to critically examine the role of information asymmetry on brand familiarity and brand trust in financial services. In particular, the study is relevant for academics and practitioners since most of the study on brand familiarity and trust are theoretical rather than empirical (cf. Chaudhuri and Holbrook, 2001; Garbarino and Johnson, 1999). That is not all, but the limited empirical studies are based on online trust rather than offline trust (cf. McKnight and Kacmar, 2002; Jarvenpaa et al., 2000). Thus, the influence of information asymmetry on brand trust and familiarity in financial services could be entirely different from online and other service institutions (Liang and Huang, 1998).

The paper is constructed as follows: Firstly, the study provides a detailed analysis of the research theme from the perspective of existing literature, and, further, critique and propose perspectives for addressing the research problem and thereby helping identify the gaps to be covered. Secondly, the research framework which provides a theoretical lens through which the author seeks to address the research problem is developed by means of hypotheses. Also the study has identified and stated the research paradigm in addition to method used and why such method was employed; procedures of establishing construct reliability and validity and how the data was analyzed and dag out themes from the findings is provided. The findings from the field work are then presented.

Being a quantitative study, the appropriate statistical method used and the choice of method are justified. This is followed by analysis of the findings from the study which is compared with previous studies highlighted in the literature review and clearly identifies
contradictions with previous research, why such contradictions exist, the key and new lessons and how the new lessons relate to the theoretical framework. Academic and managerial implications are also provided. The paper is concluded with limitations and suggestions for future research.

LITERATURE REVIEW

Bounded Rationality

Bounded rationality is defined as the cognitive limitations of the minds of individuals and the finite amount of time to make brand decisions based on limited information (Hsu et al., 2009). Bounded rationality should therefore be seen as the whole decision-making process rather than its different stages. It is useful for financial service practitioners to better understand the intent of customers when making brand decision which, according to the theory of bounded rationality, is to satisfy or reach acceptable outcomes. It also adds the understanding that imperfect information is acceptable for brand decision-making, and that an individual's goals and resources play a role in brand decision-making. Ariely (2009) posits that irrationality is the real invisible hand that drives customer decision making. There is abundant empirical evidence that bounded rationality leads to brand trust (Hsu et al., 2009).

Behavioral economics teaches us that consumer is subject to bounded rationality (Kahneman, 2003). This is certainly true in financial services where customers hardly investigate the brands offered to them, although there are large differences between providers in terms of quality (including key outcomes such as debt rates). Thus they are likely to spend far more time researching the purchase of a new car than to find out where they should take life insurance policy or mortgage. Admittedly, the latter is much more difficult given the lack of transparent information and because in financial services, the norm is that equal bargaining position is given to all customers which might result to some extent in bounded rationality. Simon (1957) posits that bounded rationality is limited by the availability of information and individual's cognitive abilities. From a standard rational choice perspective, which assumes that individuals maximize their utility, bounded-rational decision-making is considered to be a behavioral “anomaly” which influence customer switching behaviour and satisfaction. Since Simon’s pioneering work many economists have adopted the concept of bounded rationality (cf. Sauermann and Selten, 1962; Cyert and March, 1963; Selten, 1990; Gigerenzer, 2000; Gigerenzer; 2002) to help better understand why customers switch brands. What's more, despite the recent acknowledgement that customers are increasingly becoming sophisticated and brand promiscuous, very little historical scholarship exists to show how understanding of bounded rationality and information asymmetry are actually shaped financial services brand. It is therefore very surprising that in the wake of advances in technology, deregulation and market fragmentation, little attention has been given to the impact of bounded rationality and information asymmetry on financial services brands (cf. Gigerenzer, 2004; Chaiken and Trope, 1999). This study attempts to address this hiatus.
Customer satisfaction

Satisfaction has been regarded as the most commonly used customer perceptual metric by managers (Gupta and Zeithaml, 2007) due to its generic and universal measure for all brands (Zeithaml et al., 2006). Concerning the association between satisfaction and customer behavior, research has shown a direct link between satisfaction and customer loyalty (Anderson and Sullivan, 1993; Bolton, 1998; Jones and Earl Sasser, 1995; LaBarbera and Mazursky, 1983; Loveman, 1998; Mittal and Kamakura, 2001; Newman and Werbel, 1973; Rust and Zahorik, 1993; Sambandam and Lord, 1995).

Empirical studies has shown that it is crucial for businesses to provide brand aimed at satisfying customers since such customers end up developing trust in the brands leading to loyalty (cf. Olaru, Purchase & Peterson, 2008; Boshoff & du Plessis, 2009; Huddleston, Whipple, Mattick & Lee, 2009; Hong & Cho, 2011; Dabholkar & Sheng, 2012).

Hwang and Zhao (2010) posit that customers become satisfied when there is confirmation and positive disconfirmation of the expectations. This means that a customer is said to be satisfied when his or her expectation is met or not met but still feel good about the outcome. In addition to the Choi and Sheel’s (2012) output and process aspects of customer satisfaction, customer satisfaction is viewed as a cognitive or mental state in which consumers feel that they have been adequately or inadequately compensated (Dabholkar & Sheng, 2012). Regarding the process, customer satisfaction occurs when customer experience matches or exceeds the expectations. Consumer evaluation therefore is crucial to customer satisfaction (Choi & Sheel, 2012). In order to satisfy consumers, financial services companies should understand what motivate customers for banking since customers gain satisfaction from diverse aspects (Huddleston et al., 2009).

The motivational factors proposed by Huddleston et al. (2009) are classified into task oriented and activity oriented. Examples include enjoyment bargaining, opportunity to understand brand trends, new products and enjoyment bargaining. The definitions discussed above show that customer satisfaction is an outcome of an evaluation by customers on the service provided against their expectations.

To obtain a more realistic account of customer brand decision making, there is the need to use empirical analysis of the cognitive processes that lead to choice Selten (2001). This call, according to Drechsler et al (2013), can best be addressed through theory of bounded rationality.

Based on the above review of the literature, the authors propose the following research framework with the underlying drivers consisting of (1) Bounded Rationality (2) Information Asymmetry (3) Brand Trust (4) Customer Switching Behaviour and (5) Customer Satisfaction. Thus, Figure 1 provides a theoretical lens to address the research problem.
Impact of bounded rationality and customer brand trust

From a standard rational choice perspective, which assumes that individuals maximize their utility, bounded-rational decision-making is considered to be a behavioral “anomaly”. Since Simon’s pioneering work many economists have adopted the concept of bounded rationality (cf. Sauermann and Selten, 1962; Cyert and March, 1963; Selten, 1990; Gigerenzer, 2000).

Kahneman and Vernon (2002) concur that behavioural “anomalies” are ubiquitous and is relevant in economics research. Nonetheless, nearly 35 years after Simon’s seminal work, Selten (1990, p.649) urged economists to “put their effort into the further development of the bounded rationality approach to microeconomics”. This informed Gigerenzer (2000) to undertake empirical study and finds that customers use heuristics that are generated from an adaptive learning process when making brand decision. This study argues that two further questions are rather neglected: first, how can the quality of financial services customers brand choice be improved and guard against utility-reducing behaviour? Second, given the interactions between customers, are aggregate outcomes consistent with the prediction of rational choice models or not?

Set against this background, this paper examine the impact of bounded rationality and information asymmetry on brand choice, satisfaction and brand trust in financial services and whether there are equal bargaining positions in financial services which might result to some extent in bounded rationality.

Although bounded rationality is primarily based on neo-classical economics, there are clear links with all the social sciences, including brand management and consumer psychology. There has been a lot of empirical studies in relation to brand building for the past decade.
(e.g., Ambler et al. 2004; Yoon et al, 2006; Schaefer et al. 2006; Plassmann et al, 2008; Lin Tuan and Chin 2010; Santos et al. 2011; and Khushaba et al, 2013). Despite these, there is limited empirical study related to the utilization of bounded rationality to the field of brand management. This is because researchers in this domain do not incorporate more realistic human cognition in their studies (Bromiley, 2005) and majority of them do not consider consumer brand decision making process (Foss, 2001). Thus the impact of bounded rationality on financial services brands and whether there is equal bargaining positions in financial services which might result to some extent in bounded rationality remains largely unexplored in a strict rationality assumption within the social sciences.

Due to information asymmetry in financial services sector, consumer brand decision making process in the sector involves cognitive bounds on rationality, processing limitations and perceptual limitations. However, most study on bounded rationality is limited to only processing restrictions, and ignores perceptual bounds thereby thwarting Simon’s original objective (Weber and Mayer, 2010).

This paper responds to the call by Foss (2003) by incorporating psychology into the bounded rationality assumption to examine the impact of bounded rationality on financial services brands and whether there are equal bargaining positions in financial services which might result to some extent in bounded rationality. The following hypothesis derives therein:

H1a: Equal bargaining position in financial services has a significant and positive direct impact on brand choice.
H1b: Equal bargaining position in financial services has a significant and positive direct impact on brand choice resulting to bounded rationality.
H1c: Bounded rationality has direct and significant impact on brand trust.

Impact of information asymmetry on customer brand trust and satisfaction in financial services

Information asymmetry in financial services makes brand and other financial information processing very difficult. This according to Weber and Mayer (2010) prevents customers from knowing all possible outcomes. Jyoti (2003) identified asymmetric information as one of the critical factors affecting the behavior of both financial service providers and customers. However, most of the studies on information asymmetry in financial services have focused on the outcomes of individual understanding of the brand and financial information.

Empirical study in Australian financial services revealed that 73% of women feel overwhelmed with the amount and complexity of financial information available to them (Fear, 2003). Another study conducted by Agarwal and Mazumder, 2010) found that 82% of financial services brand users main sources of information and advice are financial advisers. Survey carried out by ASIC (2008b) revealed that investors’ main concern regarding brand choice is information and choice overload. A study by Fear (2008) on a range of brand issues has revealed that 76% respondents found the breadth of brand choice bewildering. Iyengar et al (2003) conducted empirical study on the impact of brand
choice overload on customer satisfaction and found that although extensive choice proved initially more enticing than limited choice, limited choice was ultimately more motivating. Furthermore there is some evidence that choice overload is positively related to satisfaction (Fear, 2008; Bhattacharya and Thakor, 1993).

Empirical study on the relationship between information asymmetry and customer satisfaction in financial services has remained limited, both in terms of scope and the actual number of studies. The author suggests that an investigation of the relationship between these constructs is very relevant in order to understand consumers' bounded rationality in the context of brand management. In particular, it has been proposed that information asymmetry in financial services need to be researched as a moderator variable, because this variable has been shown to affect consumer brand trust (ASIC, 2008b). Ariely (2009) concur that the nature of information asymmetry in financial services makes it difficult for customers to make effective brand evaluation leading to customer dissatisfaction and brand distrust.

Customer trust is confidence that customers have in the reliability and competence of service providers (Boshoff & du Plessis, 2009). According to Chang (2012) customer trust consists of affective and cognitive trust. In cognitive trust consumers are confident that the service provider is competent and reliable in keeping promises, whereas in affective trust consumers believe that while the service providers seek to maximize profits they also have genuine concern for customer needs. Dabholkar and Sheng (2012) believe that customers trust service providers if they believe that the product or service provides benefits to them. Customer trust influences the development of consumer commitment to the service provider because of the positive experiences they had with the product or service (Olaru, Purchase & Peterson, 2008). This indicates that retailers need to make sure that the service encounters satisfy customers in order to ensure commitment by consumers. Echoing the same sentiments, Boshoff and Du Plessis (2009) assert that the lesser the information asymmetry, the higher the customer trust which is a key component of relationship building.

Despite these advances, the exact relationship between information asymmetry, satisfaction and brand trust in financial services has remained unclear, specifically; one important question yet to be answered is whether there is a direct relationship between information asymmetry, customer brand trust and satisfaction in financial services. The study seeks to answer this question and thus hypothesized that:

H2a: information asymmetry has a direct and positive impact on customer brand trust
H2b: information asymmetry has a direct and positive impact on customer brand satisfaction.

Impact of information asymmetry on customer switching behavior
Customer switching behavior is a situation in which customer discontinues business transaction of a particular company for a different or similar one. One of the earliest models for investigating factors influencing customer switching behavior was attributed to Keaveney (1995). Within the model, eight factors relating to service and non-service problems that influenced customers to switch service providers were identified. These are: inconvenience, pricing, core service failures, response to service failure, competition,
involuntary switching, service encounter failures and ethics. However, since Keaveney's study was based on different service industries, the findings may not be appropriate for financial service industry. Thus, further specification and testing of the identified switching factors is needed for specific service industries (Mitta and Lasser, 1998). Empirical study carried in Greek financial services by Mavri and Ioannou (2008) finds effective brand information and service quality as a key factor decreasing customers' switching behavior. Gerrard and Cunningham (2004) also find reputation as a key factor influencing customers to switch banks in the Asian banking sector. Clemes et al, (2010) posits that customers switch financial services brands based on a number of factors including, reputation, involuntary switching, service quality, switching costs, price, effective advertising competition and distance. However, one major factor conspicuously missing in these empirical studies is information asymmetry. Therefore, using contingent valuation, the study examines customers' willingness to switch (WTS) to other bank brands as a result of information asymmetry in financial services. Thus, the following hypothesis is proposed:

H3: There is a positive relationship between information asymmetry and customers switching behavior for financial services brands.

RESEARCH METHODOLOGY

Sample and Data Collection

The study employed BPO step wise regression for the computation of bounded rationality model. The dependent variable was bounded rationality, and the independent variables were customer switching behavior, brand familiarity, satisfaction, information symmetry and brand trust.

The respondents were drawn from the clientele of three (3) banks in Ghana out of twenty six (26) banks in Ghana. Using the 2013 report on the sector, the three (3) banks were selected for the study. The paper is limited to only customers in Kumasi metropolis due to time and cost constraints. Since there is no sample framework for financial services brand users, the paper employed convenience sampling method. The technique also gave the researcher the needed opportunity to select the respondents purposively and to reach difficult-to-identify members of the population. Although the study employed convenience sampling method, to increase reliability and reduce bias, the questionnaires were administered on a uniformly time intervals at the entrance of the three financial institutions from January 15 to March 5, 2014.

A total of 205 questionnaires were distributed to the users of financial services brands in Kumasi, Ghana. According to the 2013 Ghana Banking Survey conducted by Price Water House Coopers on behalf of the Ghana Association Bankers, Agricultural Development Bank (ADB), Barclays Bank of Ghana Limited (BBGL), and Ghana Commercial Bank Limited (GCBL) were the top three banks in Ghana when ranked by total operating assets, share of industry deposits, net advances, profit margins and representations from their profit and loss statements (Ghana Banking Survey, 2013).
Data Analysis and measures
The study tested the proposed hypotheses by employing structural equation model. Thus, AMOS and SPSS are used for effective analysis of the data. Cronbach Alpha is used to test the reliability of brand trust and tangibility. The reliability is regarded to be satisfactory when the Alpha coefficient is equal to or exceeds 0.70. However, a lower Cronbach alpha coefficient was set at 0.58 by Cortina (1993) when interval scales are used to measure bounded rationality and other variables. To test the reliability of data gathering instrument, a preliminary study was conducted with a sample of 20 respondents. The results of the primary sample show that Cronbach alpha ($\alpha$) index is 0.7952 showing a good reliability. The study also measured all the statements on a 5-point Likert scale (1= strongly disagree, 5=strongly agree). Questionnaires for this quantitative research were based on relative willingness to switch and absolute willingness to switch, information asymmetry, brand familiarity and brand trust.

RESULTS

See Appendix of this paper for Tables

Validity and Reliability Analysis
The study first of all tested the measurement model based on the two-stage approach proposed by Anderson and Gerbing’s (1988) before the application of the structural equation model. The latent variables in the measurement model were bounded rationality, information asymmetry, familiarity, brand trust, brand choice, and cognitive ability. After the measurement, the model revealed an acceptable fit statistics ($\chi^2$/df = 3.6; GFI= .92; AGFI= .88; TLI= .89; CFI= .97; RMSEA= .09) See Table 1

The study loads confirmatory factor analysis loads with regards to customer brand trust variable ranging from .83 and .99 with .93 being composite reliability (CR) whilst average variance extracted (AVE) and cronbach alpha value were .78 and .92 respectively. With regards to customer loyalty, the results for the confirmatory factor analysis loads ranged from .84 and .94 with composite reliability figure of .91 Average variance extracted for customer loyalty and cronbach alpha recorded .75 and .91 respectively. Confirmatory factor analysis loads for tangibility ranged from .78 and .92 with composite reliability of .91. A value of .84 and .90 were recorded for average variance extracted and cronbach alpha respectively.

Structural model fit statistics and results of hypotheses
Table 3 shows that all the fit indices related with the structural model are within acceptable levels. Also, it is revealed that customer brand trust in the model explains variance in the ratio of .48, customer loyalty factor explains .31.

Table 4 indicates the results of the various hypotheses. Thus, the proposition (H$_{1a}$) suggesting that equal bargaining position in financial services has a direct positive impact on customer brand choice is accepted ($\beta = .68; t = 12.254; p < .001$). However, the hypothesis (H$_{1b}$) indicating that equal bargaining position in financial services has a direct
positive impact on bounded rationality is rejected ($\beta = .21; t = 3.102; p < .020$). The hypothesis ($H_{1c}$) suggesting that there is a positive correlation between bounded rationality and brand trust is accepted ($\beta = .93; t = 16.329; p < .001$). The study reveals a positive correlation between information asymmetry and brand trust Thus, $H_{2a}$ is accepted ($\beta = .62; t = 11.131; p < .001$). The statistical figures ($\beta = .74; t = 14.964; p < .001$) suggests that there is a possible asymmetry as a result of brand distrust in the financial services sector which have implications for customer satisfaction. The study statistically rejected the hypothesis ($H_{3a}$) indicating that there is a positive relation between cognitive ability and customer familiarity ($\beta = -.21; t = -.916; p > .841$). Finally, the hypothesis suggesting that there is a positive correlation between customer brand familiarity and brand trust is statistically supported in the study ($\beta = .83; t = 15.204; p < .005$).

**DISCUSSION**

The analysis of the data was started by applying the reliability and validity of the measurement model used in the study. After the confirmation of the reliability and validity of the measurement model, the study tested the association between the structural equation model and the latent variables. The finding has a direct links with brand trust - familiarity study undertaken by Chaudhuri and Holbrook, (2001; Garbarino and Johnson, (1999); Urban et al (2000). Kania (2001) also found that brand familiarity leads to higher trust. A positive relationship brand familiarity and trust was also found in a study conducted by Cheskin and Sapient (1999). However, achieving the level of brand familiarity necessary for brand trust in financial services is very difficult due to information asymmetry. In contrast, a study carried out by McKnight et al (1998) and Papadopoulou et al (2001) suggests a negative relationship between brand familiarity and trust. Limited study has been carried out with regards to the factors influencing brand trust particularly with financial services; literature on familiarity with bank brands is the basis of the testable hypotheses in this study.

The results of this study also support the findings in other literatures like Ha (2003), who posits that brand familiarity brings about a feeling of greater trust to customers. That is not all, but the study has reveals a negative correlation between information asymmetry and brand trust. This revelation may due to the fact that most of the sampled banks turns to use expert advice to help customers understand complex brand related issues such as charges on current accounts and other brands.

In contrast with the findings of Chaudhuri and Holbrook (2001) where customer brand trust has a positive and direct impact on customer attitude and behavioral loyalty the findings in this study revealed that there is no significant impact of brand trust and customer switching behavior. Thus, these contradictions exist as a result of cultural deference and different research paradigm in these two studies. The paper assumed that there is a possible asymmetry as a result of brand distrust in the financial services sector.
Table 2 summarizes the key results regarding the bounded rationality of customers' brand decisions. On average, the absolute willingness to switch (WTS) stated by the respondents to stay with their bank amounts to 796 (standard deviation: 825). The average relative WTS amounts to 0.78 per cent (standard deviation: 0.70 per cent). For a 15-year annuity loan of Gh₵150,000 provided at an interest rate of 6 per cent p.a., a difference in interest of 0.1 per cent causes a monetary disadvantage of nearly Gh₵1,000. The average difference in interest of 0.78 per cent that the respondents would accept before switching to the new bank corresponds to a monetary disadvantage of 8,195. The discrepancy between the average capitalized relative WTS of 8,195 and the average absolute WTS of 796 (ratio of about 10.3) reflects the extent of their bounded rationality.

With a view to the economic consequences of such bounded rational financing behavior three different situations can be distinguished. Figure 2 shows the facts using a customer portrayed as the average decision-maker in the surveyed sample:

1. Area A. The customers observe only loan offers with effective rates of interest that are less than 0.08 per cent below that of his current or house bank. In accordance with his bounded rational decision criterion (i.e. a switching trigger of 0.78 per cent), he will not switch to another bank. However, this is not a wrong decision because his (subjectively perceived) switching costs of 796 are indeed not covered by the difference in interest payments (“right for the wrong reasons”).

2. Area B. The customer observes loan offers with effective rates of interest between 0.08 per cent and 0.78 per cent below that of his bank. In accordance with his bounded rational switching trigger of 0.78 per cent, he will not switch yet. However, this is a wrong decision because his (subjectively perceived) switching costs are already covered by the capitalized difference in interest payments.

3. Area C. The customer observes loan offers with effective interest rates of more than 0.78 per cent below that of his bank. He will switch to a new bank and thereby not make a mistake because his (subjectively perceived) switching costs are actually covered by the difference in interest payments (“right for the wrong reasons”).

A comparison of means shows that the discrepancy between the absolute WTS and the capitalized relative WTS is significant with a p-value<0.001. If one “sells” the disadvantage of the current bank’s loan offer in the form of a percentage, customers will accept a much greater monetary disadvantage than in a situation where they are directly provided with the information in the form of an absolute monetary value. The effective interest rate that, when correctly interpreted, makes the cost of capital transparent, is thus only of very limited value in practical decision support for customers. Even brand related issues that are transparently communicated in principle may become non-transparent due to limited information-processing capacities. This indicates a need for objective advice in financial services.
CONCLUSION

Mitigating information asymmetry through trusted relationship

Customer brand trust largely depends on effective information processing and evaluation. However, one of the sectors that are characterized by complex and information asymmetries is the financial service market (Bhattacharya and Thakor, 1993). This problem according to Mavri and Ioannou (2008) make most customers seek the services of financial experts for an informed decision. However, since this comes with a fee, it poses incentive problems in the provision of advice to consumers. More often than not, these experts’ advice tends to be less than transparent. Example, charges and surrender penalties are mostly not disclosed (London Economies, 1992). The complex the information processing, the lesser the customer brand trust and vice versa. Financial services institutions should display brands information clearly at the banking hall and provide information leaflets so that consumers can bank around and allow third parties to provide comparative information.

Overcoming brand switching through relevant brand information

The findings from the analysis clearly show the relevant of information asymmetry as a key switching antecedent. A good reputation plays an important role in creating positive signals to the public about a firm’s capability and reliability (Vendelo, 1998). Therefore, brand managers in financial service industries must use a relationship marketing approach to deliver reliable services and honest communication that will help to encourage building trust between customers and banks (Gill et al., 2006; Clemes et al., 2007). This study is not without limitations. In particular, as with other empirical studies that are based on convenience samples, the results of this study should be interpreted with caution in view of the small sample size and the lack of representativeness the study was restricted to only three financial services in Ghana.

However, given the unambiguousness of the empirical evidence, some conclusions can be drawn that may be of interest to various actors. Finally, it should be noted that decision support on the individual level is not about influencing or changing the customer’s brand preferences. Instead, it is about increasing the customer’s utility by reducing their bounded rationality and enabling them make decisions that are better aligned with brand choice. Further study should consider whether bounded rationality increases as a result of advice from bank by intensive “current bank adviser” or do customers with a lower level of knowledge rely more on advice from their local bank. Further study should examine the extent to which bounded rationality leads to wrong brand decisions in light of the bargaining position differences and discourse and Semiotics related to financial services branding.

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APPENDIX A

Table 1: Validity and Reliability Analysis

<table>
<thead>
<tr>
<th>Structural Equation model</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi Squire (X²)</td>
<td></td>
</tr>
<tr>
<td>Degree of freedom (df)</td>
<td></td>
</tr>
<tr>
<td>X²/df</td>
<td>3.6</td>
</tr>
<tr>
<td>CFI#</td>
<td>.97</td>
</tr>
<tr>
<td>TLI#</td>
<td>.89</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.09</td>
</tr>
</tbody>
</table>

NOTE: # CFI, TLI close to 1 indicates a good fit. The lower the RMSEA, the better the model is considered.

Table 2: Coefficient among the factors affecting consumer perceptions of brand (discriminate validity p<.01)

<table>
<thead>
<tr>
<th>BOR</th>
<th>FAM</th>
<th>SAT</th>
<th>NFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAM</td>
<td>0.684</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAT</td>
<td>0.638</td>
<td>0.436</td>
<td></td>
</tr>
<tr>
<td>NFA</td>
<td>0.731</td>
<td>0.534</td>
<td>0.792</td>
</tr>
<tr>
<td>BTU</td>
<td>0.933</td>
<td>0.680</td>
<td>0.659</td>
</tr>
</tbody>
</table>

NOTE: BOR= Bounded rationality; FAM= Familiarity; SAT= Satisfaction; NFA= Information Asymmetry BTU= Brand trust. All significant <0.001.

Table 3: Results of the reliability

<table>
<thead>
<tr>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bounded rationality</td>
</tr>
<tr>
<td>Familiarity</td>
</tr>
<tr>
<td>Satisfaction</td>
</tr>
<tr>
<td>Brand trust</td>
</tr>
<tr>
<td>Information Asymmetry</td>
</tr>
</tbody>
</table>

The hypothesized structural model was tested using AMOS 4.0

Table 4: Results of Hypotheses test

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>St. Coefficient</th>
<th>t-value</th>
<th>Sig.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBP</td>
<td>BCO H1a</td>
<td>.68</td>
<td>12.254</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>EBP</td>
<td>BOR H1b</td>
<td>.21</td>
<td>3.102</td>
<td>.020</td>
<td>Rejected</td>
</tr>
<tr>
<td>BOR</td>
<td>BTU H1c</td>
<td>.93</td>
<td>16.329</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>NFA</td>
<td>BTU H2a</td>
<td>.62</td>
<td>11.131</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>NFA</td>
<td>SAT H2b</td>
<td>.74</td>
<td>14.964</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>NFA</td>
<td>CSB H3</td>
<td>.83</td>
<td>15.204</td>
<td>***</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Note *** p<.001
Fixed graphic 1

Figure 1: Absolute WTS and capitalized relative WTS of customers in (in ascending order, according to difference between the two variables)

Figure 2 consequences of bounded rational brand behavior for a customer portrayed as the average decision maker of the surveyed sample.

Table 5: Socio-demographic statistics

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average absolute WTS (£)</td>
<td>796</td>
</tr>
<tr>
<td>Average relative WTS (%)</td>
<td>0.78</td>
</tr>
<tr>
<td>Average capitalized relative WTS (£)</td>
<td>8,195</td>
</tr>
<tr>
<td>Average DELTA WTS (£)</td>
<td>7,195</td>
</tr>
<tr>
<td>Ratio of average capitalized relative WTS and Average absolute WTS</td>
<td>10.3</td>
</tr>
</tbody>
</table>
Table 6: Variables and hypotheses to explain the absolute Willingness to Switch (WTS)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average SD</th>
<th>Expected Direction</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DELTA WTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Graduate Degree</td>
<td>42.9% have a Graduate degree</td>
<td></td>
<td>Represent limited cognitive Abilities in processing brand information</td>
</tr>
<tr>
<td>(0: no, 1: yes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Intensity of bank advisers</td>
<td>1.1  1.1</td>
<td>↓</td>
<td>Bank adviser increases/decreases the customers’ knowledge</td>
</tr>
<tr>
<td>iii. Intensity of use for brand information</td>
<td>-0.2  1.4</td>
<td>↑</td>
<td>Acquisition of “objective”</td>
</tr>
<tr>
<td>iv. Willingness to recommend the bank</td>
<td>0.8  1.0</td>
<td>↑</td>
<td>Knowledge improves the ability to judge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Satisfaction with the present business relationship indicates the level of self-manipulation of beliefs”</td>
</tr>
</tbody>
</table>
Value-Added-Partnership (VAP) Strategy- A Necessary Ingredient for Managing, Growing and Developing a Sustainable and Competitive Global Business

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ABSTRACT

In the traditional business setting, it is known that many business organisations have entered into alliances or partnerships as part of their strategic means of leveraging their resources and honing their competitive edge. The advantages and disadvantages of such a strategic approach and the corresponding implementation problems are well known, but they vary based on their method and means of implementation. However, our knowledge of how these relationships evolve and dissolve over time is weak. This research found that the traditional strategic alliances and partnerships have taken on a new dimension in the Internet Cultural Era (ICE) in the form of Value-Added-Partnerships (VAPs).

The purpose of this paper is to demonstrate the need for an improved understanding of a VAP strategy for the emerging forms of organisation through the use of network technology (Internet, Intranet, Extranet and Mobile networks- Mnet) for managing, growing and developing a successful and sustainable global business. This research is based on interview data gleaned from 56 SMEs in the logistics and tourism sectors within the United Kingdom and Ghana. These results have been analysed in order to develop an understanding of VAP strategy to aid researchers and practitioners to address the critical needs, expectations and concerns of stakeholders in the management and development of global business.

Keywords: Value-Added-Partnerships (VAP), Sustainability, Global Business, Internet Cultural Era (ICE).
INTRODUCTION

In the traditional business environment many companies have competed for suppliers and customers in order to gain the upper hand. However, in the Internet Cultural Era (ICE), this is now being replaced by a more co-operative and collaborative approach with organizations seeking to work with competitors, suppliers and customers, which we called Value-Added-Partnerships (VAP) over network technology (Internet, Intranet, Extranet and Mobile networks- Mnet). The main trend behind this is globalisation, coupled with the intense use of network technology. The ICE can be defined as an environment where organisations are placing the network technologies at the centre of their business and encouraging ubiquitous use of networked technology for delivering their business processes, with emphasis on transparent communication and readiness to innovate and take chances on new ideas. Three economic entities, namely the government, organisations and individuals, are the key players in the ICE [1].

VAP in the ICE is simply the strategy of co-operating or collaborating with suppliers, partners and competitors in order to fulfil the needs of customers for a share of the price over the network technology. These collaborations can take many forms: it can be based on a local, national or global geographical spread; with a single partner or many partners or combinations of several of these. We define VAP this way, purposely for this research. The definition is focused on the aspect of strategy that deals with collaborative and co-operative relationships, and the ongoing linkages between partnering firms over the network technology. In many cases, the partnerships may be facilitated by independent public or private organizations (e.g. banks, government trade development offices, common customers), which play an important intermediary role in the development and success of the partnerships [2]. However, intermediary partnerships are not considered in this paper. The purpose of this paper is to demonstrate the need for an improved understanding of a VAP strategy through the use of network technology for developing and managing a successful and sustainable global business.

It is hoped that a VAP strategy offers many and varied sources of competitive advantage. These may come from strategic developments like the joint fulfilment of customer orders, improving competing firms’ relationship with one another and also helping the partnering firms to achieve higher margins by focusing on ways of generating added value from the collaboration. Additionally, a VAP can reduce lead items and block major competitors through their very closeness and uniqueness. A VAP can lead to the early solving of problems because they are quickly known to both partners rather than escalating to become major complaints; and long-term VAP agreements can provide greater security, flexibility, as well as pricing and cost adjustments which mitigate the effect of changes in exchange rates.

This research is based on interview data gleaned from 56 SMEs in the logistics and tourism sectors within the United Kingdom and Ghana. These results have been analysed in order to develop an understanding of VAP strategy to aid researchers and practitioners to address the critical needs, expectations and concerns of stakeholders in the management and development of global business.
LITERATURE REVIEW

The creation of a Value-Adding-Partnership (VAP) is an essential part of a global business if it is to function and prosper online and globally. A VAP as defined by Alvarado and Kotzab [3] is a set of independent companies that work together to manage the flow of goods and services along the entire value-added chain. This description of a VAP encapsulates three implications. The first and main implication is the ability to allocate resources or responsibilities among network partners dynamically without the necessity of owning these resources. The concept of inter-organisational knowledge management within organisations to complement the concept of VAP was proposed by Bengtsson and Kock [4]. The second is the need for the partners to collaborate to manage the flow of goods and services, or to create a mutually beneficial valued outcome, where all members gain an advantage from the collaboration in creating the value. The third is that partnerships exist along the value-added chain, and thus refers to an optimised value chain [4].

The notion of an optimised value chain is central to the success of global business, the idea is to integrate the contiguous steps of the value chain in one network and to outsource non-core processes [1]. Thus, global businesses are able to focus on the aspect that its members do best [5]. Every participating organisation only carries out one or more steps of the value chain in which it specialises [6]. These organisations also collaborate at different global locations to gain a virtual presence on the value chain [7]. There are two ways in which global business can optimise the value chain: either horizontally or vertically [8]. Horizontal integration of the value chain refers to the collaboration at the same level of the chain. This type of integration is appropriate, for example, when one partner experiences a shortage in resources needed to produce a product or service. In this case, two or more partners may share each other’s resources, both material and human resources, in order to achieve their (combined) product or service goals. Vertical integration of the value chain involves the business partners of a global business cooperating across different levels of the value chain, without necessarily setting up a formal hierarchical structure. For example, one partner can create value through procurement, another through manufacturing, and a third through sales. The underlying purpose is to share the risk and costs of a particular project among the members so as to maximise the return on the investment to all parties [7]. Overall, the purpose of the collaboration and the integration of the steps in the value chain are to create a stronger, more flexible and more competitive organisation, which is able to meet the demand of the business environment in the most efficient way.

In the ICE, the emerging forms of organisation are types of networked organisations that may have either an enduring or fluid relationship between two or more firms that intensively use network technology, internally and externally, operating on a real time basis. Some authors prefer to call the network organisations Virtual Organisations (VO), e.g. [18], but this research prefers the former. These organisations are formed in the first instance as a collaborative network of market and business ‘actors’ [9, 10]. These ‘actors’ comprise of suppliers, customers, governments, agencies, competitors, designers, packagers, shippers, marketers, distributors, and so on [9, 12]. Among these network organisations are “electronic supply-chain-management” (e-SCM), “co-opetition” and “Mass-Customisation” [10, 13]. Collaborating with competitors towards a shared goal while continuing to
compete with them refers to the concept “co-opetition” [9]. Including customers in the process of designing a particular product or service refers to the recent phenomenon of “mass-customisation” [14]. Modern “mass-customisation” entails relatively autonomous operating systems working in a dynamic network [14]. In this respect, these organisations provide a suitable vehicle for customisation as well as SCM and co-opetition. Traditionally, network organisations have been researched from a number of different perspectives. Two that are important are organisational-design and transactional-cost-economics. The organisational-design approach is based on the notion that traditional organisational designs such as functional structures are too rigid in today’s “hyper-competition” environments and that more flexible intra-organisational and inter-organisational structures, such as organic networks, can supplement existing organisational structures [15, 16]. Venkatraman and Henderson [17] viewed these organisations not as a distinct Structure but as a strategy to transform customer interaction, to configure assets, and to disseminate knowledge. Tetteh [18] integrated both process and strategy perspectives into a model that consists of three layers, namely modules, a dynamic web, and Virtual Organisations (VO). In the transactional-cost-economics approach, networks are described as intermediate forms of governance or hybrids [19, 20, and 21]. They describe a network organisation as a group of business units coordinated through a system of market mechanisms. This is in contrast to coordination through a hierarchical organisation [22]. In reality, global businesses seem to be hybrids, which incorporate characteristics of both the market and the hierarchy, although most of these organisations tend be governed by market forces rather than through hierarchical mechanisms.

A further categorisation can be made on the basis of the work of Snow et al [21] who defined three types of network, each designed for the specific competitive environment. The first is the internal network, which consists of the business units within a firm; this notion is similar to an intra-organisation. The second type is the stable network, e.g. the Japanese Keiretsu or Korean Chaebol. The third is the dynamic network, which includes inter-organisational networks and these organisational setups are the most suitable to today’s turbulent environments [21].

Based on the literature, it can be noted that forming and managing a VAP strategy is a complex organisational process and would require innovation and focus on customer satisfaction. VAP organisations not only adopt newer and innovative ways of working, but also embrace the various changes in organisational norms, skill-sets, infrastructure and strategy to make those new ways work to satisfy customers. An organisational innovation process that includes the development of complementary business resources (e.g. network technology) is important in drawing competitive advantage from an innovative organisational initiative and this is the focus of this research. The next section presents the methodology adopted for this study.
RESEARCH FRAMEWORK & RESEARCH METHODOLOGY

In the literature, it was found that many Internet and organisational scholars find it difficult to choose the best research methods for the new Internet-based organisations. Relevant research work has generally been fragmented and narrow in scope about research methodology, making comparisons difficult [23]. There were many communication alternatives such as telephone interviews, face-to-face interviews, mail and e-mail available. The face-to-face interviews were chosen as the primary method of collecting the required data for this research because it allowed questioning appropriate individuals in the SMEs. The main attraction of face-to-face interviewing is that it enables one to collect the research data from the appropriate individuals in a more effective way [1]. It was also able to give the interviewees a clear overview regarding the nature and purpose of the research.

The empirical study involved interviewing 56 organisations. 27 organisations were randomly selected from the National Board of Small Scale Industries (NBSSI) databases in Ghana and 29 organisations from the UK Chamber of Commerce database of SMEs in the logistics and tourism industry. Though, there has been a reasonable amount of research into SMEs business networks generally not network technology-based as the focus of this research. For instance, the requirement within the samples was the need for the firms to have Internet access and a website to indicate a representative type of emerging forms of global business. The interviewees ranged from 23 directors or owner-manager, and 33 other managers (IT managers or personnel, general managers, operations manager etc). Only one interview per company was conducted and each interview took 1-3 hours. A mix of closed and open-ended questions was included in the interview instrument, which was designed to conduct the semi-structured interviews. This provided a collection of both quantitative and qualitative data, this enabled comparison of the adoption of e-strategies based on rating, ranking and qualitative analysis. The quantitative data was analysed using SPSS and the qualitative data was analysed using Nvivo and the results are analysed and discussed in section 4.

RESULTS, ANALYSIS & DISCUSSION

This section presents the results, analysis and discussion of the data obtained from the interviews and the key findings emerging from the empirical study.

Size and industry sectors of the new organisational forms

It was revealed in Azumah, et al. [1] that SMEs journey towards becoming e-organisation can be classified into three stages, that is, 1/2-fusion, fusion and ultimately the e-organisation stage. The 1/2-fusion organisations are those with minimum use of the Internet and other network technologies. Their main business processes are still managed by using the ‘traditional economy’ approach. Such technology is perceived to be an add-on rather than an integral part of their business, for example, an organisation that has a basic website and uses e-mails for internal and external communication. The fusion organisation is one with committed and intensive use of the Internet and network technologies. Their main business processes are managed by using these technologies and they perceived such
technologies as an integral part of their business, for example an organisation that uses e-commerce. The e-organisation is one that uses these technologies as the core of their business for managing the entire business process, from the point of receiving a customer order, to processing the order and parts, and supplying and delivery, i.e. an organisation, that uses e-business or online business. Details of these categorisation is available in [1] The next sections examine and demonstrate how the VAP strategy is formed and the need for an improved understanding of a VAP strategy for the emerging forms of organisation through the use of network technology (Internet, Intranet, Extranet and Mnet) for developing and managing a successful and sustainable global business.

VAP strategy
The result of this study supports the literature that the formation of a VAP strategy encapsulates three processes. The first, and main implication, is the ability to allocate resources or responsibilities among network partners dynamically without the necessity of owning these resources. The second is the need to collaborate to manage the flow of goods and services, or to create a mutually beneficial value outcome, where all members gain an advantage from the collaboration. The third is that partnerships must exist along the value-added chain, in order to optimise the created value to satisfy the customers.

The result further shows that 72% (n = 13) of the e-organisations reach new markets through VAP by using the network technology. These e-organisations further indicated that they have reached new international markets and are expected to create other new market avenues for their services in the future. Links with other VAP world-wide is a necessary component for success; this momentum is necessary for generation, creation and refinement of e-activities. Customers recognise the benefits to scanning the Internet to identify rewarding properties, websites that offer secure services and using e-mail and extranets registers and contact customers and partners for continued communication.

Stages of VAP strategy
This section presents and discusses the stages of VAP and how to succeed. We first address the key question the stages seek to answer- What is success in VAP strategy? Then the stages are developed and discussed. Section 4.4 discusses the critical management issues in these stages of VAP strategy.

Success in VAP strategy
Success in a VAP strategy is a multi-dimensional and difficult to measure. The qualitative results show that a number of different outcomes for success can be used in different contexts; for instance the majority of the interviewed SMEs define VAP success in terms of formation (did the company succeed in getting the VAP running within some reasonable budget and schedule of revenue sharing?) or in terms of business results (did the company succeed in realising its business goals for the initiatives and satisfying their customers in order to guarantee future business from them, etc.). Success looks very different when examined at different points in time, or different dimensions, or from different points of view. Thus, to accommodate the multi-dimensionality of VAP strategy, we define VAP success as the best outcomes the organisation could achieve through a VAP chain.
The foundation stage

The most basic starting point in formulating a VAP strategy is the willingness of the partners to use the network technology intensively to add value in the chain. This goes along all the vital decisions and typical activities leading up to formation of a VAP. It was noted during the interviews that a strong foundation is a necessary but not sufficient condition for successful partnerships, as success may also depend on success in subsequent stages such as the implementation stage. Thus, the key focus in this stage is on selecting and screening the partners using the network technology, to read their company background, resources and capabilities.

The qualitative results further revealed that the critical issues faced by the SMEs at the foundation stage are primarily concerns with the complex decision of partnership selection, which can significantly improve the chance of creating a mutually rewarding VAP. It was further ascertained that VAP selection (the decision to use VAP strategy or not) can be based on two sets of basic but very important criteria. First, determining VAP suitability and secondly, determining the VAP feasibility. Taken individually, each set of factors is necessary, but not sufficient, to warrant the costs and risks of establishing a VAP.

The interviewed SMEs noted that they determine the suitability of their VAP primarily based upon the analysis of cost, benefits and risks when they initially contact each other by email to propose the initiative. The majority of the interviewees noted that at this stage their main concerns include the nature of their partners and the value input they could provide to their logistics and tourism customers (which can be used to establish whether they are suitable targets, e.g. ability to influence service quality, delivery, costs, customer service, and network technology usage). This finding supports Prahalad and Ramaswamy [6] in the literature that firms determine partnership suitability as primarily based on economic drivers such as reducing cost or improving quality. However, this research moves further to add that the importance of focusing on innovation through the use of network technology as a key strategic driver for determining VAP chain suitability, by using factors such as dynamism of network technology as the critical input and a medium of real time communication and locating resources around the globe. These strategic drivers help the SMEs to analyse the short-term and long-term significance of the VAP strategy to their supply chain's competitiveness. Table 1 shows the level of organisational innovation of the emerging forms of organisation with VAP.
Table 1 Organisational innovation with VAP

<table>
<thead>
<tr>
<th>Organisational Innovation</th>
<th>Types of emerging forms of organisation</th>
<th>Industrial Sector</th>
<th>SMEs Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½-Fusion</td>
<td>Fusion</td>
<td>E-organisation</td>
</tr>
<tr>
<td>Very Great</td>
<td>4</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Great</td>
<td>5</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Good</td>
<td>8</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Negative</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

The second critical issue noted during the interviews is determining VAP feasibility. The SMEs determines the feasibility of partners based upon factors such as the level of swift trust that can exist between or among partners online which determines whether the VAP would be feasible. A majority of the SMEs noted that they would check a potential online partner’s reputation, mutual goals, two way information sharing, social bonds, and interdependence. The literature further supports this finding in that Cullen et al., [24] noted that the characteristics of partnering firms such as adaptability to change and innovativeness are important for the success of the partnership, given that a number of changes are associated with partnering feasibility. The alignment of their strategic goals and expectations of the individual partners from the partnership is another key factor which could determine the feasibility of the partnership [24].

Implementing the VAP strategy

The overall aim of the VAP strategy at the implementation stage is to offer best customer services and experiences to guarantee the customer’s loyalty, repeat business and future business deals. In addition, the e-organisations must aim at offering best customer services, satisfying customers over the Internet and building sectoral competence and networks with global partners in the VAP.

The VAP strategy implementation stage comprises of activities intended to get the VAP working. Partners build relationships and physical assets in this stage, and set up ground rules (terms and conditions) for working together online and updates. The involvement of organisations gets broader as more stakeholders from the partnering organizations get involved in the process to “get a good job done”. The key activity in the implementation stage includes using their local resources and integration. For instance, one logistics company in the UK states that they can deliver and ship goods to any part of the world through online VAP, linking directly to partner logistics companies in other countries to handle the clearing, forwarding and delivery of the consignments to the customers, thereby speeding delivery, increasing customer trust and loyalty. Links with other VAP world-wide is a necessary component for success; this momentum is necessary for generation, creation and refinement of e-activities.
One important issue in the implementation stage is managing conflicts in the VAP, given that online partnerships do not have traditional means to rely on, such as hierarchies or the signing of binding paper contracts. Conflicts yield a test of strength of mutual benevolence and the dedication to work things out mutually in online partnerships where some of the solution paths indicated by the majority of the interviewees. Mutual adjustment and organisational justice are the most applicable means by which partnerships can develop conflict management procedures online.

Finally, the results further indicate that use of the network technology is one of the best solutions for the studied SMEs to do online business, collaborate and integrate their operational processes across the logistics and tourism boundaries. A VAP strategy requires e-trusts, e-privacy, e-security, online commitment from all partners in the chain, focus on performance and continual partnership support. In addition, taking ownership and providing leadership from within the industry and supporting the establishment on the use of the network technology to enhance customer service and loyalty. With increased research attention and a shift from manufacturing to value-added service oriented industry in the UK and other industrialised countries, such application of network technology to provide a better service level. For Ghana, it will create an opportunity to start from the correct perspective.

CONCLUSION & FURTHER RESEARCH

The prime benefit of this research is that it provides a valuable insight on some key issues in formulating, implementing and managing VAP strategy using the network facility. We believe that SMEs and other organisation can considerably improve the realisation of partnering benefits by focusing on the critical issues in the VAP process. The emerging forms of organisations cognizant of the critical issues in the various stages of the VAP chain can make systematic efforts to manage them better by providing training, incentives, leadership, and an overall online environment that facilitates VAP and realisation of partnering objectives.

One major limitation of this study is the collection of the research data only from SMEs in Ghana and the UK within logistics and tourism sectors may limit the generalisation of the results to other countries and industries. However, future research work can address this issue by incorporating data collection from other industrial sectors, customers’ partners and other regional countries into the same analysis and subsequently be tested in a large scale research and or longitudinal studies in order to get a general global analysis of the emerging forms of organisation and their e-strategies for VAP.

The study could naturally be extended by exploring other empirical critical issues we have identified, in greater detail. Given the wide variation in organisations due to size, products, and sectors, specific studies of the VAP strategy which compare partnerships along these dimensions, would also be valuable for understanding specific concerns. Further empirical studies would also help to clarify the use of VAP strategy as a means to establish and sustain competitive advantage.
ACKNOWLEDGEMENT

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Market Orientation and Corporate Social Responsibility Relationship with Banks’ Profitability

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ABSTRACT

The aim of this research is to determine the interaction effect of market orientation and corporate social responsibility on banks’ profitability. The survey approach was adopted for this study with data collected from 357 role managers of all registered commercial banks in Ghana. Hierarchical regression analysis was employed to test the research hypotheses. Results show that the interaction of market orientation and corporate social has a positive and significant relationship with banks’ profitability suggesting that banks are better off with the integration of economic and social strategies. The study confirms the theory of integrating marketing strategic frameworks for bank performance. Managers’ pursuit of economic and social strategies at the marketplace is further encouraged by this study. The trade-off decision made regarding the sampling design is the key limitation of this study. Further studies may determine the combine effect market orientation and corporate social on other outcome variables.

Keywords: market orientation, corporate social responsibility, profitability and banks

INTRODUCTION

Previous research on market orientation and corporate social responsibility has focused on individual strategic constructs and their impact on organisational performance to the neglect of their integration (Grinstein, 2008; Mitchell et al., 2010). Thus, Grinstein (2008) advised that research on market orientation should shift its focus. According to Grinstein (2008), researchers should move from the study of the direct effect of market orientation on business performance to the study of the various combinations of strategic orientations that firms can pursue in different situations. In addition, researchers are encouraged to study how the more successful market-oriented firms balance between market orientation and other strategic orientations (Grinstein, 2008; Mitchell et al., 2010). Relatively little
research sheds light on the interaction effect of the MO – CSR - performance relationship (Qu, 2009; Brik et al., 2011). Meanwhile, researchers have long postulated the benefits of integrating market orientation with social strategy (Narver & Slater, 1990; Mitchell et al., 2010). For instance, Mitchell et al. (2010) argued that the pursuit of both economic and social strategies simultaneously would not be harmful to the operations of a firm. In this regard, the key question that needs to be answered is whether the interaction of market orientation and corporate social responsibility would yield high performance for service firms. This paper is part of larger study that is designed to provide a comprehensive understanding of the link between market orientation, corporate social responsibility and business performance. The objective of this study is to test the interactive effect of market orientation and corporate social responsibility on banks profitability.

LITERATURE AND HYPOTHESES DEVELOPMENT

From conceptual and empirical perspectives, market orientation has been proven to relate positively to firm performance (Hunt, 2012; Hinson and Mahmoud, 2011; Haugland, Myrtveit & Nygaard, 2007; Dwairi, Bhuian & Jarkus, 2007; Jaworski, & Kohli, 1993). In particular, Narver & Slater (1990) discovered that market orientation is an important determinant of profitability for both commodity and non-commodity businesses. Businesses with high market orientation tend to enjoy higher profitability than less market-oriented businesses. Slater & Narver (2000) found that market orientation is positively related to business profitability, measured by return on investment (ROI). Profitability is argued to be a consequence of market orientation (Kohli & Jaworski, 1990; Narver & Slater, 1990). Kohli & Jaworski (1990), in a field interview, discovered that profitability is a consequence of a market orientation rather than a part of it. We therefore hypothesized as follows:

H1: Market orientation (MO) is significantly and positively related to banking sector profitability in Ghana.

Theoretically, it is argued that CSR has significant implications for a firm’s financial performance (Lee, 2008). CSR is vital for competitive success (Porter & Kramer, 2002; Orlitzky et al., 2003). A good name can enhance business in good times and protect it during a crisis (see Ofori and Hinson, 2007; Smith, 2007). Smith (2007) argues that the prolonged advantage of corporate social responsibility ensures sustainable economic advantage and should be a long-term objective of any organization. Scholars, in discussing the link between corporate social performance and financial performance, have shown that there is evidence suggesting that engaging in corporate social responsibility practices result in an increase in the overall profitability of firms (Margolis & Walsh, 2001; Orlitzky et al., 2003).

Conversely, Aupperle et al. (1985) did not find any relationship between corporate social responsibility and firm profitability. According to their findings, varying levels of corporate social responsibility activities did not correlate with firm performance. Scot (2007) is of the
view that corporate profitability is a necessary condition for corporate responsibility. Similarly, corporate social responsibility can help companies succeed and increase their profitability and overall performance (Olowokudejo et al., 2011). Having discussed previous scholarly works on CSR and organisational performance, we hypothesised that:

H₂: Corporate social responsibility (CSR) is significantly and positively related to banking sector profitability in Ghana.

Market orientation transformation competence has been advocated by a number of scholars in previous studies (Mitchell et al., 2010; Morgan et al., 2009). The interaction effect on organisational performance is assessed by integrating market orientation and other organisational competences such as corporate social responsibility, learning, innovation, and positioning in recent times (Blankson, Cowan, Crawford, Kalafatis, Singh, & Coffie, 2013; Han, Hansen, Panwar, Hamner, & Orozco, 2013). This should result in some sort of synergy, and thus translate into superior organisational performance (Narver & Slater, 1990; Maignan et al., 1999; Qu, 2009; Pirithiviral and Kajendra, 2010; Brik et al., 2010; Arshard et al., 2012). An emerging logic in marketing is that it exists to provide both social and economic processes, including a network of relationships to provide skills and knowledge to all stakeholders (Vargo & Lusch, 2004). Scholars’ attention has been drawn in recent times to the fact that market orientation needs to be incorporated as a bundle into other strategic actions to achieve effective and efficient performance (Maignan et al., 1999; Cano et al., 2004; Qu, 2009; Brik et al., 2010). Further, Mitchell et al. (2010) are calling for the incorporation of macro marketing variables such as corporate social responsibility, ecological and environmental issues as additional variables into future market orientation studies.

H₃: The interaction of MO and CSR is significantly and positively related to banking sector profitability in Ghana.

**METHODOLOGY**

The quantitative research design is chosen for this paper because of the research paradigm subscribed, that is, the positivist philosophy. Within the quantitative research design, two major strategies available to researchers are the survey and experimental strategies or designs (Creswell, 2009). The survey was preferred to experimental research due to its numeric description of trends, opinions of a population. In particular, the opinions of managers are considered in this research.

The sampling procedure employed for this study is the judgmental sampling approach. The sampling unit for this study was heads of various units within the banking sector referred to as role or functional managers of commercial banks in Ghana. This category of managers was a vital source of key information on the banks’ level of market orientation, corporate social responsibility and business performance.
The required sample size for research using multiple regressions as a major form of analysis depends on a number of issues, such as the desired statistical power, alpha level and the number of independent variables. The sample size used for this paper was 357, which falls within the acceptable range. It is important to note that the sample size employed in this study compared favourable to similar researches (see Mahmoud & Hinson, 2012; Morgan et al., 2009; Dwaire et al 2007).

The research constructs was operationalised using previously available scales in market orientation (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993), corporate social responsibility (Carroll, 1979; 1991; Maignan et al., 1999) and organisational performance (Slater & Narver, 1990; Agarwal et al., 2003) measures. Eight main control variables are used in this paper. These include market and firm level related variables. The firm level variables included firm age, size, assets and ownership. The market related variables included competitive intensity, market turbulence, technological turbulence, and buyer power as well as the strength of the economy (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993).

**Model specifications**

\[
PR = \alpha + \beta_1 FS + \beta_2 AG + \beta_3 OWN + \beta_4 ASS + \beta_5 TT + \beta_6 CI + \beta_7 MT + BP \beta_8 + \beta_9 MO + \epsilon
\]

\[
PR = \alpha + \beta_1 FS + \beta_2 AG + \beta_3 OWN + \beta_4 ASS + \beta_5 TT + \beta_6 CI + \beta_7 MT + BP \beta_8 + \beta_9 CSR + \epsilon
\]

\[
PR = \alpha + \beta_1 FS + \beta_2 AG + \beta_3 OWN + \beta_4 ASS + \beta_5 TT + \beta_6 CI + \beta_7 MT + BP \beta_8 + \beta_9 MO + \beta_{10} CSR + \beta_{11} (MO*CSR) + \epsilon
\]

Where PR = Profitability, FS = Firm size, AG = Age of the firm, OWN = Ownership, ASS = Assets, TT = Technological turbulence, CI = Competitive intensity, MT = Market turbulence, BP = Buyer power, MO = Market orientation, CSR = Corporate social responsibility and \(\epsilon\) = random disturbance term or error term and \(\alpha\) = constant.

**RESULTS**

As in the preceding analyses, the differential effects of four internal and external variables were controlled. In Model 1, altogether, the control variables accounted for 28.8 percent of the explained variation \((R^2 = .288, F= 8.596, p < .000)\). The analysis was proceeded in step 2 by including market orientation into Model 2, finding a significant positive relationship between market orientation and profitability \((B = .242, p < .000)\), with market orientation explaining 34 percent of the variance \((R^2 = .044, F= 9.893)\). Step 3 involved including corporate social responsibility into Model 3, which resulted in a significant positive relationship between profitability and the former \((B = .134, p < .05)\), adding a variance beyond Model 2 \((\Delta R^2 = .010, F= 9.757, p < .000)\).
In the final step, that is step 4, the interaction term MO x CSR was entered into Model 4. As Table 1 shows, the association of the interaction term with profitability is positive and statistically significant (B = 0.521, p > .05). In addition, the inclusion of the interaction term in step 4 resulted in an explained variation of 34.6 percent in Model 4 compared to 34.2 percent in Model 3. In essence, the interaction term did improve the overall predictive power of the model (Δ $R^2 = .004$; $F = 9.403$, $p < .000$). Thus, it was felt that proceeding with a further analysis would help with the clarification of the pattern of interaction among these constructs (that is, market orientation, corporate social responsibility and profitability).
<table>
<thead>
<tr>
<th>Table 1: Interactive effect of MO and CSR on Profitability</th>
</tr>
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<tbody>
<tr>
<td>Independent Variable(s)</td>
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<tr>
<td>Model 1</td>
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<tr>
<td>B</td>
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<tr>
<td>--------</td>
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<tr>
<td><strong>Stage 1: Control Variables Entered</strong></td>
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<tr>
<td>(Constant)</td>
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<td>-</td>
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<tr>
<td>Age dummy: 3 – 4 years</td>
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<tr>
<td>.149</td>
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<tr>
<td>Age dummy: 5 – 6 years</td>
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<td>.128</td>
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<tr>
<td>Age dummy: 7 – 8 years</td>
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<td>.012</td>
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<tr>
<td>Ownership dummy: local private</td>
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<tr>
<td>-.077</td>
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<tr>
<td>Ownership dummy: local public</td>
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<tr>
<td>-.087</td>
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<tr>
<td>Ownership dummy: joint venture</td>
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<tr>
<td>.127</td>
</tr>
<tr>
<td>Average assets dummy: &lt; 2m</td>
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<tr>
<td>.128</td>
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<tr>
<td>Average assets dummy: 2 – 5m cedars</td>
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<tr>
<td>.050</td>
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<tr>
<td>Average assets dummy: 6 – 10m cedars</td>
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<tr>
<td>-.022</td>
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<tr>
<td>Average assets dummy: 11 – 15m cedars</td>
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<tr>
<td>-.020</td>
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<tr>
<td>Total employee dummy: less than 30 employees</td>
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<tr>
<td>.052</td>
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<tr>
<td>Total employees dummy: 31_60 employees</td>
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<tr>
<td>-.010</td>
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<tr>
<td>Technological Turbulence</td>
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<td>.192</td>
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<tr>
<td>Competitive Intensity</td>
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<td>.063</td>
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<td>Market Turbulence</td>
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<td>.088</td>
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<tr>
<td>Buyer Power</td>
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<td>.131</td>
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<tr>
<td><strong>Stage 2: MO Entered</strong></td>
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<tr>
<td>MO</td>
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<td>.242</td>
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<tr>
<td><strong>Stage 3: CSR Entered</strong></td>
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<td>CSR</td>
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<td>.134</td>
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<tr>
<td>MO x CSR</td>
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<td>.521</td>
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Notes: MO – Market Orientation; CSR – Corporate Social Responsibility; *values are significant at 10 percent; **values are significant at 5 percent; ***values are significant at 1.
DISCUSSION AND CONCLUSIONS

A positive and significant relationship between market orientation and profitability resonates with early scholars’ position that market orientation is a tool for business performance (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993). This finding in the banking sector in Ghana also gives backing to the large number of studies in the marketing and management literature reporting on the relationship between market orientation and profitability (see Narver & Slater, 1990; Slater & Narver, 2000; Kirca et al., 2005). In the same way, the positive and significant relationship between corporate social responsibility and overall business performance gives support to the theory that good social conduct of banks is beneficial to their operations, both in the short- and long-run. The finding on the relationship between CSR and profitability resonates with prior studies that indicate that CSR has a significant relationship with firms’ financial performance (Oritzky et al., 2003; Lee, 2008; Olowokudejo et al., 2011).

The effect of the integration of market orientation and corporate social responsibility on profitability was found to be positive and significant in the banking sector in Ghana. The finding gives support to the theory and the essence of integrating MO and CSR for business profitability. This finding also lends support to the argument that the pursuit of economic and social strategy is beneficial to firms (Narver & Slater, 1990; Mohr & Sarin, 2009; Mitchell, et al., 2010). The findings therefore confirm previous scholars’ calls for the integration of market orientation and other strategic variables for firms’ profitability (Narver & Slater, 1990; Morgan & Strong, 1995; Grienstein, 2008; Maignan et al., 1999; Brik et al., 2011; Mahmoud & Hinson, 2012; Ashard et al., 2012; Qu, 2009).

This finding suggests that banks in Ghana that engage more in CSR programmes and customer centric strategies like market orientation are better placed to generate profits. This bears out with Narver & Slater’s (1990) findings that market orientation is an important determinant of profitability for both commodity and non-commodity businesses.

In conclusion, a key message of this paper to the banking industry is that although market-oriented banks are in a good position to achieve profitability, managers must not take it for granted that efforts to increase market orientation will automatically enhance profitability. Instead integrating other strategic competence is necessary to transform a market-oriented corporate culture into superior performance outcomes (Mitchell et al., 2010). This research confirms previous scholars’ suggestion that CSR competence in addition to market orientation may lead to higher profits. Further studies may determine the combine effect market orientation and corporate social on other outcome variables such service quality, employee commitment or combination of objective and subjective measures of performance.
REFERENCES


Female Entrepreneurship in Ghana: Strategies for Coping with Challenges

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ABSTRACT
This study reveals the strategies employed by Ghanaian women entrepreneurs to cope with the gender sensitive challenges they experience in their business to ensure a positive outcome. The study was qualitatively conducted with 20 women entrepreneurs located in Accra metropolis responding to an interview guide. The study found that Ghanaian women in conducting their business faced challenges including balancing family responsibilities with entrepreneurial roles; being taken advantage of by their male suppliers or customers; lack of finance; competition from other service providers especially when they were women; managing employees and dealing with influences from spouse.

The respective strategies adopted to cope with these challenges were time management and planning ahead; doing things related to the business right; building on cashflow of the business at the bank; employing marketing strategies; laying down rules for staff to follow and communicating to spouse on issues concerning the business. This research adds to knowledge on gender and entrepreneurship by focusing on the unique challenges faced by Ghanaian women entrepreneurs and the coping strategies they employed to manage them in order to grow and succeed.

Keywords: Female entrepreneurship, Ghana, coping strategies

INTRODUCTION
In the context of current society, which is characterized by equal opportunities for men and women, gender is of interest in entrepreneurship research (Duchénant and Orhan, 2000; Orhan and Scott, 2001). Until then, research on female entrepreneurship received proportionally less attention than research concerning entrepreneurship in general. Given this late start there is only a relatively small and fragmented base of research on women’s entrepreneurship (Bruin et al., 2006). As such, the topic on coping strategies employed by female entrepreneurs to deal with their challenges in order to be successful is a valuable contribution to knowledge.

Additionally, Saffu and Manu (2004) assert that literature on women entrepreneurs tends to focus on developed countries leaving limited knowledge on women entrepreneurs in developing countries such as Ghana. Although some research has been done on female entrepreneurs in Ghana by researchers such as Dzisi (2008); none focused the coping
strategies that they employed to overcome their challenges in order to obtain upward mobility in their business.

The past few years have especially shown an increase in the number of Ghanaian women entering into business (Dzisi, 2008) and how Ghanaian women entrepreneurs are hardworking. With this description, one would expect their businesses to grow, however their business growth often stagnates and sometimes fails so that they have to wind up their businesses. Fortunately some women entrepreneurs have managed to grow and succeed as their male counterparts despite experiencing challenges as they run their business. How did they cope with the challenges they faced?

LITERATURE REVIEW

Research has indicated a significant increase in the creation of businesses by women however the rate as compared to that of male entrepreneurial activity is still significantly low (Langowitz and Minniti, 2007). There are several, varied reasons that go to explain the gap in the numbers of men and women starting a business.

Although women entrepreneurs face a variety of challenges, they manage to pull through and some even emerge as successful as their male counterparts. Research on the coping strategies employed by women entrepreneurs to overcome their challenges is fairly scanty and even more so from a Ghanaian context. Nevertheless, a report prepared by the ILO (2003) on Tanzanian women entrepreneurs, revealed that the women managed to develop small informal enterprises by adopting a number of strategies to deal with challenges that they faced. These include:

1. Accessing finance through finding alternative forms of collateral, planning ahead and finding creative ways of using MFIs (Micro-Finance Institution);
2. Dealing with unfriendly laws and regulations by being firm with tax officials and sending them a clear message that they are not ready to pay any bribes;
3.Dealing with competition in the market by adopting a number of deliberate marketing strategies. As a result, the women cultivate knowledge about the needs and tastes of their customers, focus on the quality of their services and maintain quality. Other marketing strategies include advertising their services in mass media, attending trade fairs, recruiting and retaining highly qualified staff and motivating them to deliver the best service possible;
4. Competing for skilled employees by developing a number of strategies to attract and retain skilled workers. They have introduced incentives in the form of good salaries and other benefits such as free lunch and providing annual leave;
5. In dealing with managing multiple roles and demands on their time from family members, the women deliberately decided to focus their efforts on a few activities in order to be effective whilst attending to their domestic responsibilities and taking the children to the business to observe her in carrying out her duties at work so that seeing how busy she is they reduce demands on her to be at home for longer periods;
6. The women also obtained the support and co-operation of family by purposefully cultivating trust, confidence and co-operation from their spouses and making sure that they are open and transparent to their husbands about all their activities. As a
result, elements of suspicion which may prompt their spouses' to restrict their movements or working hours are reduced to the barest minimum.

This study attempts to fill the gap on the coping strategies employed by Ghanaian female entrepreneurs in overcoming their challenges. To do this, the researcher explores the effectiveness of coping strategies used by Tanzanian women entrepreneurs to overcome their challenges when applied in a Ghanaian setting.

THE CONCEPTUAL FRAMEWORK

The focus of this paper is to examine the strategies used by Ghanaian women entrepreneurs to cope with challenges in growing and succeeding at their business. The paper highlights major strategies employed by Tanzanian women entrepreneurs to cope with the challenges they experience such as borrowing money from banks; competition in the market; competing for skilled employees; managing multiple roles and demands on time from family and work responsibilities (ILO, 2003). These include: alternative forms of collateral; planning ahead; creative use of funds; employing marketing strategies to combat competition; incentives to attract competent staff and obtaining support and cooperation of family. The outcome of employing these strategies were derived from Dzisi (2008) on . As such the conceptual framework below was created by the author with its foundation based on information from literature on studies done by Dzisi (2008) on women entrepreneurs in SMEs in Ghana and an report on Tanzanian women entrepreneurs.
The framework illustrated above provides a guide for the entire research. As indicated in the first box, female entrepreneurship in Ghana is the subject of the study with particular emphasis on their potential challenges as seen in the extreme left-hand box; then the coping strategies that they may adopt to overcome their challenges in the middle box and finally the outcomes of their coping with their challenges in the extreme right box.

The box of the list of challenges and coping strategies were derived from the ILO (2003) report on the coping strategies of Tanzanian women entrepreneurs. These strategies were explored within the Ghanaian context to find out which ones were similar to those being used by Ghanaian entrepreneurs and if there were different ones, to find out what they were. The box of outcomes was also derived from literature particularly from the study done on female entrepreneurs in SMEs in Ghana (Dzisi, 2008) on women entrepreneurs in small and medium enterprises (SMEs) in Ghana.
These outcomes were likewise explored within the Ghanaian context to find out if they were still the same for Ghanaian women entrepreneurs when they were able to cope with the challenges they faced and if not; what the different outcomes were.

The arrows linking “challenges” to “outcome”, “coping strategies” to “outcome” and also “challenges” to “coping strategies” shows that the antecedent constructs (that is challenges and coping strategies) leads to consequent construct (that is outcome).

RESEARCH METHODOLOGY

The qualitative method of research was used to conduct the study. Reason being it affords the ability to provide insights and understanding into the problem setting whose understanding was otherwise limited. The sample size of the study consisted of 20 women entrepreneurs currently engaged in business in the Accra metropolis in Ghana. The 20 respondents were selected through a purposive sampling technique to ensure that response obtained were directed from a particular category of the population which in this case were women who had overcome the challenges that they faced in their business ventures in order to grow. This was also done by assessing indicators such as the number of employees they had, and their financial and asset returns over the time in which they had been in operation.

The operational definition of a woman entrepreneur used for the study was adopted from Moore and Buttner (1997) and OECD (2004). Thus the selection was done based on whether the women entrepreneurs either owned all of her business, or was the majority shareholder; whether she had initiated the business and is actively involved in managing it; had her business based in the municipality under investigation, in this case the Accra metropolis and also if she has been in operation for at least one year.

Data collection was conducted on a one-on-one basis through the use of a semi-structured interview guide. Initial questions comprised of a set of standard demographic and background questions of the respondents and their business venture. Groups of open-ended questions relating to the research questions were also asked. The interviews were all audio-recorded.

Information obtained from the recorded interview was coded after which they were transcribed for analysis. In analyzing, the researcher took in the suggestion of McCracken (1988) by using her personal knowledge and experiences as tools to make sense of the material. These tools were intangible and undocumented and consist of the researcher’s unique impressions (McCracken, 1988).

RESULTS

Building Cash Flow at the Bank as a Coping Strategy

The women adopted diverse strategies but one strategy that was employed by most of them was building their cash flow at the bank. As a restaurant owner expressed:

“I will let you in on one of my secrets. Whenever I make profits or make sales or get money from alternative sources of funds such as from my husband, I deposit it at the bank immediately as possible. Then, I don’t leave it there for safekeeping, I got for it soon after that and the use it for what it is intended for. I also pay myself through the bank account. All these show that my bank cash flows are good and so when I apply for a loan and my
statement is requested for, any banker can see that the business is really in operation and doing well and so I am granted loans and I am always able to pay back and make more money from it. Forget about the interest rates, that is inevitable and that is how the banks can survive you know, and that is alright with me. I used to take millions of money from the bank as loans but now I take more than that. Even if I want a billion, they will make it available to me and I believe it is as a result of my impressive bank cash flow. Look, the cars I drive, the furniture and décor at the restaurant, the machinery as well as the equipments and other things were all bought from the loans I took and they facilitated my business a lot and got me this far. The banks are good and if you hear that any bank is giving out loans let me know and I will be there (jokingly). Anyone who says bank loans or banks are bad does not know what they are losing without them”.

**Time Management and Planning as a Coping strategy**

The respondents highlighted time management and planning as the strategy they used most to manage or cope with this challenge. One woman who owned a school that trained health personnel and provided carers for patients that were bedridden explained in details:

“I like time management very much. Before I go to work, I plan the next day’s program so knowing that my children will have to be ready for school, I have to know when to get up, when to prepare breakfast and send them to school. And even when to send them to bed. It is very important so planning is a hallmark in coming this far. Then in every home, food is one area that when you deny your family they cry for it so what do you do? You have to plan for your marketing, shopping periods and cooking. You ask yourself which food items you can store in your freezer, which you can store in the fridge and which you can leave in the storeroom. These are things I really took time to consider so that I know I have done shopping that can take me for 2-3 days or I have done shopping that can take me for one week or I have done shopping that can take me for a whole month depending on the food item. So these were things that I really had to do seriously and then getting someone to do my laundry for me because I couldn’t combine all, so there was this man who comes in every Saturday or sometimes Friday to do all the washing and ironing and it was my responsibility just to pack them into various compartments that I had for my children, my husband and then myself. Then, I also have to keep a diary to know this day what I am doing and where I am supposed to be etc. Although sometimes there were conflicts with some of the events in my day, at least it served as a guide so that I am quickly able to put myself in the right position rather than cross my itinerary. I believe in time management and saying if my children have to go to bed at 8pm then they have to go to bed at 8pm, if I have to wake up at 5am, I have to wake up at 5am so that I can have more time to do things I the home before I leave for work. Also I always tidy up in the night before I sleep so I ensure that the kitchen is clean, my wardrobe s and bathroom are clean before I sleep so that when I am leaving home at least I have a decent home. That stops the men from talking”.

Furthermore, 2 women indicated that they had assistance from house helps. Another 4 of the women indicated that they were assisted by family members who stayed with them. Irrespective of this, they supervised them and still had to do some time management to combine their responsibilities and roles as mothers, wives and entrepreneurs effectively.
Doing Things Related To the Business Right as a Coping Strategy

Majority of the women indicated that they had learnt to do things related to the business right. This is reflected in the words of one of the respondents interviewed:

“In running this school, I have had to deal with male bank managers and bankers and I have never had any problem because I come to you as someone who has qualification, who has the accreditation and who has what it takes to be in the system to do what I am doing. I come to you at that level and so there is nothing for you the man to use to take advantage of me”.

Furthermore, to 2 of the women doing things related to the business right meant knowing what to say and do when they confronted men.

“I am conscious of what to do, what to say at any particular moment when I know I have to meet with men and I have to solicit for their help in a legal and morally right way. So when you know how to address them and how to comport yourself, men can never take advantage of you because you are a woman”.

Employing Marketing Strategies as a Coping Strategy

Majority of the respondents (14 women) indicated that they employed marketing strategies. Many of them expressed that they had developed knowledge of the needs and tastes of their customers; maintaining quality; advertising their services in mass media; attending trade fairs; recruiting and retaining highly qualified staff’ and motivating their employees to deliver the best service possible.

By this one woman entrepreneur said this:

“In fact, I have a lot of marketing strategies which I use to attract and retain customers. I also believe I offer excellent customer service and I make sure that my customers are satisfied with the services offered before they leave”.

Laying Down Rules and Regulations for Staff as a Coping Strategy

The women coped with increasing growth and management of staff by laying down rules and regulations for the staff to follow. This is reflected in one woman’s comment:

“I have set up rules to put them in check and made my intentions clearly known to them that I will not tolerate anyone who disrespects my customers. To show them I meant it I dismissed one of them just two weeks ago and I think that action has made the rules sink in quicker than I anticipated. I have not had any complaints from any customer yet”.

Communicating to Spouse on Issues Concerning the Business as a Coping Strategy

Majority of the women coped with spousal interference by communicating to their spouse on matters relating to the business. This is captured in one woman’s response to a question on how she dealt with influences from her husband as directed to her business.

“I decided to communicate to my husband about my business in order to cultivate his trust and co-operation”.

DISCUSSION

Figure 2: Post Study Framework of the Study
The post study framework is the proposed model by the author after data was collected and analysed. It illustrates the coping strategies Ghanaian women entrepreneurs employ to manage their challenges and the subsequent outcome. The challenges include challenges from balancing their family responsibilities with their entrepreneurial roles, being taken advantage of by male suppliers, customers or business partners, lack of finance, competition from other women, managing employees and dealing with influences from husbands.

To succeed as businesswomen, Ghananain women entrepreneurs employ the following strategies: managing their time, planning ahead, building on the cashflow of the business at the bank, doing things related to the business right, employing marketing strategies, laying down rules for staff to follow and being open and transparent with their husbands. Although there are similarities with some of the coping strategies in the ILO (2003) report of Tanzanian women, there are some though which were newly discovered as coping strategies used by Ghanaian women entrepreneurs. These include time management, planning ahead, building on the cashflow of the business at the bank, doing things related to the business right, laying down rules for staff to follow and being open and transparent with their husbands.
The framework indicates that when they are able to cope with challenges using the strategies mentioned, the outcomes are an increase in their contribution to the welfare of their family, or a realization of their business vision or the ability to diversify. They may realize more than one of these outcomes though. Once again, the arrows linking “challenges” to “outcomes”, “coping strategies” to “outcome” and also “challenges” to “coping strategies” shows that the antecedent constructs (that is challenges and coping strategies) leads to the consequence construct (that is outcome).

CONCLUSION

The paper as intended made efforts to fill a gap by contributing knowledge to the female entrepreneurship literature, and ultimately providing further insight into the theory of entrepreneurship. It explored and highlighted the coping strategies used to overcome the challenges faced by Ghanaian women entrepreneurs. This study therefore will be helpful to future researchers who are interested in investigating women's entrepreneurship and who need valid and improved information to initiate measures to support women's entrepreneurship.

Implications to practice are; management training support may be given to women entrepreneurs particularly in human resource management however, in organizing these training programs for Ghanaian women entrepreneurs (whether by NGOs or governmental agencies), considerations may be taken to tailor the programs according to their time constraints and family responsibilities so as to enable them to have access to specific areas of business related-training. Additionally, a website catering to women-specific business issues could be created. To enable illiterate women entrepreneurs to benefit from this as well, an organization with trained personnel and policies may be formed to respond to similar issues. Furthermore, to help reduce the stress on women entrepreneurs due to their cultural and social expectations, men may be encouraged to understand the need to help women with domestic chores and childcare responsibilities.

Implications to policy include: The government could focus on increasing transparency and trust in the authorities involved in the activities of entrepreneurs. This may reduce opportunities for women to offer bribes and for authorities to accept them. Then, the government could use the media such as the television and radio which are the most widespread form of media in Ghana to highlight women entrepreneurs and role models who have managed to “break through the glass ceiling”. These programs could tell the experiences of accomplished women entrepreneurs and how they addressed their challenges in business.

Further research may continue to improve understanding of women’s entrepreneurship especially in developing economies of the world. For instance, a study conducted to analyze the whole financial system and traces where gender discrimination in accessing credit to women takes root from may help to clarify the lack of financial support for women entrepreneurs.
REFERENCES


Track D:

Operations Performance Management and Sustainability
Track Summary

Papers in this track focused on ways of improving operational efficiency, efficient service delivery and the need for continuous operational and performance assessment. These are known ingredients for creating sustainable business growth and development.

To improve on service delivery and reduction of cost through reducing delays in the delivery of healthcare services, a paper in this track adopted an operational research tool - queuing theory - to describe the queuing systems at the University of Ghana Hospital and to find better ways of improving the queuing system with the queuing model. Specifically, the findings show that Doctors are very busy on weekdays than on weekends, and therefore conclude that healthcare managers can employ the queuing model in the day to day activities of managing the health center, especially for employee scheduling or staffing activities. In addition, a model is designed to assist practitioners and healthcare professionals in the use and implementation of the Six Sigma model, to Define-Measure-Analyze-Improve-Control (DMAIC) quality improvement procedures. It recommends the need to integrate the Six Sigma quality improvement model gradually into healthcare delivery processes for quality and improved service delivery. The need for Total Quality Management (TQM) practices in Ghana was also emphasized in this track, since the practice was found to be low in Ghana. Effective TQM implementation is noted to improve firms' competitive abilities and provide a strategic tool for global competition, leading to business development.

To throw more light on improving service delivery for sustainable business, the track emphasizes on creating efficient service delivery and optimizing operational efficiency. This enhances firms' profitability, performance and operations over a period. To appreciate sustainability in the banking industry, an integrated performance measure (TOPSIS), was used to rate the sustainability situation of banks, and found that traditional big banks in Ghana are relatively sustainable whereas most of the smaller and newer banks are economically unsustainable.
Reducing delays in healthcare- A queuing theory approach

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ABSTRACT

Delays occur as a result of long queues and a poor service system. The American Institute of Medicine outlined timeliness as one of the key issues to consider in healthcare. Healthcare management tries to reduce these long queues by applying several changes in staffing but most of these measures are not done using Operations Research methods. This study seeks to describe the queuing systems in the University of Ghana Hospital using Queuing theory and better ways of improving the queuing system with the queuing model. Directly observing the queues and using the patients ‘arrival rate and the health workers’ service rates, results showed that the time a patient spends at the consulting room is independent of the patient’s gender, type of disease and patient daily visits. Findings reported that Doctors were very busy on weekdays than during the weekends.

Keywords: Queuing theory, Patients, Arrival rates, Service rate

INTRODUCTION

Quality healthcare provision has been placed as a major agenda on healthcare policies and healthcare provision (Atinga, Abekah-Nkrumah, & Domfeh, 2011). Improving service quality is concerned with the availability of effective and modern equipment, the availability of skilled healthcare staff or personnel and the quality of service provision. Another way of improving the quality of service is the effective management of queues and the reduction of delays. This is evident as the American Institute of Medicine in its 2010 report outlined timeliness as one of the six key attributes for improvement in healthcare (United States Department of Health Services, 2010). Delays as defined by Green (2011) refer to the result of a disparity between the demand of a service and the capacity available to meet the demand. This is mainly due to the natural variability in timing of demands and in the duration of time needed to provide the needed service.

Queuing theory is one of the methods that can be used to improve the queuing systems. This theory is the analysis of waiting lines or queues using mathematical and statistical models. A queuing system is any system in which arrivals place demand upon a finite capacity of resource (Singh, 2006). With the unbearable nature of queues in our health centres these days, many health care facilities try various means to provide efficient, safe and cost effective ways of providing better health care service to customers or patients to meet the growing demand of health care service due to increasing population (Green, 2011). A
queue that is not properly managed can cause medical catastrophes as well as the patient’s dissatisfaction with the system (Fottler, Ford, & Heaton, 2002). Fottler et al also noted that there is the need to balance the healthcare centre’s need to ensure effective patient care with the huge costs of building and maintaining the healthcare capacity.

Studies on quality health service deliveries in Ghana have largely focused on hospital governance and Health insurance (Abor, Abekah-Nkrumah & Abor, 2011; Akortsu & Abor, 2011; Atinga, 2012), staff friendliness (Avortri, Beke & Abekah-Nkrumah, 2011) and facility based systems (Atinga & Baku, 2013, Adzei & Sakyi, 2014) without a distinct discussions on waiting times. Atinga, Abekah-Nkrumah & Domfeh (2011) however discussed an aspect of waiting times in their study on patient satisfaction but made no use of Operations Research tools. The study therefore uses queuing theory to study arrival and service patterns of patients and health personnel respectively in the hospital and to work out how to schedule appropriate staffing levels for health workers to prevent delays. To the best knowledge of the researcher, Operations Research Tools have not been used in the analysis of waiting times in hospitals in Ghana. This study therefore leads the frontier of the use of such tools in healthcare management in Ghana, adding to the body of knowledge and application of the theory of queues.

LITERATURE REVIEW

Patient flow and Timeliness in Health care

Hall (2006) describes patient flow as the ability of the healthcare system to serve quickly and effectively as they move through the various at ages of their healthcare (carrying out of tests, treatments, discharge processes etc.). At times when there is a smooth patient flow, patients are said to flow like a river through their stages of healthcare. Patient flow also deals with the movement of patients through some set of locations in the health facility (Cote, 2000). According to Cote, there are four main characteristics of patient flow. This includes the entrance point, the exit point, the path that links the entrance to the exit and the random nature of the healthcare elements. Movements of patients can be ensured through an effective distribution of health resources. Planning and scheduling of resources are made easier when management of the health sector have understanding and knowledge in the nature of the flow of patients in their respective healthcare facilities. Queuing delays are also reduced when there is a good patient flow. It is therefore the aim of any manager in the health sector to ensure a smooth patient flow in the hospitals as it is critical to healthcare mission success (Wang, 2012).

Timeliness is the health care system’s capacity to provide care quickly after a need is recognized. As a result the US Department of Health and Human Resource in their National Healthcare Quality Report for 2010 identified timeliness as one of the six key attributes in aims for improvement in quality healthcare delivery. The report also gives the time spent waiting in doctors’ offices and emergency departments (EDs) and the interval between identifying a need for specific tests and treatments and actually receiving services as measures of timeliness. Lack of timeliness results in emotional and physical distress and a higher treatment cost for patients. Green (2010) also indicated three major sources of
delay in healthcare delivery which include the delay for emergency department physicians, the delay for in-patient flow and delays due to lack of availability of nurses. The application of queuing theory in this context is due to the fact that the interactions in arrivals and service mechanisms are very complex and random and as a result it is quite impossible to predict levels of congestion and to determine how much capacity of service will be needed to achieve a targeted level of performance without the use of a queuing model (Russell & Taylor, 2010).

**Queuing theory and health**

The buildup of queues and its ineffective management causes delays. Delays as defined by Green (2010) refer to the result of a disparity between the demand of a service and the capacity available to meet the demand. This is mainly due to the natural variability in timing of demands and in the duration of time needed to provide the needed service. Cochran (2010) also indicated that timely access to healthcare is a very key component to quality healthcare delivery. Patient delays often results in patients' dissatisfaction and this pose adverse clinical consequences on the part of the patient and the health workers as well as hospital management.

Singh (2006) outlined that the use of queuing theory and its operations in the health sector is fairly recent. It was also noted by him that the rising cost of healthcare is not only attributed to the ageing population and expensive treatment modalities but also it is due to gross inefficiencies in delivering quality healthcare. He thus outlined that the application of queuing theory is an attempt to help minimize the cost of healthcare service and reduce unwanted delays in patient flows. Queuing theory tends to help in the scheduling of resources (e.g., doctors and nurses) to match patterns of arrival of patient and ensure a constant system monitoring (e.g., tracking number of patients waiting by location, diagnostic grouping, gender etc.) which can be linked to immediate actions (Mehandiratta, 2001). In a study conducted in the United States of America, the volume of queues varied from an average of 72 patients per day on weekdays and an average of 62 workers per day on Saturdays (Green & Kolesar, 2006). This indeed indicates that staffing levels should not be the same across all the days of the week and hence the need to provide the optimal staffing levels with the help Operations Research.

**RESEARCH FRAMEWORK**

**The queuing model**

Queuing theory falls under stochastic processes and decision analysis and it is applied to the analysis of waiting lines. Just as queuing is inevitable in our everyday lives, it is thus important to come out with ways of enhancing these queuing systems. Queuing theory attempts to use mathematical and statistical models to solve delaying problems arising from long queues.
The arrival rate (denoted by \( \lambda \)) is simply the average arrival times for a given period. It is usually the expected value of the underlying probability distribution of the arrival pattern. The average time spent per customer for a given period is known as the service rate (denoted by \( \mu \)). It is also the expected value of the probability distribution of the service pattern. The traffic intensity denoted by \( \rho \), also known as the system utilization is the ratio of the arrival rate to the service rate. A fully utilized queuing system is the one whose traffic intensity is exactly one. A traffic intensity of more than one indicates that service rate is less than arrival rate and as a result there is a high probability of customers being reneged. As a measure of comparison, the traffic intensity is a dimensionless measure and as a result it is necessary for both arrival and service rates to bear the same units of measurement in order for them to cancel out when computing traffic intensity values. In most queuing systems, we are interested in the behaviour of the system as the time \( t \) approaches infinity. This is known as the limiting probability distribution of the system (Bhat, 1984). These probabilities can be found by solving a system of linear equations. Most of the analysis is directed towards the steady state results. A steady state condition prevails when the behavior of the system becomes independent of time. On the other hand, we have a transient state when the system and its characteristics are time dependent.

**Model assumptions**

We assume that the model necessary for the analysis of the hospital queues is the M/M/s queuing system. The M/M/s queuing system is characterized by a Poisson input or arrival distribution, an exponential service time and \( s \) number of service (Breuer & Baum, 2005). This kind of notation was introduced by David G. Kendall. The first letter represents the probability distribution of the arrival process, the second letter represents the service time distribution and the third represents the number of servers present in the system. Generally it is known as the A/B/C system of notation. The steady state results for the M/M/s queue are presented below:

- The traffic intensity \( \rho = \frac{\lambda}{s\mu} \)
- The probability that a server is free is \( \pi_0 \)
- The probability that all servers are busy = probability that the number of customers in the system \( \geq s \): \( \frac{\rho^s}{s!} \pi_0 \frac{1}{1-\rho} \)
- Expected number of customers in the system: \( L_s = \frac{\rho \pi_s}{(1-\rho)^2} + s \rho \)
- Expected number of customers being served: \( S = s \rho \)
- Expected number of customers in the queue: \( L_q = \frac{\rho \pi_s}{(1-\rho)^2} \)
- Expected time spent in the queue: \( W_q = \frac{L_q}{\lambda} \)
- Expected time spent in the system: \( W_s = \frac{L_s}{\lambda} \)

Our major concern is with the decision making aspect of the queuing situations. Any patient who walks in the hospital prefers a situation where there will be little or no queue and therefore it becomes appropriate for management to increase the level of service.
(especially number of servers). However, if the organization decides to increase the level of service provided, cost of providing services would increase, if it decides to limit the same, costs associated with waiting for the services would increase. Therefore there is the need for management to balance the two costs and make a decision about the provision of optimum level of service, thus the level of service which will reduce cost and at the same time improve the queuing situation.

**RESEARCH METHODOLOGY**

The study was conducted at the University of Ghana Hospital. The University of Ghana Hospital also known as the Legon Hospital is situated at Legon, a suburb of Accra in Ghana. The hospital’s main vision is to provide quality health care mainly to students of the University. Over the years with increasing population however, the hospital now manages cases from patients residing in neighbouring areas far and near. The hospital now operates 24 hours Monday to Friday through to the weekends. Apart from outpatient services the hospital provides services like obstetrics and gynecology, general surgery, child health, family planning, maternity and other specialist services like dermatology, psychiatry, ophthalmology, urology, dental health and optometry. The variables used for the analysis included the gender of patient, the day of patient’s visit to the hospital, the patient’s ailment or diagnosis and time patient spent at the consulting room. Data for the study were gathered by directly observing arrival and flow of patients in the queue. Data were collected for all the seven days of the week starting on a Wednesday. The first set of data was collected in order to determine the arrival pattern of the patients. This was done to aid in deriving the derivation of the arrival rates of the patients. This was obtained by counting the number of patients that arrive at the treatment room in intervals of five minutes from 8:00am to 2:00pm. The treatment room was chosen because it is the first point of call for a patient from the revenue centre. The variables of interest here is the number of patients who will arrive within the five minute intervals.

The second set of data was collected to determine the service pattern on the part of the health worker (thus the doctor). This was done by recording the time (in minutes) spent by the patients at the consulting room. The consulting room was chosen because it is the place where a patient interacts with a health official (specifically a doctor) on issues concerning his/her health before any referrals or any other actions are taken to ensure the patient’s safety. In addition, the gender of each patient was noted just before the person enters the consulting room and patients’ diagnoses are inquired from them just after leaving the consulting room. Data was analyzed using Microsoft EXCEL, the POM-QM software for operations research and the Statistical Package for Social Sciences (SPSS).

**RESULTS**

**Descriptive Statistics**

A total of 140 patients out of which 52 patients representing about 37% were males were noticed. The remaining 63% were females. However, out of the 140 patients, not all of
them were willing to disclose their diagnosis made by the doctor. This was due to the fact that some patients were unwilling to disclose their diagnosis to the researcher because it is confidential. Respondents who were willing disclosed their medical status or diagnosis included: Common maladies (like malaria, headaches and yellow fever), Typhoid fever, Stomach ulcer, Skin diseases which includes cuts, burns, sprains and chicken pox as well as Female related infections which includes candidiasis, abdominal pains and menstrual disorders.

The study showed that the common maladies or disorders were the most diagnosed diseases followed by skin diseases. Ulcer and typhoid were the least diagnosed diseases. These frequencies are observed in table 1.

Table 1: Frequencies with respect to gender, day of the week and diagnosis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>52</td>
<td>37</td>
</tr>
<tr>
<td>Females</td>
<td>88</td>
<td>63</td>
</tr>
<tr>
<td>Day Of The Week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Tuesday</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Wednesday</td>
<td>34</td>
<td>24</td>
</tr>
<tr>
<td>Thursday</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Friday</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>Saturday</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Sunday</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common maladies</td>
<td>77</td>
<td>73</td>
</tr>
<tr>
<td>Typhoid</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Ulcer</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Skin Diseases</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Female Related Infections</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2: Descriptive statistics on time spent at consulting room by gender, day of the week and diagnosis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>9.06</td>
<td>4.46</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>Females</td>
<td>7.96</td>
<td>5.35</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Day Of The Week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>9.50</td>
<td>6.01</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Tuesday</td>
<td>7.40</td>
<td>4.39</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Wednesday</td>
<td>9.75</td>
<td>5.34</td>
<td>2</td>
<td>24</td>
</tr>
</tbody>
</table>
Confirmatory data analysis
An independent samples t-test was conducted to determine whether gender has an impact on the time spent in the consulting room. In other words, we test whether differences exist between average times spent in the consulting room with respect to gender. On the assumption of equal population variances between the two groups, we observe a p-value of 0.207, a value greater than 0.05 which shows that gender has no impact on the time a patient spends at the consulting room. This shows that there are no differences between the population mean times spent at the consulting room for males and females. This analysis shows that the doctors have no preferences or whatsoever concerning gender. Thus they treat each patient equally no matter the gender of the patient. A three-way Analysis of Variance was used to test whether the main factors (gender, day of the week and diagnosis) had a significant effect on the time a patient spends at the consulting room. Also the Analysis of Variance was used to test if either the interaction of any two factors or all the three factors caused a significant effect on the time spent at the consulting room. The test showed that only the interaction between gender and diagnosis of the patient ($F = 1.807, p \text{ value} = 0.064$) had a significant effect on the time spent at the consulting room whiles the other main factors and interactions showed no significant effect on the time spent at the consulting room.

Queuing analysis
Here, we look at the kind of distribution which describes the arrival and service patterns. In order to fully utilize the $M/M/S$ queuing system, a Poisson arrival distribution as well as an exponential service distribution are hypothesized. The chi square goodness of fit test is applied to test for the hypothesized arrival and service patterns. Table 3 gives the results of the goodness of fit tests. The hypotheses on both grounds are rejected when the p values obtained are greater than the level of significance ($\alpha = 0.05$). From table 3, it can be seen that all the days had p values greater than 0.05 for both arrival and service patterns. We thus have an $M/M/S$ queuing system- a system with a Poisson distributed arrival pattern, an exponentially distributed service mechanism. We thus have an $M/M/S$ queuing system- a system with a Poisson distributed arrival pattern, an exponentially distributed service mechanism. A traffic intensity of 1 or more denotes that a server is fully utilized (Bhat, 1984). In this case, it will mean that a doctor is busy all time from 8am to 2pm.
Table 3: results of goodness of fit test

<table>
<thead>
<tr>
<th>Day of the week</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arrivals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi square values</td>
<td>10.55</td>
<td>3.19</td>
<td>3.56</td>
<td>7.62</td>
<td>12.74</td>
<td>2.76</td>
<td>3.47</td>
</tr>
<tr>
<td>p value</td>
<td>0.10</td>
<td>0.78</td>
<td>0.61</td>
<td>0.18</td>
<td>0.05</td>
<td>0.60</td>
<td>0.32</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi square values</td>
<td>3.16</td>
<td>3.42</td>
<td>2.72</td>
<td>3.13</td>
<td>2.89</td>
<td>2.47</td>
<td>0.96</td>
</tr>
<tr>
<td>p value</td>
<td>0.21</td>
<td>0.49</td>
<td>0.26</td>
<td>0.41</td>
<td>0.41</td>
<td>0.29</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Traffic intensity calculations

The main objective of this study is to formulate a quantitative model that will be used to describe the queue system at the University of Ghana hospital. Calculating the utilization factor (or traffic intensity) for each day and corresponding overall utilization factor will facilitate computing the expected waiting time per patient.

Table 4: Arrival rates, service rates and traffic intensities for the days of the week

<table>
<thead>
<tr>
<th>Day</th>
<th>Arrival rate</th>
<th>Service rate</th>
<th>Number of servers</th>
<th>Traffic intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>1.58</td>
<td>0.5517</td>
<td>4</td>
<td>0.72</td>
</tr>
<tr>
<td>Tuesday</td>
<td>1.88</td>
<td>0.6609</td>
<td>4</td>
<td>0.7111</td>
</tr>
<tr>
<td>Wednesday</td>
<td>1.50</td>
<td>0.5313</td>
<td>4</td>
<td>0.7059</td>
</tr>
<tr>
<td>Thursday</td>
<td>1.68</td>
<td>0.5230</td>
<td>4</td>
<td>0.8030</td>
</tr>
<tr>
<td>Friday</td>
<td>1.56</td>
<td>0.7000</td>
<td>4</td>
<td>0.5571</td>
</tr>
<tr>
<td>Saturday</td>
<td>0.99</td>
<td>0.6522</td>
<td>4</td>
<td>0.38</td>
</tr>
<tr>
<td>Sunday</td>
<td>0.33</td>
<td>0.5556</td>
<td>4</td>
<td>0.15</td>
</tr>
</tbody>
</table>

Since the hypothesized distribution (Poisson) was not rejected, the parameter $\lambda$ can be used to describe arrival rates for each of the days of the week. The rate of arrival is measured in patients per 5 minutes interval (pat/5mins). Traffic intensities for all the days of the week are all less than one which indicates that there is some idle time experienced by the doctors at some point. The differences suggest that doctors are busy on some days of the week than other days. Results in table 4 indicate that the busiest day for doctors is Thursday whilst the least busy days are Saturdays and Sundays.

We thus have a system which has an arrival rate, a service rate and corresponding traffic intensity for all the days of the week. We can thus calculate the expected number of customers in the queue, the expected waiting time of patient in the system and the expected waiting time of a patient in the queue. Using equal staffing levels across all the days of the week, the POM QM software for data analysis in operations research gives the following output in Table 5:
Table 5: Expected values in queue and system

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected number in queue</th>
<th>Expected number in system</th>
<th>Time spent in queue (mins)</th>
<th>Expected time spent in system (mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>1.14</td>
<td>4</td>
<td>43.44</td>
<td>152</td>
</tr>
<tr>
<td>Tue</td>
<td>1.10</td>
<td>3.94</td>
<td>35.05</td>
<td>125</td>
</tr>
<tr>
<td>Wed</td>
<td>1.05</td>
<td>3.87</td>
<td>42.00</td>
<td>154</td>
</tr>
<tr>
<td>Thu</td>
<td>2.45</td>
<td>5.67</td>
<td>87.66</td>
<td>202</td>
</tr>
<tr>
<td>Fri</td>
<td>0.30</td>
<td>2.52</td>
<td>11.37</td>
<td>97</td>
</tr>
<tr>
<td>Sat</td>
<td>0.25</td>
<td>1.77</td>
<td>15.10</td>
<td>97</td>
</tr>
<tr>
<td>Sun</td>
<td>0.01</td>
<td>0.59</td>
<td>0.11</td>
<td>108.1</td>
</tr>
</tbody>
</table>

The times in the preceding table indicates that patients spend more time in the queue during weekdays than weekends. Thursday which was recorded as the busiest day for medical doctors also recorded the largest expected waiting time in the queuing system. This suggests that patients who visit the hospital on a Thursday are likely to spend up to over four hours at the hospital but likely to spend less time at the hospital if he or she visits the hospital on a weekend especially Saturday. When the servers are increased by one from Mondays to Thursdays and it is maintained for Fridays and Saturdays whiles reducing number of servers on Sundays, we observe a change in expected time spent in queue and in the system. This is shown in the table 6.

Table 6: New expected values in queue and system

<table>
<thead>
<tr>
<th>Day</th>
<th>Number of servers</th>
<th>Time spent in queue (in minutes)</th>
<th>Expected time spent in system (in minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>5</td>
<td>10</td>
<td>119</td>
</tr>
<tr>
<td>Tue</td>
<td>5</td>
<td>8</td>
<td>99</td>
</tr>
<tr>
<td>Wed</td>
<td>5</td>
<td>10</td>
<td>123</td>
</tr>
<tr>
<td>Thu</td>
<td>5</td>
<td>18</td>
<td>133</td>
</tr>
<tr>
<td>Fri</td>
<td>4</td>
<td>11</td>
<td>97</td>
</tr>
<tr>
<td>Sat</td>
<td>4</td>
<td>11</td>
<td>97</td>
</tr>
<tr>
<td>Sun</td>
<td>3</td>
<td>10</td>
<td>118</td>
</tr>
</tbody>
</table>

DISCUSSIONS

The time a patient spends at the consulting room with the doctor is independent of the patient’s gender, type of sickness or the day in which he or she visited the hospital. However, the interaction effect of the gender and the type of sickness in some way affected the time that the patient spends at the consulting room. Thus, gender and patient diagnosis does not determine consultation times in isolation but in a combined effect. Patients’ arrival and service rates followed the hypothesized distribution of Poisson and exponential respectively and system utilization is less than one for all days. This indicates that the queue can be brought under check and there will not be the situation where a patient will not be served at the end of the day. Also, utilization of system for weekends was less than that for weekdays indicating a longer queue during weekdays than
weekends. Thus patients spend more time at the hospital during the weekdays than the weekends. This study therefore reveals that providing identical staffing levels across the week for weekdays and weekends is not ideal. This is in line with a similar study conducted by Green et al (2005).

There is about 14% and a similar 64% reduction in average expected time spent in the queuing system and in the queue respectively when the servers were increased by one from Monday to Thursdays and reduced by one on weekdays. This shows that staffing levels should not be the same across all the days of the week especially for outpatient healthcare services.

CONCLUSION

Evaluating hospital processes could be a heinous task for managers and hence there needs to be simpler tools to help managers tackle these situations. This study considered an application of an Operations Research Tool in reducing delays or waiting times in healthcare. The queuing models applied to the outpatient department of the university of Ghana hospital.

The purpose has been to show the applicability of queuing theory in Healthcare planning and staffing whiles ensuring strict adherence to model assumptions. Healthcare managers can employ this model in their day to day activities in managing the health centers especially in employee scheduling or staffing activities. Further research on the applications of this model and other Operations Research tools could be extended to inpatient services such as bed occupancies and the like.

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Economic sustainability in the Ghanaian Banking Sector: An application of TOPSIS for bank performance ranking

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ABSTRACT
The global demand for audit quality has increased after the global economic downturn and the collapse of multinational companies which was partly blamed on external auditors. This study examines the influence of institutional characteristics of assurance clients on audit quality in Ghana, an emerging economy in Africa. The study adopts the survey approach using Likert-scale modelled questionnaire based on a sample of 100 companies comprising private, listed and state-owned institutions. The ordinal regression method was adopted to test for the explanatory variables at 95% confidence interval.

The study finds a number of institutional characteristics as predictors with significant influence on audit quality. The variables include the type of external auditors, type of entity, years of existence, audit period time, average audit team members, existence of audit committee, number of audit committee members, number of branches, non-influence of key personnel and non-influence of employees. The findings of the study imply that institutional characteristics have influence on audit quality hence corporate governance structures should be used to promote audit quality.

Keywords: Audit Quality, Institutional Characteristics, Audit Committee, Ghana

INTRODUCTION
The banking industry is critical to the economic stability of any country, and the continual assessment of the performance of the industry is needed to measure the economic sustainability of the players and the industry as a whole. In this paper, we apply Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) to assess the performance of Ghanaian banks using seven financial indicators. Using data over a 5 year period, we determine the economically sustainable banks in Ghana. The result indicates that whereas the traditional big banks have been relatively sustainable over the 5 year period, most of the smaller and newer banks were economically unsustainable over the same period.

Keywords: Economic sustainability, TOPSIS, Multi-criteria, banking, performance ranking
INTRODUCTION

The dynamism of the business and societal environment has made sustainability a central aspect of corporate and national discourse (Pitelis, 2013; Boulouta & Pitelis, 2013). Sustainability, which is often seen to be the pursuit of the ‘triple bottom line’- environmental, social and economic goals (Walker, Klassen, Sarkis & Seuring, 2014), seeks to ensure that resources available today will not be used in a way that will deprive future generations of its benefits (Pitelis, 2013). This has been of interest to researchers, probing the link and interrelationship between aspects of sustainability (Prajogo, Tang & Lai, 2014; Ofori, Nyuur & S-Darko, 2014; Pitelis, 2013). This notwithstanding, there exist a gap in research investigating economic sustainability from a firm perspective (Walker et al. 2014). Coupled with this, Gold, Hahn and Seuring (2013) have called for more research on sustainability on developing and low-income countries since majority of the global population resides in such countries7. Finally, Walker et al. (2014) have also called for the application of OR/OM8 techniques in sustainability assessment in the service and public sectors.

In Ghana, the services sector is at the heart of economic development and growth, contributing significantly to GDP and outweighing agriculture and industry (GSS, 2013). In 2012, for example, the services sector contributed about 50% of the country’s GDP mainly due to strong growth in the Information-Communication and the financial subsectors (GSS, 2013). The financial subsector recorded a 23 percent growth in 2012 (PWC, 2013). This clearly shows the contribution and importance of this subsector to national prosperity. Therefore, continual assessment of the economic sustainability of the financial sector is needed to encourage sustained efficient business operations.

A key aspect of the financial subsector is the banking industry which is a major contributor to the service sector. In recent times, due to over exposure to high risk and competition within the industry, as well as the influence of globalization, the evaluation of the financial performance of banks has received much attention in both the academia and the corporate world (Asmild, Bogtoft & Hougaard, 2013). A number of authors have analysed the efficiency of banks in Ghana. Akoena, Aboaeye and Antwi-Asare (2012) have applied data envelopment analysis (DEA) in assessing efficiency in the banking industry. Similarly, a number of professional bodies such as the GIPC9 and Corporate Initiative Ghana have created several annual performance rating systems for assessing banks in the country. However, due to difficulties in bringing together sometimes conflicting financial indicators (Tansel, 2014), most existing ratings in the country are designed for assessing single financial indicators. This paper fills the method gap by applying the multi-criteria decision making TOPSIS method to generate a single composite financial performance index for

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8 OR/OM refers to Operations Research or Operations Management
9 GIPC- Ghana Investment Promotion Centre
rating Ghanaian banks. In addition, the paper measures economic sustainability of banks by analysing their performance over time.

The rest of the paper is organized as follows: Section 2 reviews existing bank performance rating systems in Ghana. In section 3, we present the TOPSIS model and apply it to rank Ghanaian banks for the 2013 financial year based on seven major financial indicators. Section 4 analyses the economic sustainability of Ghanaian banks over a 5-year period using data from Bank of Ghana. Section 5 presents conclusions and suggestions for future research.

LITERATURE REVIEW

Overview of Current Bank Ratings in Ghana

Performance ranking of banking institutions help provide information on the relative position of banks within the sector with regard to specific financial, economic and social indicators. Such rankings are of considerable importance to a number of groups such as investors, creditors and shareholders (Garcia, Guijarro & Moya, 2010). Current notable bank ratings in Ghana includes the Ghana banking industry survey, Ghana banking awards, banking sector rankings of the Ghana Club 100, Africa banking industry customer satisfaction survey and ratings by the bank of Ghana.

The Ghana banking industry survey is conducted by Pricewaterhouse Coopers (Pwc) in conjunction with Ghana Association of Bankers (GAB). This is an annual banking industry survey conducted since 2008 with the purpose of providing general information on Ghana’s banking industry (Pwc, 2013). Since its inception, the survey has assessed bank performance on five main thematic areas: Market share; Profitability and Efficiency; Returns to Shareholders; Asset quality; and Liquidity. In all, the survey provides separate rankings for each of the five thematic areas but makes no attempt at a single composite ranking based on all five thematic criteria.

The Ghana banking awards organized by Corporate Initiative Ghana (CIG) is arguably the most popular of the bank rating systems in Ghana. Organized with the aim of encouraging high quality of service delivery in the banking sector through healthy competition (GBA, 2014), the system has become the foremost annual banking awards system in the country. The award assesses commercial banks in the country on a number of categories mainly through retail and corporate customer surveys and financial data (GBA, 2014). These categories include: customer services, advisory services, trade finance, competitive pricing, agric financing, corporate social responsibility, among others (GBA, 2014). The much coveted “Bank of the Year award” goes to the bank with the highest weighted score for the customer survey, corporate social responsibility and financial performance (GBA, 2014). The survey looks at both the qualitative and quantitative aspects of bank performance and gives equal weights to the variables understudy - Capital adequacy, Asset quality, Earning capacity and Liquidity risk (GBA, 2014).
A third rating system is the banking sector rating of GIPC’s Ghana Club 100 which assesses banks on the Club 100 on three criteria: Size, Profitability and Growth\(^{10}\). Size is measured using a bank’s gross interest income plus commissions and fees (GIPC, 2014). Profitability is by the 3–year average ROE for the companies, whereas Growth is measured by the 3-year compounded annual growth rate of turnover over the period two years before the year being ranked to the year being ranked. A weighted mean score serves as the basis for the rating.

Other institutions also organize some form of bank performance rating. For example, KPMG conducts an Africa Banking Industry Customer Satisfaction Survey that focuses on the perceived quality of customer service delivery by banks from the retail banking customers’ perspective across 14 countries in Africa. Using a customer satisfaction index\(^{11}\), computed from a survey\(^{12}\), banks are ranked based on Convenience; Customer Care; Transaction, Methods and Systems; Pricing; and Products and Services (KPMG, 2013). Similarly, the Bank of Ghana conducts performance ratings of banks on a number of metrics, such as: Total Assets; Total Deposits; Operating Cost; Shareholders’ Fund, among others. This is not a composite rating system that considers all metrics simultaneously. Instead, it is a number of individual ratings for each metric.

While separately ranking banks on individual financial indicators is important, it is even more important banks are ranked based on all financial indicators simultaneously. Only the Ghana Banking Awards and the GIPC provides composite performance index for the Ghana banking industry using a Weighted Sum Model (WSM). However, although the WSM is easy to use, it is only applicable when all criteria are of the same unit. When this is not the case, the additive utility assumption of the model is violated and results in adding ‘apples to oranges’ (Triantaphyllou. 2000). The shortfall of the WSM method, when different criteria have different units, can be eliminated by using the associated Weighted Product model (WPM) which is dimensionless. However, since the method relies on multiplying together the ratings of the individual criterion, it too suffers from the ‘less is better’ problem where less of a negative criterion (such as credit risk or bad debt) is desirable. In the next section, we propose the application of the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) which overcomes the above named difficulties pertaining to methods used in current bank ratings in Ghana.

### TOPSIS technique for estimating performance ratings of Ghanaian Banks

Financial ratios of firms reflects useful information on their performance in various business categories. However, the overall financial performance of competing firms cannot be adequately evaluated without a composite performance index that simultaneously consider conflicting financial ratios (Deng, Yeh & Willis, 2000). For instance, while less of bad debt is desirable, more of profit before tax is also desirable. The opposite nature of the

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\(^{10}\) These are weighted as Size (0.25), Profitability (0.35) and Growth (0.4.)

\(^{11}\) \( \text{CSI} = \sum S \times I / \sum I \), Where CSI = Customer Satisfaction Index; S = Satisfaction; I = Importance

\(^{12}\) The survey in Ghana had a sample size of 1020 respondents

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desirability of such indicators renders the usual weighted sum criteria meaningless. Such difficulties are best addressed by relatively advanced Multi-Criteria Decision Making (MCDM) methods such as Data Envelopment Analysis (DEA) and TOPSIS (Shih, Shyur & Lee, 2007; Deng, Yeh & Willis, 2000).

In recent times, DEA has attracted much attention in evaluating performance of firms performing similar tasks. In Ghana, for example, DEA assessment on the banking industry has been conducted by Ohene-Asare and Asmild (2012) and Adjei-Frimpong, Gan and Hu (2014). This is an effective tool in evaluating the efficiency of firms in a particular industry over multiple criteria. Although, Andersen and Petersen (1993) have applied DEA-based Super-efficiency model in ranking, the primary aim of DEA models used in these efficiency assessment in Ghana, is not to rank firms in an industry, but rather to identify efficient and inefficient performers and to identify where ineffectivity emanates so that corrective actions can be made.

This paper applies the TOPSIS method for the generation of performance ranking. TOPSIS is regarded as: rational and comprehensible; computationally simple; capable of formulating practical and logical goals in mathematical form; ability to incorporate both objective and subjective weights in the comparison process; and ability to benchmark all alternatives against both ‘less is better’ and ‘more is better’ criteria (Shih, Shyur & Lee, 2007). First proposed by Hwang and Yoon (1981), the model also accommodates qualitative benefit attributes. In TOPSIS, hypothetical positive and negative ideal alternatives are created to which the alternatives under study are compared with. For an alternative to obtain a higher rank, it must be closer to the positive ideal alternative and farther away from the negative ideal alternative (Triantaphyllou, 2000). There have been numerous applications and advances about the TOPSIS methodology. Its application cuts across industries and goals. For papers on the application of TOPSIS see Shih, Shyur and Lee (2007). In the banking sector, Tansel (2014) have applied DoE13 TOPSIS in various banking case studies. Seçme, Bayrakdaroğlu, and Kahraman, (2009) ranks banks in Turkey using TOPSIS and AHP. Doumpous and Zaponidis (2010) and Garcia, Guijarro and Moya (2010) have also applied other MCDM techniques on bank performance evaluation.

**RESEARCH METHODOLOGY**

**The TOPSIS Model**

In TOPSIS, alternatives (e.g. banks) are evaluated under various criteria (e.g. Return on asset and equity). Given a set \( A = \{ A_k | k=1,2,3,\ldots,n \} \) of \( n \) alternatives to be compared on a set \( C = \{ C_j | j=1,2,3,\ldots,m \} \) of \( m \) criteria with associated relative importance weights \( w = \{ w_j | j=1,2,3,\ldots,m \} \), a decision matrix with elements \( x_{kj} \) for \( k = 1,2,3,\ldots,n \) and \( j = 1,2,3,\ldots,m \) in the form of Table 1 can be generated:

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13 Design of Experiment
Table 1: Decision Matrix

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>$C_1$</th>
<th>$C_2$</th>
<th>$C_3$</th>
<th>...</th>
<th>$C_m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A_1$</td>
<td>$x_{11}$</td>
<td>$x_{12}$</td>
<td>...</td>
<td>$x_{1m}$</td>
<td></td>
</tr>
<tr>
<td>$A_2$</td>
<td>$x_{21}$</td>
<td>$x_{22}$</td>
<td>...</td>
<td>$x_{2m}$</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>$A_n$</td>
<td>$x_{n1}$</td>
<td>$x_{n2}$</td>
<td>...</td>
<td>$x_{nm}$</td>
<td></td>
</tr>
<tr>
<td>$w$</td>
<td>$w_1$</td>
<td>$w_2$</td>
<td>...</td>
<td>$w_m$</td>
<td></td>
</tr>
</tbody>
</table>

The element $x_{kj}$ is the rating of alternative $k$ under criterion $j$. In our application, $x_{kj}$ will stand for the value of a particular bank’s financial indicator (say return on asset). The ranking of the alternatives are then generated through the following steps:

**Step 1:** Transforming attribute dimensions into non-dimensional attributes.

The first step of the TOPSIS method is the construction of a normalized decision matrix ($r_{ij}$) which is a transformation of Table 1 into non-dimensional attributes to allow comparisons across criteria. Where an element of the transformed decision matrix is computed as:

$$ r_{ij}(x) = \frac{x_{kj}}{\sqrt{\sum_{k=1}^{m} x_{kj}^2}}, \quad k = 1,2,3,\ldots, n; \quad j = 1,2,3,\ldots, m. \quad \text{(Eqn. 1)} $$

**Step 2:** Forming the weighted normalized decision matrix ($v_{ij}$)

This step multiplies the weight vector $w_j$ with the normalized decision matrix $r_{ij}$ to obtain the weighted normalized matrix $v_{ij}$. Where $v_{ij}$ is computed as:

$$ v_{ij}(x) = w_j r_{ij}(x), \quad k = 1,2,3,\ldots,n, \quad j = 1,2,3,\ldots,m \quad \text{(Eqn. 2)} $$

where $w_j$ is the weight of the $j$th attribute and $\sum_{j=1}^{m} w_j = 1$.

**Step 3:** Determine the positive ideal positive ($A^+$) and ideal negative ($A^-$) solution:

In step three, a hypothetical positive and negative ideal alternatives meant to be a yardstick for comparison are generated. For an alternative to rank high, it must be closer to the positive ideal alternative $A^+$ and farther away from the negative ideal alternative $A^-$. These ideal alternatives are computed as:

$$ A^+ = \{v^+_1(x),\ldots,v^+_n(x)\}, \quad \text{where} \quad v^+_j(x) = \{(\max_k v_{kj}(x) | j \in J'), (\min_k v_{kj}(x) | j \in J'')\}, \quad \text{(Eqn. 3)} $$

$$ A^- = \{v^-_1(x),\ldots,v^-_n(x)\}, \quad \text{where} \quad v^-_j(x) = \{(\min_k v_{kj}(x) | j \in J'), (\max_k v_{kj}(x) | j \in J'')\}, \quad \text{(Eqn. 4)} $$

where $J'$ depicts a benefit (or more is better) criteria, and $J''$ a cost (or less is better) criteria.

**Step 4:** Computing separation measures based on Euclidean distance:
In this step, separation measures or total distances from the positive ideal alternative, denoted $S_k^+$ and, also from the negative ideal alternative, denoted $S_k^-$ for each alternative are computed. These separation measures are computed using the n-dimensional Euclidean distance:

$$S_k^+ = \sqrt{\sum_j (v_j^+(x) - v_j^- (x))^2}, \ k = 1, 2, 3, ..., m \quad \text{(Eqn. 5)}$$

$$S_k^- = \sqrt{\sum_j (v_j^- (x) - v_j^- (x))^2}, \ k = 1, 2, 3, ..., m \quad \text{(Eqn. 6)}$$

**Step 5: Relative closeness to the ideal solution \( C_k^* \)**

The TOPSIS method ranks the alternatives based on values obtained from (Eqn. 7) below.

$$C_k = \frac{S_k^-}{S_k^+ + S_k^-}, \ 0 \leq C_k^* \leq 1 \quad \text{(Eqn. 7)}$$

where the higher a $C_k$ value, the higher the rank of alternative $k$. Intuitively, (Eqn. 7) says that for an alternative to obtain a higher rank, it must have a large $S_k^-$ and a small $S_k^+$ values.

**EMPIRICAL APPLICATION**

This section compares the performance of 26 commercial banks in Ghana using TOPSIS based on their 2013 performance on seven different financial indicators. Compiled by the Bank of Ghana, these indicators (criteria in TOPSIS) are Capital Adequacy (in %), Total Assets in Ghs‘000, Profit before tax in Ghs‘000, Return on Assets (in %), Return on Equity (in %), Interest Expense to Interest Income (in %), and Bad Debts to Income (in %). The following subsection elaborate on the seven criteria.

**Financial Performance Indicators of Ghanaian Banks**

Capital Adequacy (C$_1$) is the ratio of a financial institution’s primary capital to its assets, used as a measure of its financial strength and stability. It has been developed to ensure that banks can absorb reasonable level of losses before becoming insolvent. This ratio has been used by Secme, Bayrakdaroglu and Kahraman (2009), as well as Doumpos and Zoponidis (2010) in bank performance assessments. The minimum prudential and statutory requirement of Capital adequacy for banks in Ghana is 10 percent (BOG, 2012).

Total assets (C$_2$) represents one of the primary measures of size. In the banking industry, this ratio comprises of cash and short term funds, investments, advances, other assets and fixed assets. Pricewaterhouse Coopers measures the share of industry total asset as a measure of bank market position. This has been used by Garcia et al (2010). We use the average total asset in the application.

Profit before tax (C$_3$) is a measure of profitability. It is the bank’s profits, before it has paid its tax. The aim of any profit maximizing economic unit will therefore be to maximize its profit before tax. Return on assets (C$_4$) and Return on equity (C$_5$) are all measurement of management performance. The ROA tells investors of how well a bank uses its assets to
generate income. Higher ROA denotes a higher level of management performance. ROE informs investors on how efficiently a firm used capital from its shareholders to generate profits. On the other hand, Interest expense to interest income ($C_6$) is a measure of the proportion of the bank's revenue from investments that is paid out to its creditors as interest. We expect this ratio to be minimized.

Lastly, Bad debts to Income ($C_7$) measures the proportion of doubtful debts to operating income. The more debts are irrecoverable, the less profitable and hence economically unsustainable a bank is. Bad debts have been measured in proportion to operating profit to ensure that banks can be compared on a similar scale. Just like Bulgurcu (2012), we apply equal importance weights of 0.143 to each criteria. However, different weights could be used as deemed appropriate by the rating organization.

RESULTS OR FINDINGS

Generating the performance ranking by TOPSIS

Table 2 shows the TOPSIS decision matrix which is a collection of the performance of each bank under the various financial indicators. The next step in the modelling process is to normalize the data from Table 2 using Eqn. 1. Then the resulting normalized decision matrix is further transformed to a weighted normalized data through Eqn. 2 by multiplying the weighted vector with the normalized decision matrix. Table 3 shows the weighted normalized matrix for the first five alternatives.

Based on the weighted normalized data, and using Eqn. 3 and Eqn. 4, the positive ideal alternative $A^+$ and the negative ideal alternative $A^-$ are:

$$A^+ = \{0.0726, 0.0687, 0.0687, 0.0532, 0.0493, 0.0052, \text{0.0004}\}$$

$$A^- = \{0.0077, 0.0027, \text{-0.0075}, -0.0160, -0.0599, 0.0503, 0.0810\}$$

Where $J' = \{C_1, C_2, \ldots, C_5\}$ are benefit criteria and $J'' = \{C_6, C_7\}$ cost criteria.

The next step of the TOPSIS model computes separation measures using Eqn. 5 and Eqn. 6. From these measures, the relative closeness to the positive and negative ideal alternatives are then generated using Eqn. 7. Table 4, shows the separation measures $S^+$ and $S$, the relative closeness $C_k$, and the associated ranking.
Table 2: 2013 Financial Ratios of major Ghanaian banks. This data forms the decision matrix of the TOPSIS method.

<table>
<thead>
<tr>
<th>Bank (Alternative)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1</td>
</tr>
<tr>
<td>ABL A1</td>
<td>23.12</td>
</tr>
<tr>
<td>ADB A2</td>
<td>16.14</td>
</tr>
<tr>
<td>BAR A3</td>
<td>57.37</td>
</tr>
<tr>
<td>BBG A4</td>
<td>18.77</td>
</tr>
<tr>
<td>BOA A5</td>
<td>13.18</td>
</tr>
<tr>
<td>BSIC A6</td>
<td>37.89</td>
</tr>
<tr>
<td>CAL A7</td>
<td>17.45</td>
</tr>
<tr>
<td>ECO A8</td>
<td>12.82</td>
</tr>
<tr>
<td>ENERGY A9</td>
<td>29.07</td>
</tr>
<tr>
<td>FAMBL A10</td>
<td>21.16</td>
</tr>
<tr>
<td>FBL A11</td>
<td>9.84</td>
</tr>
<tr>
<td>GCB A12</td>
<td>11.58</td>
</tr>
<tr>
<td>GTB A13</td>
<td>21.04</td>
</tr>
<tr>
<td>HFC A14</td>
<td>19.85</td>
</tr>
<tr>
<td>ICB A15</td>
<td>27.26</td>
</tr>
<tr>
<td>MBG A16</td>
<td>6.12</td>
</tr>
<tr>
<td>NIB A17</td>
<td>12.64</td>
</tr>
<tr>
<td>PBL A18</td>
<td>12.31</td>
</tr>
<tr>
<td>ROYAL A19</td>
<td>39.73</td>
</tr>
<tr>
<td>SCB A20</td>
<td>13.31</td>
</tr>
<tr>
<td>SG-SSB A21</td>
<td>16.71</td>
</tr>
<tr>
<td>STANBIC A22</td>
<td>11.92</td>
</tr>
<tr>
<td>UBA A23</td>
<td>12.89</td>
</tr>
<tr>
<td>UNIBANK A24</td>
<td>10.25</td>
</tr>
<tr>
<td>UTB A25</td>
<td>12.00</td>
</tr>
<tr>
<td>ZENITH A26</td>
<td>13.13</td>
</tr>
</tbody>
</table>

Table 3: Weighted Normalized Decision Matrix for the 2013 financial indicators.

<table>
<thead>
<tr>
<th>Bank (Alternative)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1</td>
</tr>
<tr>
<td>ABL A1</td>
<td>0.2949</td>
</tr>
<tr>
<td>ADB A2</td>
<td>0.1430</td>
</tr>
<tr>
<td>BAR A3</td>
<td>0.0584</td>
</tr>
<tr>
<td>BBG A4</td>
<td>0.1663</td>
</tr>
<tr>
<td>BOA A5</td>
<td>0.1168</td>
</tr>
</tbody>
</table>

DISCUSSIONS
The relative closeness $C_k$ signifies the performance index based on which the rankings are generated. Higher $C_k$ value indicates higher rankings. The ranking is done in ascending order such that the best alternative is ranked 1 and the least alternative ranked 26. From Table 4, assuming equal weight for the criteria, the TOPSIS model indicates that GCB was the best bank in Ghana based on the 2013 financial indicator values of the major banks in Ghana. Closely following GCB is SCB, BBG and ECO in that order. The TOPSIS ranks MBG as the least ranked bank in Ghana in 2013.
Table 4: 2013 Performance ranking of Banks in Ghana. The ranking is from 1-26 with 1 signifying the best performing bank, and 26 the least performing bank.

<table>
<thead>
<tr>
<th>Bank</th>
<th>$S^+$</th>
<th>$S^-$</th>
<th>$C_k$</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCB</td>
<td>0.061</td>
<td>0.177</td>
<td>0.743</td>
<td>1</td>
</tr>
<tr>
<td>SCB</td>
<td>0.063</td>
<td>0.167</td>
<td>0.727</td>
<td>2</td>
</tr>
<tr>
<td>ECO</td>
<td>0.067</td>
<td>0.158</td>
<td>0.701</td>
<td>3</td>
</tr>
<tr>
<td>BBG</td>
<td>0.065</td>
<td>0.151</td>
<td>0.697</td>
<td>4</td>
</tr>
<tr>
<td>UBA</td>
<td>0.083</td>
<td>0.156</td>
<td>0.654</td>
<td>5</td>
</tr>
<tr>
<td>STANBIC</td>
<td>0.079</td>
<td>0.140</td>
<td>0.639</td>
<td>6</td>
</tr>
<tr>
<td>CAL</td>
<td>0.086</td>
<td>0.137</td>
<td>0.616</td>
<td>7</td>
</tr>
<tr>
<td>BAR</td>
<td>0.099</td>
<td>0.152</td>
<td>0.605</td>
<td>8</td>
</tr>
<tr>
<td>GTB</td>
<td>0.092</td>
<td>0.138</td>
<td>0.599</td>
<td>9</td>
</tr>
<tr>
<td>ZENITH</td>
<td>0.092</td>
<td>0.133</td>
<td>0.590</td>
<td>10</td>
</tr>
<tr>
<td>ABL</td>
<td>0.094</td>
<td>0.127</td>
<td>0.574</td>
<td>11</td>
</tr>
<tr>
<td>ADB</td>
<td>0.095</td>
<td>0.125</td>
<td>0.568</td>
<td>12</td>
</tr>
<tr>
<td>HFC</td>
<td>0.101</td>
<td>0.124</td>
<td>0.551</td>
<td>13</td>
</tr>
</tbody>
</table>

Sustainable Banks
In this section, we analyse the performance of the major banks in Ghana over a five year period from 2009 to 2013. This is done to evaluate the sustainability of performance over time. We define sustainability as the ability of a bank to better its performance ranking, and or rank among the top 20% of the banks over time based on the seven financial indicators. Therefore, the TOPSIS model was applied to generate performance ranking for years 2009 to 2013. BOA, ENERGY, and ROYAL banks were left out of the sustainability analysis since they had no data available for some of the years within the selected 5-year period. Figure 1 below, shows the results of the performance of the banks over the five year period. Based on the assumed sustainability criteria, it can be concluded that BBG, ECO, GCB and SCB were the most sustainable banks in Ghana. They are closely followed by STANBIC, UBA, BAR, and CAL. Unsustainable banks includes HFC, ICB, MBG, NIB, PBL, FAMBL, UTB, and to some extent UNIBANK.

Figure 1: Performance ranking of Ghanaian banks from 2009-2013.
CONCLUSION

Performance assessment in the banking industry is critical to decisions of several stakeholders. Regulators, customers, investors and shareholders need appropriate information on the financial performance and economic sustainability of banks to guide in making better investment decisions. In this study, we demonstrated the applicability of TOPSIS in generating a single performance index for rating Ghanaian banks across several and conflicting financial ratios. Using a 2013 financial year data from the Bank of Ghana, we assessed the performance of the major commercial banks in Ghana on seven financial indicators. Based on equal importance weight for the seven financial indicators, the results adjudge Ghana Commercial Bank (GCB) as the best performing bank in Ghana for the year 2013. Closely following GCB are the Standard Chartered Bank (SCB), Barclays Bank Ghana (BBG), and Ecobank (ECO) Ghana in that order.

The paper also assessed the economic sustainability of banks over time using periodic ranking performance. The result of this analysis indicates that the traditional big banks namely GCB, BBG, SCB and ECO were the most economically sustainable banks in Ghana over the period of 2009-2013. They are closely followed by STANBIC, UBA, BAR, and CAL. However, smaller and to some extent newer banks including HFC, ICB, MBG, NIB, PBL, FAMBL, UTB and UNIBANK were found to be economically unsustainable over the same period based on the assumed sustainability criteria.

It must be noted that the study has some few limitations. First, the bank performance rating was conducted using seven specific financial indicators. The rankings may be different when other criteria are taken into account. We also acknowledge that a change in the weights for the selected financial indicators can lead to changes in the ranking order. In practice, different stakeholders may value the seven indicators differently, thereby leading to possibly different rankings. It is advisable that appropriate techniques such as AHP and Delphi methods are employed by practitioners in determining the weighted values. Such methods are able to address the subjectivity associated with determining criteria weights. Further research can compare the scores and rankings of the TOPSIS method with other multi-criteria decision making techniques to establish the best technique in performance ranking in the Ghanaian banking industry. Also, sensitivity analysis of the criteria weights could be analysed to assess the robustness of the TOPSIS method to financial data from developing countries.

REFERENCES


Considering Favourability Indices as part of the Malmquist Index

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ABSTRACT

Recently, Asmild and Tam (2007) defined a Global Malmquist Index that provides an overall measure of the productivity changes across a set of observations. The paper further decomposed this index into global versions of the traditional efficiency change and frontier shift components. The present paper contributes to the extant productivity literature by defining a further decomposition of the global frontier shift, into components that indicate whether an observation is situated in a more or less favourable location in the production possibility set, relative to where the largest frontier shifts happen. This is, for example, interesting when analysing whether changes in the production technology over time affects some observations more than others. The index and its decompositions have potentially interesting policy implications which we illustrate using empirical data set on Ghanaian banks where we can compare the favourability of the locations of banks belonging to different subgroups.

Keywords: Data envelopment analysis (DEA), Malmquist productivity change index, Global Frontier shifts, favourability and favourability change indices, Banking, Ghana

INTRODUCTION

Inspired by Malmquist (1953), Caves et al. (1982) introduced the Malmquist productivity change index which measures performance over a period of time. An advantage of the Malmquist index, is its ability to accommodate multiple inputs and outputs with minimal assumptions and without information on input or output prices, and its ability to decompose productivity change into efficiency change (catch-up effect) and technological change (frontier shift effect) (Rolf Färe et al., 1994b). Estimations of efficiency and productivity changes is popularly undertaken using Data Envelopment Analysis (A. Charnes et al., 1978). In applied studies, the standard individual technical changes are typically aggregated, using e.g. geometric means, and spoken of as the frontier shift for a whole
sample of firms. Asmild and Tam (2007) defined global versions of both the adjacent and the base period Malmquist index which can be decomposed into global efficiency change and global frontier shift components. These indices are useful when making statements about productivity changes of a population as a whole, rather than individual observations. It should be noted though that overall global frontier shift does not necessarily mean that every firm or group of firms is changing its location in the production possibility set; the size of a firm’s individual frontier shift can be above or below the global frontier shift.

The aim of the current paper is to extend these indices by proposing a new local Malmquist-type productivity change index, which is related to the adjacent Malmquist index, but fulfils the linking or transitivity property. The proposed four-factor Malmquist index helps to determine whether firms are located in favourable positions (i.e. is located in a position that has a larger than global frontier shift) and whether firms are moving towards more favourable locations over time. The use of the indices is illustrated on a sample of Ghanaian banking subgroups - bank ownership, specialization and capitalization - that have corporate social responsibilities (CSR). When applied to Ghanaian banks and banking subgroups, the favourability and favourability change indices are interesting in the sense that they can be employed to investigate whether some of these banks, by engaging more in CSR activities, place themselves in more favourable locations than their peers or whether they move towards more favourable locations over time. Arguably, some banking groups, by adopting universal banking, can be located in favourable positions and move towards more favourable locations over time. Specifically, we shall examine the favourability positions of Ghanaian specialised and universal banks. Also, it may be argued that by getting listed on the Ghana Stock Exchange or by having a greater percentage of foreign bank ownership, some banks can be located in favourable positions and/or move towards more favourable locations over time. It may even be that the frontiers of certain banking subgroups are improving over time, which is good, but some banks cannot capitalize on that technological improvement because they are located in places within the technology set where the frontier does not improve. Exploring the reason behind such a pattern should help the banking regulator to design appropriate policies for the affected banks. The paper finally explores the missing link between the favourability and favourability changes of Ghanaian banks and their CSR. Ohene-Asare and Asmild (2011) had already showed the relevance of CSR in the performance assessments of Ghanaian banks.

The rest of this paper is structured as follows: Section 2 reviews the relevant literature on the DEA-based adjacent Malmquist index. Section 3 explains the Global Malmquist index and its components. Section 4 details the local Malmquist productivity change index and the new favourability and favourability change indices components whilst section 5 provides an illustrative example. An empirical application is provided in section 6 using a sample of 21 Ghanaian banks and banking groups. The results at both the bank and the banking subgroup levels as well the link between the indices and CSR are presented and explained in section 7. Finally, section 8 concludes the paper.
RELEVANT LITERATURE ON PRODUCTIVITY CHANGE INDEXES

Shephard (1953) and Malmquist (1953) independently pioneered the distance function idea in the field of economics. Shephard (1953) applied it to production theory whereas Malmquist (1953) introduced the input distance function in the context of consumption theory. Distance functions can be employed to define a variety of index numbers such as Malmquist (1953) productivity change index and can be estimated via parametric and nonparametric methods. Two definitions of productivity change indexes based on distance functions exist: the Malmquist productivity change index introduced by Caves, Christensen, and Diewert, CCD (1982) and the Hicks-Moorsteen index due to Diewert (1992) and Bjurek (1994, 1996). The reader is referred to Färe et al. (1994b) and Lovell (2003) for detailed discussion on these indices.

The first empirical application of the Malmquist productivity change index was by Nishimizu and Page (1982) using a parametric technique. Within the nonparametric DEA framework, Färe et al. (1992, 1994a) combined the ideas of Farrell efficiency measurement and Caves et al. (1982) productivity change measurement to define the Malmquist index. This index is also called adjacent index as a way to differentiate it from the base period Malmquist index of Berg et al. (1992) which was introduced in order to impose circularity\(^{14}\). Both the adjacent and the base-period indices estimate efficiency change the same way; the technical change is however estimated differently. This paper concentrates on the adjacent Malmquist index and further extensions of it. The index can decompose productivity change into efficiency change (catch-up effect) and technological change (frontier shift effect) (Rolf Färe, Shawna Grosskopf and C. A. Knox Lovell, 1994b).

In fact, as pointed out by Asmild and Tam (2007), the frontier shift component of the standard Malmquist productivity change index is specific to the observation being assessed in the sense that it is the geometric mean of the frontier shift that the unit observes from period \(t\) to period \(t+i\). The authors proposed the global adjacent Malmquist index or more specifically, the Global Frontier Shift (GFS) component of the Global Malmquist Index that directly measures overall movement of the frontier. Note that the GFS or better still, the global frontier difference and the metafrontier analysis (Christopher O’Donnell et al., 2008) both consider group differences, with or without balanced panel data. However, the metafrontier analysis is different from the GFS approach because the efficiency of individual observations is not measured relative to the GFS whereas efficiency of individual observations is measured relative to the metafrontier. In both approaches, DMUs’ efficiencies are measured relative to the group-specific frontiers. But, there is a difference here too; when calculating the group-specific efficiency scores, under the metafrontier analysis, the efficiency of only firms in one group are measured relative to each group-specific frontier. Under the GFS approach, it is the efficiency of all firms in all groups measured relative to one group-specific frontier. Note also that the global Malmquist index of Asmild and Tam (2007) is different from the “global Malmquist” index proposed by Pastor and Lovell (2005) which is actually based on the metafrontier.

\(^{14}\) Circularity or transitivity implies that “the index from 1 to 3 is equal to the product of the index from 1 to 2 and the index from 2 to 3” see Berg, Sigbjørn Atle; Finn R. Førsund and Eilev S. Jansen. 1992. “Malmquist Indices of Productivity Growth During the Deregulation of Norwegian Banking, 1980-89.” The Scandinavian Journal of Economics, 94, 211-28.
One drawback of the global indices of Asmild and Tam (2007) is that they are computed from all sample observations in every time periods and thus are sensitive to including extra observations (either being additional DMUs or more time periods) to the data set.

MALMQUIST INDEXES AND THE GLOBAL FRONTIER SHIFT

To formally define the indexes discussed here, consider a set of Decision Making Units (DMUs) observed in $z$ time periods $t = 1, ..., z$. The DMUs in a given time period use $m$ inputs, $x_j \in \mathbb{R}^m_+$ to produce $s$ outputs, $y_j \in \mathbb{R}^s_+$. Hence, the input and output matrices in each time period, $X'$ and $Y'$ are of dimension $m \times n$ and $s \times n$ respectively. Let $\bar{X}$ and $\bar{Y}$ be the matrices combining the $z$ input $X'$ and output $Y'$ matrices, such that $\bar{X} \in \mathbb{R}^{m \times zn}$ and $\bar{Y} \in \mathbb{R}^{s \times zn}$. Using, as suggested by Färe et al. (1992, 1994a), DEA to define the production possibility set and measure the (here output oriented) efficiency scores, means that the Debreu-Farrell output-oriented technical efficiency score under constant returns to scale, for $DMU^o_t = (x^o_0, y^o_0)$, measured relative to the period $t+i$ frontier, is given by

$$
\phi^{t+i}(x^t_0, y^t_0) = \left\{ \max \left\{ \phi_i^t x^t_0 \geq \sum_{j=1}^{n} \lambda_j x^t_{j+i}, \phi^t_0 \leq \sum_{j=1}^{n} \lambda_j y^t_{j+i}, \lambda_j \geq 0, \forall j \right\} \right\} (1)
$$

Note that the output oriented Debreu-Farrell efficiency score defined by equation (1), where $\phi^{t+i}(x^t_0, y^t_0) \geq 1$, is simply the reciprocal of the Shephard (1970) output distance function.

The adjacent Malmquist Index

The output-oriented adjacent Malmquist productivity change index (R. Färe, S. Grosskopf, B. Lindgren and P. Roos, 1992, 1994a) for DMUs between periods $t$ and $t+i$ is given by:

$$
M(x^t_0, y^t_0; x^{t+i}_0, y^{t+i}_0; X', Y', X'^{t+i}, Y'^{t+i}) = \left[ \phi^{t+i}(x^t_0, y^t_0) \times \phi^{t+i}(x^{t+i}_0, y^{t+i}_0) \right]^{\frac{1}{2}} (2)
$$

and can be decomposed into:

$$
M(x^t_0, y^t_0; x^{t+i}_0, y^{t+i}_0; X', Y', X'^{t+i}, Y'^{t+i}) = \frac{\phi^{t+i}(x^t_0, y^t_0)}{\phi^{t+i}(x^{t+i}_0, y^{t+i}_0)} \times \frac{\phi^{t+i}(x^{t+i}_0, y^{t+i}_0)}{\phi^{t+i}(x^t_0, y^t_0)} \times \frac{\phi^{t+i}(x^t_0, y^t_0)}{\phi^{t+i}(x^{t+i}_0, y^{t+i}_0)} \times \frac{\phi^{t+i}(x^{t+i}_0, y^{t+i}_0)}{\phi^{t+i}(x^t_0, y^t_0)} \left(3\right)
$$

15 Note that the global index of Pastor and Lovell (2005) is also sensitive to the addition of DMUs, a sort of "reliance on irrelevant alternatives" property.
The first component is the efficiency change (EC) that measures how much closer (or farther away) DMU\(_0\) is from the technology frontier in period \(t+i\) as opposed to in period \(t\). The EC is \(\geq<1\) according to whether technical efficiency improves, stagnates or deteriorates between periods \(t\) and \(t+i\), when measured relative to the own-period frontier. The technical change (TC) component is the geometric means of the frontier shifts observed by DMU\(_0\) in period \(t\) and in period \(t+i\) respectively, and shows whether the benchmark technology frontier is progressing, stagnating or declining. TC thus indicates the effect of process or product innovation, among other things, on productivity change.

The Global Malmquist Index and Global Frontier Shift Index

Asmild and Tam (2007) defined the adjacent Global Malmquist productivity change Index as:

\[
GM(x_i^t, y_i^t; x_{00}^t, y_{00}^t; \bar{X}, \bar{Y}) = GEC(x_i^t, y_i^t; x_{00}^t, y_{00}^t; X^t, Y^t; X^{t+i}, Y^{t+i}) \times GFS(t, t+i; \bar{X}, \bar{Y})
\]

\[
GM(x_i^t, y_i^t; x_{00}^t, y_{00}^t; \bar{X}, \bar{Y}) = \prod_{j=1}^{n} \left[ \frac{\phi'(x_j^t, y_j^t)}{\phi'(x_j^{t+i}, y_j^{t+i})} \right]^{1/n} \times \frac{\prod_{j=1}^{n} \phi(x_j^t, y_j^t; X^{t+i}, Y^{t+i})}{\prod_{j=1}^{n} \phi(x_j^t, y_j^t; X^t, Y^t)}
\]

where the first component is the Global Efficiency Change index (GEC), which is the geometric mean of the efficiency changes and the last component, which is of particular interest for the proposed decomposition, is the Global Frontier Shift (GFS). The numerator of the GFS is the geometric mean of the efficiency scores of all DMUs in the data set, in all time periods, measured relative to the frontier in period \(t+i\). Similarly, the denominator is the geometric mean of the efficiency scores for all DMUs from all time periods measured relative to the frontier in period \(t+i\). GFS \(>1\) implies that the frontier, on average, has improved from period \(t\) to period \(t+i\). Still, a global improvement does not necessarily mean that all sections of the frontier have improved since the period-specific frontiers can intersect. Individually observed frontier shifts will differ because the frontiers are likely not to be parallel. Computing the GFS is different from computing the traditional frontier shift which only utilizes data from two, typically adjacent, periods at a time. But, the GFS utilizes all the observations from all time periods to estimate the mean distance between two frontiers. Therefore the GFS provides a better estimate of the true overall frontier shift than the traditional Malmquist index, since it uses more data points (at least if there are more than two time periods) than the geometric mean of the individual shifts (Asmild and Tam, 2007). This is especially so for sparsely populated data sets where including extra data points in the computation have a greater effect on accuracy.
The Favourability and favourability change indexes

The global frontier shift is helpful for drawing conclusions about productivity changes of an entire population as it indicates whether, and how much, the frontier on average improves (or worsens) from one time period to another. As mentioned, a potentially important issue is that the GFS is the frontier shift of an entire population of DMUs but not the local shift experienced by individual DMUs. We propose a further decomposition of the traditional adjacent Malmquist index into technical efficiency change, GFS, local favourability index and local favourability change components. The GFS is the same for each DMU, but, it may be informative to know how each unit observes the GFS and whether some DMUs are in favourable location by virtue of their different group characteristics. In other words, the favourability index concerns whether the local frontier shifts observed by individual DMUs are larger or smaller than the global frontier shift. If the local change is above the global change, then that DMU would be said to be in a favourable location in the production possibility set where the improvement potential exceeds the average and vice-versa. The components have potentially interesting policy implications, which are demonstrated using empirical data on Ghanaian banks.

To proceed formally, first recall the definition of the Global Frontier Shift, between period $t$ and period $t+i$:

$$GFS(t, t+i; \bar{X}, \bar{Y}) = \left( \prod_{j=1}^{n} \phi^{t+i} \left( x^t_j, y^t_j \right) \right)^{\frac{1}{n+z}} \frac{\prod_{j=1}^{n} \phi^t \left( x^t_j, y^t_j \right)}{\prod_{j=1}^{n} \phi^t \left( x^t_j, y^t_j \right)}$$  \hspace{1cm} (5)

Next define the output-oriented local favourability index for the (location of the) observed unit $\left( x^t_0, y^t_0 \right)$ when the frontier moves from time period $t$ to $t+i$ as:

$$F^t_{t+i} \left( x^t_0, y^t_0, \bar{X}, \bar{Y} \right) = \left( \phi^{t+i} \left( x^t_0, y^t_0 \right) \right) \phi^t \left( x^t_0, y^t_0 \right) GFS(t, t+i; \bar{X}, \bar{Y})$$  \hspace{1cm} (6)

Equation (6) can be said to be the “old favourability index” which indicates the favourability of the old location $\left( x^t_0, y^t_0 \right)$ of the unit relative to period $t$ and then compared to the global shift. It is the focal point of the favourability analysis. In contrast, the “new favourability index” indicates the favourability of the new location $\left( x^{t+i}_0, y^{t+i}_0 \right)$ relative to time period $t$. The new favourability index is calculated retrospectively and is more or less a combination of past and current positions. It is only used to arrive at the favourability change index. If $F^t_{t+i} \left( x^t_0, y^t_0, \bar{X}, \bar{Y} \right)$ is greater than 1, it means that the location of the DMU at time $t$ is more favourable, in the sense that, the technological progress in that location is higher than average.

The change in favourability that the DMU gains by moving from its location in period $t$ to the new location in period $t+i$ is given by:
where the numerator is the favourability of the new location and the denominator is the favourability of the old location (defined in 8 below). The value of this ratio explains whether the DMU has moved to a more favourable location. Consequently, the output-oriented adjacent Malmquist index between periods $t$ and $t+i$ can be decomposed as follows:

$$M^{L}(x_{0i}, y_{0i}, x_{0i}, y_{0i}, X, Y) = \frac{\phi^i(x_{0i}, y_{0i})}{\phi^i(x_{0i}, y_{0i})} \times \left( \prod_{j=1}^{n} \frac{\phi^i(x_{0j}, y_{0j})}{\phi^i(x_{0j}, y_{0j})} \right)^{1/nz} \times \frac{GFS(t, t+i; X, Y)}{GFS(t, t+i; X, Y)} \times \left[ \frac{F^{t,i}(x_{0i}, y_{0i}, X, Y)}{F^{t,i}(x_{0i}, y_{0i}, X, Y)} \right]^{1/2}$$

(8)

where EC is the well-known efficiency change index, GFS is the global frontier shift or innovation defined in (5), FI is the favourability index for the observed unit at time period $t$ which indicates the favourability of the old location of the unit $(x_{0i}, y_{0i})$ and the final square root term (FCI) from expression (7) measures the change in favourability gained by moving to the new location $(x_{0i}, y_{0i})$ in the production possibility set. Observe that multiplying the FI and the FCI results in the geometric mean of the favourability of the old and of the new location. The mathematical proof that the 'newly-decomposed' Malmquist productivity change index in equation (8) equals the traditional Malmquist productivity change index in equation (3) and hence the technical change component is equivalent to the product of the GFS, FI and FCI are in the appendix.

It should be noted that the favourability elements are related to the concept of bias of the technical change component of the Malmquist index proposed e.g. by Färe et al. (1997) and Lovell (2003). The bias indicates the divergence from the frontier shift. Färe et al. (1997) decomposed the technical change component of equation (3) into the product of a magnitude index or neutral component, an output bias index and an input bias index. The indices show the extent to which the frontier shift component affects productivity change. Like the input and output biases in the input isoquant and the output possibility set space respectively, the favourability and favourability change indices measure variations from
the global frontier shift and could potentially be further decomposed into changes in the input subspace and changes in the output subspace. This is an interesting avenue for further research. Also, the efficiency change component can be decomposed further, as in e.g. Färe et al. (1992, 1994a).

An Illustrative Example
To illustrate the new decomposition of the adjacent Malmquist index, consider a data set of 4 DMUs P, Q, R and S each observed in periods 1 and 2 as shown in Figure 1 with 2 outputs and a fixed input. The global frontier shift is illustrated by the dotted line. Note that this line is simply for illustrative purposes since it does not represent an actual frontier like frontier 1 or frontier 2. Instead, the global frontier shift is simply a number indicating the length of the mean frontier shift.

Figure 1 Two outputs, constant input illustration

We now compute the technology index for time periods 1 and 2. Let $\phi^i(\mathbf{Q}^1)$ be the output-oriented efficiency of DMU “Q1” radially measured relative to frontier 1 and $\phi^o(\mathbf{Q}^1)$ be the efficiency of “Q1” measured relative to frontier 2. In the Figure, $\phi^i(\mathbf{Q}^1)=1$ which equals $\phi^o(\mathbf{Q}^2)$ since both frontiers intersect at the data point Q1=Q2. Note that some observations are likely to be located outside some of the frontiers they are compared against, like “P3” which is located outside frontier 1 resulting in the super-efficiency score of $\phi^i(\mathbf{P}^1)=0.857$ when measured relative to frontier 1. The mixed-period infeasibilities can be avoided when the cross-period efficiencies are estimated against a cone technology.
(Wheelock and Wilson, 1999). From the periods 1 and 2 technology indices, the GFS 2 is given by:

\[
GFS(1,2; \bar{X}, \bar{Y}) = \prod_{j=1,2} \prod_{i=1,8} \phi^2(x_j^i, y_j^i) / \prod_{j=1,2} \phi^1(x_j^i, y_j^i) = \frac{1.13}{1.05} = 1.07
\]

The GFS of 1.07 indicates that, on average, the frontier improves by 7% between periods 1 and 2 as indicated by the dotted line in Figure 1. Therefore, observations generally have worse efficiencies (higher output expansion factors) relative to frontier 2 (with a mean of 13% improvement potential) than when compared with frontier 1 (with a mean of 5% improvement potential). Nonetheless, from the graph it is clear that the frontier shift is not Hicks-neutral or parallel because observations Q1 and Q2 are positioned where the frontier shifts are smaller than average, observations P1, R1 and S1 are located around the average frontier shift (with S1 being slightly above average and R1 slightly below average) whilst P2, R2 and S2 are located where the frontier shift is larger than the average. As some of the observations can experience a higher or lower than average frontier shift, it is possible to estimate the local favourability index and favourability change index for the observations. Consider therefore the local favourability index for observation Q1 for a change from period 1 to 2;

\[
F^{1,2}_{Q1; \bar{X}, \bar{Y}} = \left[ \phi^2(Q1) / \phi^1(Q1) \right] * GFS(1,2; \bar{X}, \bar{Y}) - 1/1*1.07 = 0.932.
\]

The value of 93.2% indicates that Q1, like Q2, is located in an unfavourable position where the technological progress is 6.8% less than the mean. This is because the frontier for Q1 does not move forward at all, whereas the average global frontier shift is 7%. Consequently, the favourability change obtained by “moving” from Q1 to Q2 is given by:

\[
F^{1,2}_{Q2; \bar{X}, \bar{Y}} / F^{1,2}_{Q1; \bar{X}, \bar{Y}} = 0.932/0.932 = 1
\]

which is in accordance with the fact that favourability does not change when no move occurs. From the perspective of either Q1 or Q2, the frontier has not changed at all, resulting in a favourability change index of 1; both Q1 and Q2 are efficient relative to both frontiers. The Malmquist index for DMU “Q” between periods 1 and 2 (which equals 1) can be decomposed into a neutral catching up, EC, of 1, a positive GFS of 1.07, a negative local favourability index

\[
\left[ F^{1,2}_{Q1; \bar{X}, \bar{Y}} = 0.932 \right]
\]

and a neutral favourability change of

\[
F^{1,2}_{Q2; \bar{X}, \bar{Y}} / F^{1,2}_{Q1; \bar{X}, \bar{Y}} = 1.
\]

Table 1 presents the results of the new decomposition of the adjacent Malmquist index for the 4 DMUs. From Figure 1, we observe that the radial output-oriented efficiency score of S1 measured relative to frontier 1 is 1.00 and its output efficiency score relative to frontier 2 is 1.13. Therefore, from S1’s standpoint, the frontier has improved by 1.13/1.00 = 1.13. The frontier improvement observed by S1 is bigger than the mean shift of 1.07 resulting in a favourability > 1, specifically, 1.13/1.07=1.06 as shown in Table 1 in row labelled “Favourability index”. From P2’s or S2’s position, the frontier has improved by
1.00/0.86=1.17 leading to the biggest favourability of 1.09. $P^2$ also shows the biggest favourability change index of 1.12. Notice that both $Q^1$ and $Q^2$ have the same negative favourability index indicating that they are in unfavourable locations in the output possibility set in the sense that they are located where there is less than average technological change. Even though the frontier on average is shifting over time they might not have been able to capitalize on that.

Table 1 Favourability decomposition of the (adjacent) Malmquist index

<table>
<thead>
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<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
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<td>1.15</td>
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<td>1.07</td>
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<tr>
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<td>0.99</td>
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<td>1.01</td>
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</table>

**EMPIRICAL ILLUSTRATION**

The new decomposition of the Malmquist index into EC, GFS, local favourability index and the local favourability change index is illustrated on a data set of 21 Ghanaian banks in each of three years (2006-2008) which is in Ohene-Asare and Asmild (2011). The data set has 3 inputs (labour, physical capital and deposits) and 3 outputs (loans and advances, corporate social responsibilities (CSR) and other earning assets (OEA)) based on the banking efficiency intermediation model of Sealey and Lindley (1977). Table 2 presents a descriptive statistics of the inputs and outputs in each of the three years.

Table 2 Descriptive statistics for the sample of 21 banks each in 2006-2008

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
<th>Std. Dev.</th>
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<td><strong>2006</strong></td>
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<td></td>
</tr>
<tr>
<td>Fixed Assets</td>
<td>7935.72</td>
<td>790.80</td>
<td>24066</td>
<td>1494.115</td>
</tr>
<tr>
<td>Staff expenses</td>
<td>8262.59</td>
<td>837.639</td>
<td>47425.3</td>
<td>2419.204</td>
</tr>
<tr>
<td>Deposits</td>
<td>166839.50</td>
<td>11860.3</td>
<td>634572.7</td>
<td>38132.23</td>
</tr>
<tr>
<td><strong>OUTPUTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loans</td>
<td>111139.78</td>
<td>3206.22</td>
<td>364538.5</td>
<td>23613.72</td>
</tr>
<tr>
<td>OEA</td>
<td>92733.672</td>
<td>3803.7</td>
<td>370654</td>
<td>22094.65</td>
</tr>
<tr>
<td>CSR</td>
<td>126.26</td>
<td>0.5</td>
<td>768.3</td>
<td>42.124</td>
</tr>
</tbody>
</table>
### Results at Bank Level

Tables 3, 4 and 5 present the findings for individual banks and their averages on the “newly-decomposed” Malmquist index (M) broken down into efficiency change (EC), global frontier shift (GFS) and the proposed favourability (FI) and favourability change (FCI) indices for periods 2006/07, 2007/08 and 2006/08. During the 2006/2007 period in Table 3, the global frontier shift of 1.067 indicates a mean frontier improvement of 6.7% from 2006 to 2007. The GFS is the same for each bank because it indicates the average frontier shift from one time period to another for the whole banking industry.

In Table 4, the GFS of 0.94 between 2007 and 2008 indicates that the frontier on average moves 6% backwards. The fact that this average frontier shift is not evenly distributed (reflecting non-Hicks neutral shift) is apparent from the values of individual banks’ favourability where some have favourability index above 1 and others below 1. For the whole 2006/08 period in Table 5, GFS=1 indicates that on average the frontier does not move at all during the study period. This may be evident from the recognition that the frontier moves 7% forward during 2006/07 and then 6% backwards during 2007/08 and hence, over the entire period, the frontier barely moves.

Comparing the GFS for the pairs of years with the mean of the traditional frontier shift (not shown) shows interesting differences. For instance, in 2006/07, the mean of the TC is 100%
whilst the GFS is 107% reflecting a 7% more shift for the GFS. Corresponding values (TC and GFS) during 2007/08 are 92.4% and 93.8% indicating 1.4% further shift in the case of the GFS. Respective values over the 2006/08 period are 99.1% and 100% showing a 0.9% increase for the GFS.

Table 3 Newly-decomposed Malmquist index with its components (2006/07)

<table>
<thead>
<tr>
<th>Bank</th>
<th>M</th>
<th>EC</th>
<th>GFS</th>
<th>FI</th>
<th>New FI</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>0.532</td>
<td>0.622</td>
<td>1.067</td>
<td>0.553</td>
<td>1.161</td>
<td>1.450</td>
</tr>
<tr>
<td>AMAL</td>
<td>1.499</td>
<td>1.416</td>
<td>1.067</td>
<td>0.944</td>
<td>1.041</td>
<td>1.050</td>
</tr>
<tr>
<td>BBG</td>
<td>0.838</td>
<td>0.670</td>
<td>1.067</td>
<td>1.132</td>
<td>1.215</td>
<td>1.036</td>
</tr>
<tr>
<td>CAL</td>
<td>1.007</td>
<td>1.062</td>
<td>1.067</td>
<td>0.925</td>
<td>0.853</td>
<td>0.960</td>
</tr>
<tr>
<td>EBG</td>
<td>1.084</td>
<td>0.999</td>
<td>1.067</td>
<td>1.012</td>
<td>1.023</td>
<td>1.006</td>
</tr>
<tr>
<td>FAMB</td>
<td>1.066</td>
<td>1.000</td>
<td>1.067</td>
<td>0.642</td>
<td>1.553</td>
<td>1.556</td>
</tr>
<tr>
<td>FB</td>
<td>0.819</td>
<td>1.000</td>
<td>1.067</td>
<td>0.595</td>
<td>0.990</td>
<td>1.290</td>
</tr>
<tr>
<td>GCB</td>
<td>1.128</td>
<td>0.926</td>
<td>1.067</td>
<td>0.595</td>
<td>1.339</td>
<td>1.173</td>
</tr>
<tr>
<td>GTB</td>
<td>0.588</td>
<td>0.812</td>
<td>1.067</td>
<td>0.642</td>
<td>0.717</td>
<td>1.057</td>
</tr>
<tr>
<td>HBC</td>
<td>1.217</td>
<td>0.920</td>
<td>1.067</td>
<td>1.140</td>
<td>1.347</td>
<td>1.087</td>
</tr>
<tr>
<td>IBG</td>
<td>1.005</td>
<td>1.000</td>
<td>1.067</td>
<td>0.471</td>
<td>1.883</td>
<td>1.998</td>
</tr>
<tr>
<td>ICB</td>
<td>0.769</td>
<td>1.000</td>
<td>1.067</td>
<td>0.616</td>
<td>0.844</td>
<td>1.171</td>
</tr>
<tr>
<td>MBG</td>
<td>1.099</td>
<td>0.848</td>
<td>1.067</td>
<td>1.238</td>
<td>1.190</td>
<td>0.980</td>
</tr>
<tr>
<td>NIB</td>
<td>1.089</td>
<td>1.009</td>
<td>1.067</td>
<td>0.990</td>
<td>1.032</td>
<td>1.021</td>
</tr>
<tr>
<td>PBL</td>
<td>1.196</td>
<td>1.000</td>
<td>1.067</td>
<td>1.108</td>
<td>1.133</td>
<td>1.011</td>
</tr>
<tr>
<td>SCB</td>
<td>0.892</td>
<td>0.933</td>
<td>1.067</td>
<td>0.847</td>
<td>0.949</td>
<td>1.059</td>
</tr>
<tr>
<td>SGSSB</td>
<td>0.356</td>
<td>0.690</td>
<td>1.067</td>
<td>0.245</td>
<td>0.955</td>
<td>1.975</td>
</tr>
<tr>
<td>STANB</td>
<td>1.258</td>
<td>1.000</td>
<td>1.067</td>
<td>0.977</td>
<td>1.423</td>
<td>1.207</td>
</tr>
<tr>
<td>TTB</td>
<td>1.485</td>
<td>1.000</td>
<td>1.067</td>
<td>1.129</td>
<td>1.715</td>
<td>1.233</td>
</tr>
<tr>
<td>UBA</td>
<td>1.266</td>
<td>1.520</td>
<td>1.067</td>
<td>0.892</td>
<td>0.683</td>
<td>0.875</td>
</tr>
<tr>
<td>UGL</td>
<td>0.879</td>
<td>0.910</td>
<td>1.067</td>
<td>0.804</td>
<td>1.021</td>
<td>1.127</td>
</tr>
<tr>
<td>Geomean</td>
<td>0.954</td>
<td>0.949</td>
<td>1.067</td>
<td>0.783</td>
<td>1.108</td>
<td>1.176</td>
</tr>
</tbody>
</table>
This trend where the GFS outperforms the geometric mean of the standard individual technical changes is alluded to the fact that the computation of the GFS includes more data points (in our case, \( n \times z = 21 \times 3 = 63 \)) than when computing the geometric mean of the individual frontier shifts (in our case, \( n \times 2 = 21 \times 2 = 42 \)). Consequently, as shown in a simulation by Asmild and Tam (2007), the GFS provides a better measurement of the true frontier shift than the traditional aggregation via the geometric mean of the individual frontier shifts.

Note that the standard efficiency changes of individual banks for the pairs of years are identical to the individual efficiency changes for the pairs of years for the “newly-decomposed” Malmquist index.

<table>
<thead>
<tr>
<th>Bank</th>
<th>MI</th>
<th>EC</th>
<th>GFS</th>
<th>FI</th>
<th>New FI</th>
<th>PCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>0.998</td>
<td>1.399</td>
<td>0.938</td>
<td>0.706</td>
<td>0.819</td>
<td>1.077</td>
</tr>
<tr>
<td>AMAL</td>
<td>1.094</td>
<td>0.986</td>
<td>0.938</td>
<td>1.190</td>
<td>1.178</td>
<td>0.995</td>
</tr>
<tr>
<td>BBG</td>
<td>0.890</td>
<td>1.034</td>
<td>0.938</td>
<td>0.895</td>
<td>0.942</td>
<td>1.026</td>
</tr>
<tr>
<td>CAL</td>
<td>0.931</td>
<td>1.039</td>
<td>0.938</td>
<td>1.008</td>
<td>0.907</td>
<td>0.948</td>
</tr>
<tr>
<td>EBG</td>
<td>1.282</td>
<td>1.169</td>
<td>0.938</td>
<td>1.028</td>
<td>1.330</td>
<td>1.137</td>
</tr>
<tr>
<td>FAMB</td>
<td>1.198</td>
<td>1.000</td>
<td>0.938</td>
<td>0.813</td>
<td>2.007</td>
<td>1.572</td>
</tr>
<tr>
<td>FB</td>
<td>0.945</td>
<td>0.985</td>
<td>0.938</td>
<td>0.930</td>
<td>1.124</td>
<td>1.099</td>
</tr>
<tr>
<td>GCB</td>
<td>1.160</td>
<td>1.323</td>
<td>0.938</td>
<td>0.959</td>
<td>0.912</td>
<td>0.975</td>
</tr>
<tr>
<td>GTB</td>
<td>2.267</td>
<td>1.873</td>
<td>0.938</td>
<td>1.125</td>
<td>1.481</td>
<td>1.147</td>
</tr>
<tr>
<td>HFC</td>
<td>0.891</td>
<td>1.087</td>
<td>0.938</td>
<td>0.808</td>
<td>0.946</td>
<td>1.082</td>
</tr>
<tr>
<td>ICB</td>
<td>0.344</td>
<td>0.525</td>
<td>0.938</td>
<td>0.493</td>
<td>0.995</td>
<td>1.420</td>
</tr>
<tr>
<td>MBG</td>
<td>0.960</td>
<td>0.990</td>
<td>0.938</td>
<td>0.944</td>
<td>0.945</td>
<td>1.000</td>
</tr>
<tr>
<td>NIB</td>
<td>1.030</td>
<td>1.176</td>
<td>0.938</td>
<td>0.936</td>
<td>0.933</td>
<td>0.999</td>
</tr>
<tr>
<td>PBL</td>
<td>0.914</td>
<td>0.877</td>
<td>0.938</td>
<td>1.236</td>
<td>0.998</td>
<td>0.899</td>
</tr>
<tr>
<td>SCB</td>
<td>0.860</td>
<td>0.791</td>
<td>0.938</td>
<td>1.065</td>
<td>1.263</td>
<td>1.089</td>
</tr>
<tr>
<td>SGSSB</td>
<td>0.790</td>
<td>0.853</td>
<td>0.938</td>
<td>1.033</td>
<td>0.946</td>
<td>0.957</td>
</tr>
<tr>
<td>STANB</td>
<td>0.751</td>
<td>0.881</td>
<td>0.938</td>
<td>0.938</td>
<td>0.882</td>
<td>0.969</td>
</tr>
<tr>
<td>TTB</td>
<td>0.852</td>
<td>1.000</td>
<td>0.938</td>
<td>0.654</td>
<td>1.262</td>
<td>1.389</td>
</tr>
<tr>
<td>UBA</td>
<td>1.391</td>
<td>1.269</td>
<td>0.938</td>
<td>1.175</td>
<td>1.162</td>
<td>0.995</td>
</tr>
<tr>
<td>UGL</td>
<td>0.813</td>
<td>1.185</td>
<td>0.938</td>
<td>0.755</td>
<td>0.709</td>
<td>0.969</td>
</tr>
</tbody>
</table>

| Geomean | 0.959 | 1.038 | 0.938 | 0.919 | 1.056 | 1.072 |

This trend where the GFS outperforms the geometric mean of the standard individual technical changes is alluded to the fact that the computation of the GFS includes more data points (in our case, \( n \times z = 21 \times 3 = 63 \)) than when computing the geometric mean of the individual frontier shifts (in our case, \( n \times 2 = 21 \times 2 = 42 \)). Consequently, as shown in a simulation by Asmild and Tam (2007), the GFS provides a better measurement of the true frontier shift than the traditional aggregation via the geometric mean of the individual frontier shifts.

Notes that the standard efficiency changes of individual banks for the pairs of years are identical to the individual efficiency changes for the pairs of years for the “newly-decomposed” Malmquist index.
During 2006/07 period (Table 3), banks SGSSB and MBG experienced the minimum and maximum favourability indices equal to 24.5% and 123.8% respectively. For the period 2007/08 (Table 4), IBG was in the least favourable location (FI=49.3%) whilst AMAL was in the most favourable location (FI=119%). And for the sample period of 2006/08 (Table 5), IBG again had the lowest FI of 26.7% whereas STANB had the highest FI of 118.8%. Average favourability rose from 78.3% in 2006/07 to 91.9% in 2007/08. Across the whole sample period of 2006/08, banks were on average in unfavourable locations (FI=82.6%). Specifically, during 2006/07, 2007/08 and 2006/08, 15, 12 and 15 banks were located in unfavourable locations respectively. Over the period 2006/07, the FCI shown in the last column of Table 3 reveals that UBA (with FCI=87.5%) moved towards the least favourable location whereas IBG (with FCI=199.8%) moved towards the most favourable location. Over the 2007/08 period, PBL moved towards the least favourable location whereas FAMB moved towards the most favourable location. Over the sample

### Table 5 Newly-decomposed Malmquist index with its components (2006/08)

<table>
<thead>
<tr>
<th>Bank</th>
<th>MI</th>
<th>EC</th>
<th>GFS</th>
<th>FI</th>
<th>New FI</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>0.766</td>
<td>0.871</td>
<td>1</td>
<td>0.676</td>
<td>1.144</td>
<td>1.301</td>
</tr>
<tr>
<td>AMAL</td>
<td>1.517</td>
<td>1.397</td>
<td>1</td>
<td>0.948</td>
<td>1.243</td>
<td>1.145</td>
</tr>
<tr>
<td>BBG</td>
<td>0.757</td>
<td>0.693</td>
<td>1</td>
<td>1.167</td>
<td>1.024</td>
<td>0.937</td>
</tr>
<tr>
<td>CAL</td>
<td>1.044</td>
<td>1.103</td>
<td>1</td>
<td>0.919</td>
<td>0.975</td>
<td>1.030</td>
</tr>
<tr>
<td>EBG</td>
<td>1.590</td>
<td>1.168</td>
<td>1</td>
<td>1.018</td>
<td>1.818</td>
<td>1.337</td>
</tr>
<tr>
<td>FAMB</td>
<td>1.190</td>
<td>1.000</td>
<td>1</td>
<td>0.644</td>
<td>2.199</td>
<td>1.848</td>
</tr>
<tr>
<td>FB</td>
<td>0.880</td>
<td>0.985</td>
<td>1</td>
<td>0.766</td>
<td>1.041</td>
<td>1.166</td>
</tr>
<tr>
<td>GCB</td>
<td>1.349</td>
<td>1.225</td>
<td>1</td>
<td>0.968</td>
<td>1.251</td>
<td>1.137</td>
</tr>
<tr>
<td>GTB</td>
<td>1.420</td>
<td>1.521</td>
<td>1</td>
<td>0.820</td>
<td>1.062</td>
<td>1.138</td>
</tr>
<tr>
<td>HFC</td>
<td>1.127</td>
<td>1.000</td>
<td>1</td>
<td>0.944</td>
<td>1.345</td>
<td>1.193</td>
</tr>
<tr>
<td>IBG</td>
<td>0.298</td>
<td>0.525</td>
<td>1</td>
<td>0.267</td>
<td>1.211</td>
<td>2.131</td>
</tr>
<tr>
<td>ICB</td>
<td>0.718</td>
<td>0.990</td>
<td>1</td>
<td>0.647</td>
<td>0.813</td>
<td>1.121</td>
</tr>
<tr>
<td>MBG</td>
<td>1.040</td>
<td>0.842</td>
<td>1</td>
<td>1.168</td>
<td>1.304</td>
<td>1.057</td>
</tr>
<tr>
<td>NIB</td>
<td>1.203</td>
<td>1.187</td>
<td>1</td>
<td>0.952</td>
<td>1.078</td>
<td>1.064</td>
</tr>
<tr>
<td>PBL</td>
<td>0.944</td>
<td>0.877</td>
<td>1</td>
<td>1.129</td>
<td>1.024</td>
<td>0.952</td>
</tr>
<tr>
<td>SCB</td>
<td>0.790</td>
<td>0.738</td>
<td>1</td>
<td>0.861</td>
<td>1.329</td>
<td>1.242</td>
</tr>
<tr>
<td>SGSSB</td>
<td>0.394</td>
<td>0.588</td>
<td>1</td>
<td>0.336</td>
<td>1.336</td>
<td>1.996</td>
</tr>
<tr>
<td>STANB</td>
<td>1.062</td>
<td>0.881</td>
<td>1</td>
<td>1.188</td>
<td>1.223</td>
<td>1.015</td>
</tr>
<tr>
<td>TTB</td>
<td>1.396</td>
<td>1.000</td>
<td>1</td>
<td>1.136</td>
<td>1.714</td>
<td>1.228</td>
</tr>
<tr>
<td>UBA</td>
<td>1.682</td>
<td>1.929</td>
<td>1</td>
<td>0.960</td>
<td>0.791</td>
<td>0.908</td>
</tr>
<tr>
<td>UGL</td>
<td>0.922</td>
<td>1.079</td>
<td>1</td>
<td>0.866</td>
<td>0.843</td>
<td>0.986</td>
</tr>
<tr>
<td>Geomean</td>
<td>0.976</td>
<td>0.985</td>
<td>1</td>
<td>0.826</td>
<td>1.188</td>
<td>1.199</td>
</tr>
</tbody>
</table>
period from 2006 to 2008, PBL moved towards the least favourable location whilst IBG moved towards the most favourable location. The last finding means that although IBG was in the least favourable location, it was also the bank that moved towards the most favourable location over time.

Note that irrespective of the pairs of years under consideration, the average FCI is greater than 1. Focusing on each pair of year, 18 individual banks had FCI>1 during 2006/07 period, 12 moved towards more favourable locations during 2007/08 and 17 moved towards more favourable locations during 2006/08. Recall that the average favourability index was consistently less than 1 during the whole sample period indicating that the banks were on average located in unfavourable locations or in locations that were smaller than the average frontier shift. Hence, despite the fact that Ghanaian banks were on average located in unfavourable positions, they were on average moving towards more favourable locations over time as indicated by the consistently positive average FCI. For instance, during 2006/08 period, although there was no change in average GFS, individual banks were overall, moving towards more favourable locations over time.

Further analysis shows that on average, the deterioration in productivity by 4.6%, 4.1% and 2.4% emanated from 21.7%, 8.1% and 17.4% reduction in favourability during periods 2006/07, 2007/08 and 2006/08 respectively. For the period 2007/08, the average productivity decline was in addition partly due to the 6.2% deterioration in the GFS and during period 2006/08 the average productivity decline was also due to the 5.1% efficiency decline. The findings on the average standard Malmquist index and its efficiency change and technical change components during 2006/08 period (not shown) attributed the productivity decline greatly to efficiency decline. Nonetheless, the present newly decomposed components reveal that the true sources of productivity decline is not because the overall frontier is shifting but because on average, majority of the individual banks are located in unfavourable locations with lower than average frontier shift.

Results at Bank Subgroup Level
The banks are segmented into different subgroups – based on ownership, specialisation and capitalization types. The pooled data set, whereby banking observations in different years are treated as separate observations, is made up of 9 state banks, 27 private-domestic banks and 27 foreign banks based on ownership; 52 universal banks and 11 focus banks based on bank specialization; and 18 listed and 44 non-listed banks categorized under bank capitalization. Initial summary statistics indicated wide standard deviations for some of the variables highlighting the fact that banks may be different in terms of scale size even within subgroups. Until the Universal Banking Business Licence (UBBL) in 2003, most of the banks were focused on one thing at a time as commercial banks, development banks, and merchant banks. The objective was for these banks to serve the financial needs of specific sectors of the economy through the provision of funds to the disadvantaged households and small and medium-scale enterprises (E. K. Y. Addison, 2003). Initial statistical tests are performed to determine the presence of significant differences in the means of the inputs, outputs and other variables between the three ownership types, between the means of listed and non-listed banks and between the means
of universal and focus banks. Each variable is tested separately using the one-way ANOVA for the ownership types and the t-Test for the specialisation and capitalisation types. The null hypothesis is rejected in the case of ownership and capitalisation types for most of the variables indicating that the means of variables of the three ownership-banking groups and the means of the variables of two capitalisation types are significantly different. But the means of variables of focus and universal banks are equal except for other earning assets where the means of the two subgroups are different.

The reason for the segmentation is to ascertain which subgroup has higher favourability and favourability change although they all observe the same global frontier shift. The importance of such subgroup analysis becomes apparent in the context of policy making. It may be that the frontier for one banking subgroup is better than that of another banking subgroup but the latter subgroup may be located in a more favourable position and/or may be moving towards a more favourable location over time indicating that their part of the frontier is shifting. In that case, it cannot be ruled out completely that the latter (second) subgroup is not important in the industry. Policy measures may then have to be oriented in the direction of creating the platform for the second subgroup to further invest in better technology and human capital necessary to increase outputs and push their frontier closer to that of the leaders in the industry. The question that is explored in this section is: are some Ghanaian banking subgroups located in more or less favourable locations than others and are some of the subgroups moving towards more or less favourable locations over time? The summary of subgroup findings is displayed in Table 6. The reported values are the geometric means of individual FI and FCI in each banking subgroup for the pairs of years. We investigate if banking subgroups (e.g., state banks) experience more or less shifts than the GFS which is the same for each banking subgroup; 1.07, 0.94 and 1.00 for periods 2006/07, 2007/08 and 2006/08 respectively. Note that unlike the computation of the GFS that uses all the data points, irrespective of the time period, the computation of the FI and FCI for say 2006/2007 uses only 2006 and 2007 data and then compares it with the GFS.
Table 6 Results of the GFS and FI and FC

<table>
<thead>
<tr>
<th>BY OWNERSHIP TYPE</th>
<th>SPECIALIZATION TYPE</th>
<th>CAPITALIZATION TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>State banks</td>
<td>Focus banks</td>
<td>Listed banks</td>
</tr>
<tr>
<td>Summary</td>
<td>FI  FCI</td>
<td>Summary</td>
</tr>
<tr>
<td>2006/07</td>
<td>1.07 1.2</td>
<td>2006/07</td>
</tr>
<tr>
<td>2007/08</td>
<td>0.93 1.02</td>
<td>2007/08</td>
</tr>
<tr>
<td>2006/08</td>
<td>1 1.16</td>
<td>2006/08</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Domestic banks</th>
<th>Universal banks</th>
<th>Non-listed banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>FI  FCI</td>
<td>Summary</td>
</tr>
<tr>
<td>2006/07</td>
<td>1.07 1.23</td>
<td>2006/07</td>
</tr>
<tr>
<td>2007/08</td>
<td>1 1.09</td>
<td>2007/08</td>
</tr>
<tr>
<td>2006/08</td>
<td>1.08 1.16</td>
<td>2006/08</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Foreign banks</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>FI  FCI</td>
<td></td>
</tr>
<tr>
<td>2006/07</td>
<td>0.91 1.23</td>
<td></td>
</tr>
<tr>
<td>2007/08</td>
<td>1.02 1.07</td>
<td></td>
</tr>
<tr>
<td>2006/08</td>
<td>0.93 1.26</td>
<td></td>
</tr>
</tbody>
</table>

Notes: FI and FC represent favourability index and favourability change index respectively.

Based on findings of ownership types, it can be observed that during the 2006/07 period, the average state, private-domestic and the foreign banks are in locations of positive favourability, positive favourability and negative favourability respectively. The average state and private-domestic banks are therefore located where the frontier shift is 7% better than the 7% average (GFS=1.07) whereas the average foreign bank is located where the frontier shift is 9% worse than the 7% global shift. In contrast, during the same period, the changes in favourability of the three banking subgroups show interesting results. Specifically, the average foreign and private-domestic banks are moving towards more favourable locations over time than the average state bank. Generally, during this period, the private-domestic banks appear to be ahead of their peers and also moving towards more favourable locations over time. During the 2007/08 period, the average state, private-domestic and foreign banks are located in unfavourable position, neutral location and favourable location respectively. On average, they all moved towards more favourable locations with the average private-domestic and foreign banks leading. Over the whole sample period of 2006/08, state and private-domestic banks are on average located in positions of neutral favourability and positive favourability respectively. Corresponding values for the favourability changes on average show movements towards more favourable locations by all banking subgroups during the sample period. This means...
that even though state banks have on average a favourability index of unity during the 2006/08 period, they are generally moving towards more favourable locations over time.

The findings of bank specialization types is also shown in Table 6. The findings during 2006/2007 period indicate that the average focus bank is in a location of positive favourability whereas the average universal bank is located in an unfavourable position where the technological improvement is 3% less than the 7% average. A look at their favourability changes shows that the universal banks are on average moving towards more favourable locations (FCI=1.18) by slightly more than the focus banks who are also on average moving towards more favourable locations over time. During the 2007/08 period, universal banks are on average located in favourable position. This is because whereas the global frontier shifted 6% backwards, the average universal banks moved 2% forward. The FCI result shows that universal banks, unlike the focus banks, are on average moving towards more favourable locations over time. During the whole period of 2006/08, where universal banks on average are located in positions of neutral favourability. Note however that individual universal banks will be located in different parts of the Ghanaian banking technology set with some located where the frontier shifts are larger, smaller or around average. Evidently, universal banks are generally moving towards more favourable locations (FCI=1.23) over time whilst focus banks are generally moving towards less favourable locations over time. The fact that universal banks’ FCI>1 always means that although some of the GFS are negative, the individual universal banks (unlike focus banks) are by and large moving towards more favourable locations over time. This analysis has shown that universal banks are on average located in favourable positions and moving faster towards more favourable locations over time relative to focus banks.

Finally, the findings on bank capitalization types shows that during the 2006/07 period, listed banks are on average located in slightly more favourable positions than non-listed banks. Similar trends can be found during either period 2007/08 or 2006/08, except that in period 2006/08, listed banks are on average located where the technological improvement is 3% more than the neutral average global shift. The favourability changes for listed (non-listed) banks during periods 2006/07, 2007/08 and 2006/08 on average are 1.17 (1.118), 1.03 (1.09) and 1.29 (1.16) respectively. It appears that the mean FCI for listed banks over the whole period outweighs that of non-listed banks. Arguably, on average, over the entire period, listed banks tend to experience greater FI and FCI than non-listed bank. On average, the movement towards more favourable locations by both listed and non-listed banks is evident by the fact that during every pair of years, the average FCI>1, reflecting the fact that although some of the mean GFS are negative and others are neutral, the individual listed and non-listed banks are by and large moving towards more favourable locations over time.
CONCLUSION

This study has suggested a newly-four-part-decomposed adjacent Malmquist productivity change index and adapted it to investigate not only the global frontier shifts but also the local favourability and favourability changes of a sample of 21 Ghanaian banks. The concept of the GFS is useful for making conclusions about technological changes of an entire population of firms. Nonetheless, average technological improvement over time does not necessarily imply that all parts of the frontier are improving. Favourability concerns whether the size of individual frontier shifts are above or below the GFS whereas favourability change concerns whether a firm is or a subgroup of firms are moving towards more favourable locations over time in the production space. This is an interesting addition to the productivity change literature in that the sources of productivity change could prove useful if the effects arising from the overall GFS are disentangled from the effects attributable to whether individual DMUs are located in favourable positions or whether these DMUs, over a certain period of time are moving towards locations with larger than the mean frontier shift. The intuition behind the theory could be helpful to explore whether some banks, by engaging in more CSR activities, place themselves in more favourable locations in the technology set or are moving towards favourable locations over time than other banks. This is a direction for further research.

Focusing on Ghanaian individual banks over the period 2006/2008, the study has examined the relevance of the ‘newly-decomposed’ Malmquist index by decomposing it into catching up, global frontier shift, and favourability can favourability change indices for samples of banks and banking subgroups. Overall, it appears that the decline in productivity is attributable mainly to deterioration in efficiency and slightly to decline in innovation. Further examination shows that the technological decline is on average, attributable to unfavourable locations of banks. Still, banks are on average moving towards more favourable locations over time as indicated by the consistently positive average favourability change.

Banks are also classified under different banking subgroups in order to investigate whether a subgroup is located in more favourable locations and moving towards more favourable locations. Focusing on bank ownership types, the general observation was that even though foreign banks are on average located in unfavourable locations compared with state and private-domestic banks, they are on average rapidly moving towards more favourable locations over time. The overall conclusion on bank specialization types was that universal banks are on average located in more favourable positions and moving towards more favourable locations over time relative to focus. Finally, the result on bank capitalization types showed that listed banks are on average located in more favourable positions and moving towards more favourable locations over time than focus banks.
REFERENCES

Track E:
Leadership, Gender, Project Management and Business Sustainability Track
Track Summary

The track looks at two main thematic areas in sustaining business. The first part considers leadership, talent and gender as crucial variables in understanding and promoting business sustainability. It seeks to bring to the fore, the contemporary as well as the core models driving leadership, talent and gender issues in business sustainability. The second looks at how organizations manage projects to sustain their business. Specifically, it seeks to unearth the positive effects of project management on organizational outcomes. It considers a detailed understanding of the elements in project cycle management, coupled with the dimensions of the knowledge areas and how they sustain business.

In order to provide a snapshot of the contemporary issues in the organization and its talents, one paper indicates that, as banks are important to the economic growth process in Ghana, there is the need for the provision of crucial information that would enable practitioners to make informed decisions towards improving the banking work environment, and modelling the right organizational culture. It identifies the determinants of effective organizational culture among the firms in the retail banking sub-sector of Ghana, using an AMOS-based structural equation modeling approach on employees in nine retail-banking firms. The findings show that employees (talents) have a strong appreciation for only two of the seventeen organizational culture indices at the workplace. These include the bank’s policies and practices being fair to employees and promotions being fair to employees. By implication, the manifestation of these two effective organizational culture indices in the banks, will enhance organizational effectiveness and employees’ commitment in order to sustain the business. Other studies point to underutilization of Automated Teller Machines (ATMs) in Ghana, resulting in a high workload on bank tellers. Therefore, a study in this track accordingly aimed at creating an understanding of the effects of workload on the job satisfaction of bank tellers in Ghana. Contrary to expectation, though tellers reported above average workload, the study found workload as having a positive marginal effect on their job satisfaction. Besides, tellers’ age and years with banks had a negative correlation with perceived workload. Another paper identifies the structural empowerment activities that are initiated at the retail banks in Ghana to enhance the task performance of frontline employees (talents). It finds the structural empowerment activities initiated at the banks can be grouped into four dimensions which are availability of information, flexibility of work schedule, encouraging innovativeness and knowledge of organizational position. The study recommends that empowerment of frontline employee should be fully integrated in banks as this is critical to survival, sustainability, and competition posed by globalization.

On gender issues and sustainability, one paper examined gender equity in organisations by applying the meta-analysis technique, and found that preference is given to male applicants in mining jobs. In addition, the work demonstrates the prevalence of organizational and socio-cultural barriers affecting the participation of females in the mines. Therefore, there is the need to bridge the gender inequality in the mining industry which would consequently improve the living standards of females. The influence of psychological factors on sustainable career development is also investigated in this track. The result indicates that psychological factors predict career development, with organizational support moderating the relationship between psychological factors and career development.
Effective Organizational Culture Model for Retail Banks in Ghana

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ABSTRACT
The purpose of this study was to identify the determinants of effective organizational culture among the firms in retail banking sub-sector of Ghana. This is in the light of the importance of banks to the economic growth process in Ghana, which calls for the provision of crucial information that could enable practitioners make informed decisions towards improving the banking work environment. Using data sampled from 282 employees in nine retail-banking firms, seventeen indicators of organizational culture were analysed using AMOS-based structural equation modelling approach. It was found from the analyses that only two of the seventeen indicators were predictive of effective organizational culture that could lead to increase employee commitment. These include firstly, the bank’s policies and practices being fair to employees, and secondly, employees promotions being fair. It was concluded that the manifestation of these two effective organizational culture indices in the banks would enhance employees’ commitment. Based on this conclusion, it was hypothesized that a firm in the Ghanaian retail banking sector could have an effective organizational culture that enhances employee commitment, if its policy and practices are perceived to be fair toward employees.

Keywords: Organizational culture, organizational culture indicator, retail banks, Ghana

INTRODUCTION
Managing the rapid growth that has evolved from the financial sector reforms, has always entailed enormous human resource challenges, even in advanced countries with larger pools of skilled employees and managerial talents. Firms operating in high growth sectors, such as the financial industry, face the challenge of hiring and assimilating large numbers of new employees, providing new knowledge and skills to existing employees, and addressing the needs for a highly motivating organizational culture. Development of such a highly motivating organizational culture leadership requires attentiveness to employees’ economic, social and emotional needs. In this regard, the banking sector in Ghana is faced with human resource management challenges, which calls for the modeling of the right organizational culture that reduces possible employee turnover switch to competing firms.
The prevailing understanding is that when an employee is dissatisfied with his/her work, he/she is less committed and will look for opportunities to quit. In the banking sector, where customer satisfaction depends very much on the relationships between employees and customers, this loss can be significant to some retail banks. Thus, this study deals with issues that are potentially important for researchers and practitioners alike. The purpose of this study, therefore, was to identify organizational culture indicators that enhance employee commitment in the Ghanaian retail banks. The objectives was to improve academic and practitioners’ understanding of the determinants of organizational culture in the retail banking sector in Ghana by identifying organizational culture indicators that influences employee job commitment.

LITERATURE REVIEW

The level of financial market development is known to have an impact on the economy of a nation. In this vein, the level of banking development and stock market liquidity also affects the economy of a country (Sanda & Kuada, 2013). There exist a long line of research that posits a causal relationship between finance and economic growth (Mitchener & Wheelock, 2012). Findings from studies conducted in both single-country and cross-country have shown that, comparatively, countries with more developed financial markets experience early economic growth, attain higher growth rates and achieve higher levels of per capita income than countries whose financial markets are less developed (Mitchener & Wheelock, 2012). Thus, the smooth implementation of a country’s macroeconomic policies is enhanced by the effective functioning of its financial system enhances (Sanda & Kuada, 2013).

This view has since the 1980s motivated governments in most African countries, including Ghana to carry out financial sector reforms under the auspices of broad market reforms with the major goals of building financial markets that are efficient and competitively robust (Sanda & Kuada, 2013). Key aspect of the financial sector reforms include the deregulation of the financial sub-sector through privatization of state-owned banks, entry of private banks, the registration of non-bank financial institutions, and the emergence of new banking products/service enhancing financial service delivery (Sanda & Kuada, 2013). The conduct of these reforms in Ghana have resulted in substantial growth of the banking sector, with the number of firms moving from eight (8) retail banks in the year 1990 to twenty-six (26) in the year 2009.

This was in addition to a number of firms that provide other types of financial service, such as insurance companies, investment houses, rural banks, stock exchange, cooperative credit unions, savings and loan institutions, mutual funds, and other microfinance institutions. Therefore, in the light of the importance of banks to the economic growth process in Ghana (just as in other countries) there is a great need to understand the quality of the organizational culture that is appreciated by employees in the management of the workplace. This could lead to improvements in workplaces, helping managers to remain satisfied and continue in their jobs. From a practical standpoint, it is vital to provide practitioners with crucial information that could enable them to make informed decisions in the areas of recruitment, selection, promotion, and training. Thus, this study sought to hypothesize the
dominant indicators perceived by employees as characterizing good organizational culture in retail banks in Ghana. Thus, the initial literature review suggested that the model presented in figure 1 below could guide the empirical investigation. The coded indicators for the model are shown in table 1.

![Proposed model of organizational culture and indicators](image-url)

**Figure 1: Proposed model of organizational culture and indicators**
**Table 1: Indicators of organizational culture in retail banks**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Label in Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees receiving instructions they do not agree with, but usually conform to it without dissent.</td>
<td>CQ1</td>
</tr>
<tr>
<td>Older managers feeling threatened by younger, competent colleagues.</td>
<td>CQ2</td>
</tr>
<tr>
<td>Managers not encouraging employees' undertaking of personal initiatives and risk-taking</td>
<td>CQ3</td>
</tr>
<tr>
<td>The bank is hierarchically structured and all staff members know their positions.</td>
<td>CQ4</td>
</tr>
<tr>
<td>People are usually employed on the basis of their relationships with the bank's managers.</td>
<td>CQ5</td>
</tr>
<tr>
<td>Work practices within the bank are influenced by Ghanaian culture.</td>
<td>CQ6</td>
</tr>
<tr>
<td>The bank's customer services are influenced by Ghanaian culture.</td>
<td>CQ7</td>
</tr>
<tr>
<td>Employees generally trust top management</td>
<td>CQ8</td>
</tr>
<tr>
<td>The bank's management practices are different from those of similar banks.</td>
<td>CQ9</td>
</tr>
<tr>
<td>The bank's policies and practices are fair toward employees.</td>
<td>CQ10</td>
</tr>
<tr>
<td>The quality of employees' worklife in the bank is very good.</td>
<td>CQ11</td>
</tr>
<tr>
<td>The bank's management always tries to avoid employees' layoffs and transfers.</td>
<td>CQ12</td>
</tr>
<tr>
<td>Co-workers get along very well with each other in the bank.</td>
<td>CQ13</td>
</tr>
<tr>
<td>There are opportunities for advancement in the bank.</td>
<td>CQ14</td>
</tr>
<tr>
<td>The amount of pay employees receive matches the work they do.</td>
<td>CQ15</td>
</tr>
<tr>
<td>Promotions are fairly given out in the bank.</td>
<td>CQ16</td>
</tr>
<tr>
<td>The bank's working condition is very pleasant.</td>
<td>CQ17</td>
</tr>
</tbody>
</table>

**RESEARCH FRAMEWORK**

The theoretical framework that guided this study is the Person–Organization (PO) Fit framework. The PO Fit framework highlights the compatibility between people and the organizations in which they work (Kristof, 1996). The PO Fit concept suggests that an employee's attitudes and behaviors are influenced by the extent to which the organization and the employee are similar or have a fit on certain characteristics (Da Silva, Hutcheson & Wahl, 2010). Typical characteristics that are examined the employee's and the environment's values, goals, and traits (Cable & Judge, 1996; Ferris, Youngblood, & Yates, 1985; Furnham & Walsh, 1991; Judge & Cable, 1997; Muchinsky & Monahan, 1987; O'Reilly, Chatman, & Caldwell, 1991). The fit between the employee and the organization has been related to various attitudinal and behavioral outcomes such as job satisfaction, organizational commitment, intention to quit, turnover, and task performance (Hoffman & Woehr, 2006; Kristof-Brown, Zimmerman & Johnson, 2005; Verquer, Beehr & Wagner, 2003; Wheeler, Gallagher, Brouer, & Sablynski, 2007). The fit between the employee and the organization with regard to organizational strategy (Da Silva, Hutcheson & Wahl,
2010) and organizational commitment (e.g., Boxx, Odom, & Dunn, 1991; Cable & Judge, 1996; Meglino, Ravlin, & Adkins, 1989; O’Reilly et al., 1991; Ostroff, Shin, & Kinicki, 2005; Tziner, 1987; Van Vianen, 2000; Vancouver & Schmitt, 1991) have also been examined. However, research has not examined the fit between the employee and the organizational culture.

RESEARCH METHODOLOGY

Data was sourced from nine (9) Banks in Ghana that are engaged in retail banking. In order to gain an unhindered access to target employees in these banks, the support and approval of top management for the study was firstly sought and obtained. A stratified random sampling technique was then used to select the respondents from each of the retail banks. The stratification was based on the respondents’ position in the firms (i.e. managerial and non-managerial. Data was collected using a self-administering questionnaire which is divided into the following two sections; demography, and organizational culture. Descriptive statistics was firstly conducted to test the normality of the response distribution using the Shapiro-Wilk test of normality since the sample size (N = 282) for the study is less than 2000. Both factor analysis and confirmatory factor analysis were then conducted to test the measurement model by using the analysis of moment structures (AMOS) programme to estimate the factor score weights (regression weights or path coefficients) for the indicator variables (observed variables) relating to the latent variable (i.e. organizational culture).

The AMOS software recognized each of the organizational culture indicators as latent variables and thus was not able to provide a model fit for the predicted model structure (i.e. figure 1). In this respect, each of the latent variables was model-fitted to its measurable factors in the AMOS software. This allowed for the conduction of confirmatory factor analysis and the subsequent estimation of individual factor loadings/weights that are indicative of the predictiveness of the individual organizational culture indicators in the predicted model structure. In the confirmatory factor analysis, the factor score weights (i.e. regression estimates) for each indicator of organizational culture was firstly generated from the AMOS software and then appraised in order to identify the most appropriate factors that could be used as the most representative organizational culture indices. The indicator test value or factor loading for predictive significance was set at 70 percent (0.7) as proposed by Schumacker and Lomax (2004). The AMOS graphic statistical software was used as the analytical tool.

RESULTS AND DISCUSSION

In this section, the outputs from the Shapiro-Wilk test of normality for the organizational culture indicators are appraised. The AMOS generated measured factors (regression weights) predictive of organizational culture are analyzed, and the factors with the requisite predictive characteristics are also determined. At the start of the analysis, the predicted model structure (see figure 1) outlining the relationship among the various model components (i.e. leadership style, organizational culture, national culture, employee
characteristics, job satisfaction, organizational commitment, and organizational performance) was loaded into the AMOS software. The statistics for normality of the organizational culture indicators obtained from the SPSS are shown in table 2 below.

**Table 2. Statistics for the Shapiro-Wilk normality test for the organizational culture indicators**

<table>
<thead>
<tr>
<th>Organizational Culture Indicators</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees receiving instructions they do not agree with, but usually conform to it without dissent.</td>
<td>0.896</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>Older managers feeling threatened by younger, competent colleagues.</td>
<td>0.886</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>Managers not encouraging employees' undertaking of personal initiatives and risk-taking</td>
<td>0.901</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The bank is hierarchically structured and all staff members know their positions.</td>
<td>0.807</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>People are usually employed on the basis of their relationships with the bank's managers.</td>
<td>0.884</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>Work practices within the bank are influenced by Ghanaian culture.</td>
<td>0.880</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The bank's customer services are influenced by Ghanaian culture.</td>
<td>0.862</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>Employees generally trust top management</td>
<td>0.897</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The bank's management practices are different from those of similar banks.</td>
<td>0.878</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The bank's policies and practices are fair toward employees.</td>
<td>0.825</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The quality of employees' worklife in the bank is very good.</td>
<td>0.875</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The bank's management always tries to avoid employees' layoffs and transfers.</td>
<td>0.907</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>Co-workers get along very well with each other in the bank.</td>
<td>0.786</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>There are opportunities for advancement in the bank.</td>
<td>0.864</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The amount of pay employees receive matches the work they do.</td>
<td>0.893</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>Promotions are fairly given out in the bank.</td>
<td>0.905</td>
<td>265</td>
<td>0.000</td>
</tr>
<tr>
<td>The bank's working condition is very pleasant.</td>
<td>0.833</td>
<td>265</td>
<td>0.000</td>
</tr>
</tbody>
</table>

It is observed from table 2 above that the p-values (labeled as sig) for the Shapiro-Wilk test of normality for all the indicators ($p = 0.000$) are lower than 0.05. The implication here is that the data (responses from the study participants) for all the seventeen organizational culture indicators are not normally distributed. In this respect therefore, the null hypothesis that the study data is normally distributed is rejected, and as a result, the subsequent findings holds for retail banks and cannot be generalized to firms in other industries.
Factor Analysis of Indicators Predictive of Effective Organizational Culture

The standardized model-fit generated by the AMOS software for organizational culture as a latent variable and its indicator variables (measureable factors) are shown in figures 2 below. The model fit summary is also shown in table 3.

Figure 2: AMOS graphics generated path diagram showing standardized indicator loadings for predicting effective organizational culture in retail banks.
Table 3: Model fit summary for the organizational culture measurement model

<table>
<thead>
<tr>
<th></th>
<th>NPAR</th>
<th>CMIN</th>
<th>DF</th>
<th>P</th>
<th>CMIN/DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>51</td>
<td>787.876</td>
<td>119</td>
<td>0.000</td>
<td>6.621</td>
</tr>
<tr>
<td>Saturated model</td>
<td>170</td>
<td>0.000</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>NFI Delta1</th>
<th>RFI rho1</th>
<th>IFI Delta2</th>
<th>TLI rho2</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>0.537</td>
<td>0.404</td>
<td>0.577</td>
<td>0.444</td>
<td>0.568</td>
</tr>
<tr>
<td>Saturated model</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>RMSEA</th>
<th>LO 90</th>
<th>HI 90</th>
<th>PCLOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>0.141</td>
<td>0.132</td>
<td>0.151</td>
<td>0.000</td>
</tr>
<tr>
<td>Independence model</td>
<td>0.190</td>
<td>0.182</td>
<td>0.198</td>
<td>0.000</td>
</tr>
</tbody>
</table>

As it is highlighted in figure 2 above, seventeen (17) predictive indicators were tested per the data collected and minimum was achieved for the model. The goodness of fit statistics showed that the overall model fit does not appear quite good. This is because the estimated $\chi^2$ of 787.876 (df = 119) has probability level of 0.000 which is smaller than the 0.05 used by convention. Thus the null hypothesis that the model fits the data is rejected. Additionally, the estimated Root Mean Square Error of Approximation (RMSEA) value of 0.114 is also larger than the recommended value of 0.06 (Hu & Bentler, 1999), and thus rejects the null hypothesis of a good model fit. The estimate for the Comparative Fit Index (CFI) of 0.568 is far below 1.000 and as such suggests that the model fit to the data is questionable. Therefore, the tested measurement model (figure 2) for the latent variable (organizational culture) shows a poor fit and as such needs to be modified somehow. In this regard, factor analysis is carried out to identify the indicator variables that have significant relationships with the latent variable (i.e. organizational culture).

The standardized regression estimate obtained from AMOS which represents the factor loadings (i.e. indicator coefficients) associated with the arrows from latent variables to the respective indicator variables are highlighted in table 4 below. For the indicator loadings to be of significance, they must have estimated loading values of 0.7 or higher on the latent variable. By this convention therefore, the indicators with estimated factor loadings of less than 0.7, as highlighted in table 4, could be deemed as not having significant predictiveness of effective organizational culture. These indicators include;
Table 4: Standardized regression estimate (factor loading) from latent variable (organizational culture) to indicator variables.

<table>
<thead>
<tr>
<th>Indicator Variables</th>
<th>Indicator Label in Model</th>
<th>Standardized Regression Estimate (r)</th>
<th>Squared Multiple Correlations ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees receiving instructions they do not agree with, but usually conform to it without dissent.</td>
<td>CQ1</td>
<td>0.343</td>
<td>0.118</td>
</tr>
<tr>
<td>Older managers feeling threatened by younger, competent colleagues.</td>
<td>CQ2</td>
<td>0.265</td>
<td>0.070</td>
</tr>
<tr>
<td>Managers not encouraging employees’ undertaking of personal initiatives and risk-taking.</td>
<td>CQ3</td>
<td>0.261</td>
<td>0.068</td>
</tr>
<tr>
<td>The bank is hierarchically structured and all staff members know their positions.</td>
<td>CQ4</td>
<td>0.381</td>
<td>0.145</td>
</tr>
<tr>
<td>People are usually employed on the basis of their relationships with the bank’s managers.</td>
<td>CQ5</td>
<td>0.279</td>
<td>0.078</td>
</tr>
<tr>
<td>Work practices within the bank are influenced by Ghanaian culture.</td>
<td>CQ6</td>
<td>0.349</td>
<td>0.122</td>
</tr>
<tr>
<td>The bank’s customer services are influenced by Ghanaian culture.</td>
<td>CQ7</td>
<td>0.338</td>
<td>0.115</td>
</tr>
<tr>
<td>Employees generally trust top management.</td>
<td>CQ8</td>
<td>0.594</td>
<td>0.353</td>
</tr>
<tr>
<td>The bank’s management practices are different from those of similar banks.</td>
<td>CQ9</td>
<td>0.330</td>
<td>0.109</td>
</tr>
<tr>
<td>The bank’s policies and practices are fair toward employees.</td>
<td>CQ10</td>
<td>0.740</td>
<td>0.547</td>
</tr>
<tr>
<td>The quality of employees’ worklife in the bank is very good.</td>
<td>CQ11</td>
<td>0.654</td>
<td>0.427</td>
</tr>
<tr>
<td>The bank’s management always tries to avoid employees’ layoffs and transfers.</td>
<td>CQ12</td>
<td>0.650</td>
<td>0.423</td>
</tr>
<tr>
<td>Co-workers get along very well with each other in the bank.</td>
<td>CQ13</td>
<td>0.183</td>
<td>0.033</td>
</tr>
<tr>
<td>There are opportunities for advancement in the bank.</td>
<td>CQ14</td>
<td>0.461</td>
<td>0.213</td>
</tr>
<tr>
<td>The amount of pay employees receive matches the work they do.</td>
<td>CQ15</td>
<td>0.649</td>
<td>0.421</td>
</tr>
<tr>
<td>Promotions are fairly given out in the bank.</td>
<td>CQ16</td>
<td>0.729</td>
<td>0.531</td>
</tr>
<tr>
<td>The bank’s working condition is very pleasant.</td>
<td>CQ17</td>
<td>0.666</td>
<td>0.444</td>
</tr>
</tbody>
</table>

(i) - Employees receiving instructions they do not agree with, but usually conform to it without dissent ($r = 0.343$, $R^2 = 0.118$); (ii) - Older managers feeling threatened by younger, competent colleagues ($r = 0.265$, $R^2 = 0.070$); (iii) - Managers not encouraging employees’ undertaking of personal initiatives and risk-taking ($r = 0.261$, $R^2 = 0.068$); (iv) - The bank is hierarchically structured and all staff members know their positions ($r = 0.381$, $R^2 = 0.145$); (v) - People are usually employed on the basis of their relationships with the bank’s managers ($r = 0.279$, $R^2 = 0.078$); (vi) - Work practices within the bank are influenced by Ghanaian culture ($r = 0.349$, $R^2 = 0.122$); (vii) - The bank’s customer services are influenced by Ghanaian culture ($r = 0.338$, $R^2 = 0.115$); (viii) - Employees generally trust top management ($r = 0.594$, $R^2 = 0.353$); (ix) - The bank’s management practices are different from those of similar banks ($r = 0.330$, $R^2 = 0.109$); (x) - The
quality of employees’ worklife in the bank is very good \( (r = 0.654, R^2 = 0.427) \), (xii) The bank’s management always tries to avoid employees’ layoffs and transfers \( (r = 0.650, R^2 = 0.423) \), (xiii) Co-workers get along very well with each other in the bank \( (r = 0.183, R^2 = 0.033) \), (xiv) There are opportunities for advancement in the bank \( (r = 0.461, R^2 = 0.213) \), (xv) The amount of pay employees receive matches the work they do \( (r = 0.649, R^2 = 0.421) \), and (xvi) The bank’s working condition is very pleasant \( (r = 0.666, R^2 = 0.444) \).

On the other hand, the following two (2) indicator variables with loadings of 0.7 and higher as indicated in table 4 above are identified and used to modify the measurement model (figure 1) which was then retested using Confirmatory Factor Analysis; CQ10 - The bank’s policies and practices are fair toward employees \( (r = 0.740, R^2 = 0.547) \) and CQ16 - Promotions are fairly given out in the bank \( (r = 0.729, R^2 = 0.531) \).

**Confirmatory Factor Analysis of Indicators’ Variables Predictive of Organizational Culture**

In this analysis, the meaningfulness of the latent variable (organizational culture) and its indicators (i.e. CQ10 and CQ16) is tested. The standardized model-fit generated by the AMOS software for the latent variable (organizational culture) and the indicator variables (measureable factors) are shown in figures 3 below. The model fit summary is also shown in table 5.

![Figure 3: Generated path diagram showing standardized indicator loadings in the modified model for predicting effective organizational culture in retail banks](image-url)
Table 5: Baseline comparison estimates for the modified organizational culture measurement model.

<table>
<thead>
<tr>
<th>Model</th>
<th>NFI Delta1</th>
<th>RFI rho1</th>
<th>IFI Delta2</th>
<th>TLI rho2</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Saturated model</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Independence model</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

As it is highlighted in figure 3 above, four predictive indicators were tested in the modified model and minimum was achieved for the model. Based on the goodness of fit statistics, it is evident that the overall model fits quite well to the data, and thus accepts the null hypothesis that the modified model fits the data well. This is supported by the Comparative Fit Index (CFI) of 1.00 which indicates that the modified model fits the data very well. The maximum likelihood estimates entailing the standardized regression estimates and implied correlations obtained from AMOS graphics are summarized below. The standardized regression estimates which represent the factor loadings (i.e. indicator coefficients) associated with the arrows from latent variables to the respective indicator variables in the modified model are highlighted in table 6 below.

Table 6: Standardized regression estimates (factor loadings) from latent variable (organizational culture) to indicator variables in modified model.

<table>
<thead>
<tr>
<th>Indicator Variables</th>
<th>Indicator Label in Model</th>
<th>Standardized Regression (r)</th>
<th>Squared Multiple Correlations ($R^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The bank’s policies and practices are fair toward employees.</td>
<td>CQ10</td>
<td>0.831</td>
<td>0.557</td>
</tr>
<tr>
<td>Promotions are fairly given out in the bank.</td>
<td>CQ16</td>
<td>0.746</td>
<td>0.691</td>
</tr>
</tbody>
</table>

The standardized regression estimates (indicator loading coefficients) for CQ10 (i.e. the bank’s policies and practices are fair toward employees.) is 0.831 ($R^2 = 0.557$). That for CQ16 (i.e. promotions are fairly given out in the bank) is 0.746 ($R^2 = 0.691$). All the estimated loadings for the indicators are significant in that; indicators should by convention, have loadings of 0.7 or higher on the latent variable (Schumacker & Lomax, 2004) for them to be significant. The reliabilities for these indicators are also high ranging from 75% ($R^2 = 0.557$) to 83% ($R^2 = 0.691$).

The implied correlations for all the variables are presented in table 7 below.
Table 7: Implied correlations for all variables in the modified organizational culture model.

<table>
<thead>
<tr>
<th>Variables</th>
<th>OCULL</th>
<th>CQ16</th>
<th>CQ10</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCULL</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ16</td>
<td>0.746</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>CQ10</td>
<td>0.831</td>
<td>0.620</td>
<td>1.000</td>
</tr>
</tbody>
</table>

The estimations in Table 7 above show that while the relationship between the latent variable (OCULL) and the two indicator variables (i.e. CQ10, CQ16) are significant (as established earlier on), there is no significant relationship between the two respective indicator variables themselves, since the estimated factor loadings that relate them is less than 0.7 (i.e. CQ10 − CQ16 = 0.620).

CONCLUSION

Though this study tested several indicators of organizational culture in the work environment of retail banks in Ghana, the findings have shown employees as having strong appreciation for two organizational culture indices at the workplace. These include firstly, the bank’s policies and practices being fair to employees, and secondly, employees promotions being fair. From the analysis, the following fifteen indicators could not provide the basis for effective organizational culture towards enhancing employee commitment in retail banks in Ghana; Employees receiving instructions they do not agree with, but usually conforming to it without dissent; Older managers feeling threatened by younger, competent colleagues; Managers not encouraging employees’ undertaking of personal initiatives and risk-taking;

The bank being hierarchically structured and all staff members knowing their positions; People being employed on the basis of their relationships with the bank’s managers; Work practices within the bank being influenced by Ghanaian culture; The bank’s customer services being influenced by Ghanaian culture; Employees generally trusting top management; The bank’s management practices being different from those of similar banks; The quality of employees’ worklife in the bank being very good; The bank’s management always trying to avoid employees’ layoffs and transfers; Co-workers getting along very well with each other in the bank; Existence of opportunities for advancement in the bank; The amount of pay employees receive matching the work they do; and The bank’s working condition being very pleasant. This study has therefore, established that organizational culture that reflects the bank’s policies and practices as being fair toward employees, on the one hand, and promotions being fairly given out to employees, on the other hand, are key organizational practices cherished by employees in the retail banks. By implication, the manifestation of these two effective organizational culture indices in the banks will enhance employees’ commitment.

In conclusion, the following null hypotheses (H0) are made relative to the effectiveness of organizational culture in Ghanaian retail banks.
$H_{01}$: The bank’s policy and practices being fair toward employees is indicative of an effective organizational culture to enhance employee commitment.

$H_{02}$: Fair promotions given out to employees in the bank is indicative of an effective organizational culture to enhance employee commitment.

$H_{03}$: Employees receiving instructions they do not agree with, but usually conforming to it without dissent is not indicative of an effective organizational culture to enhance employee commitment.

$H_{04}$: An older manager feeling threatened by younger competent colleagues is not indicative of an effective organizational culture to enhance employee commitment.

$H_{05}$: Managers not encouraging employee undertaking of personal initiatives and risk-taking is not indicative of an effective organizational culture to enhance employee commitment.

$H_{06}$: The bank being hierarchically structured and all staff members knowing their positions is not indicative of an effective organizational culture to enhance employee commitment.

$H_{07}$: People being employed because of their relationships with the bank’s managers is not indicative of an effective organizational culture to enhance employee commitment.

$H_{08}$: Work practice in the bank being influenced by Ghanaian culture is not indicative of an effective organizational culture to enhance employee commitment.

$H_{09}$: The bank’s customer service being influenced by Ghanaian culture is not indicative of an effective organizational culture to enhance employee commitment.

$H_{10}$: Employees generally trusting top management is not indicative of an effective organizational culture to enhance employee commitment.

$H_{11}$: The bank’s management practice being different from those of similar banks is not indicative of an effective organizational culture to enhance employee commitment.

$H_{12}$: The quality of employees’ worklife in the bank being very good is not indicative of an effective organizational culture to enhance employee commitment.

$H_{13}$: The bank’s management always trying to avoid employees’ layoffs and transfers is not indicative of an effective organizational culture to enhance employee commitment.

$H_{14}$: Co-workers getting along very well with each other in the bank is not indicative of an effective organizational culture to enhance employee commitment.

$H_{15}$: Availability of opportunities for advancement in the bank is not indicative of an effective organizational culture to enhance employee commitment.

$H_{16}$: Matching the amount of pay employees receive with the work they do is not indicative of an effective organizational culture to enhance employee commitment.

$H_{17}$: The bank’s working condition being very pleasant is not indicative of an effective organizational culture to enhance employee commitment.
REFERENCES


Understanding the Effect of Workload on Job Satisfaction of Tellers in Ghanaian Retail Bank

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ABSTRACT
The purpose of this study was to understand the effect of workload on the job satisfaction of tellers working in Ghanaian retail banks. Using a cross-sectional research design and quantitative approach, a self-administering questionnaire was used to collect data from two hundred and fifty bank-tellers, which was analyzed using Pearson's moment correlation and simple linear regression. It was found that workload has a positive relationship with job satisfaction of Ghanaian bank tellers. Besides, age and years with organisation is negatively related to perceived workload of bank tellers. The study concluded that perception of work-overload by Ghanaian bank tellers affects their job satisfaction. It was recommended that a comparative study should be carried out in various banks for instance comparing traditional Ghanaian banks such as GCB and ADB to foreign banks such as Standard Chartered Bank and Barclays bank. Moreover, future studies using a mix method can further explore what actually accounts for the positive relationship between workload and job satisfaction of bank tellers.

Keywords: Workload, Job satisfaction, Tellers, Retail banks, Ghana

INTRODUCTION
Banking is an important backbone to every economy. Starting from the year 2000, the sector has undergone swift and striking amendments like policy changes due to globalization and liberalization, growing competition due to the entrance of more private/corporate sector banks, downsizing, introduction of new and innovative technologies thereby exposing employees to high levels of pressure and stress (Gani, 2012). In today’s increasingly competitive banking environment, astute bank executives view retention of motivated, satisfied, and committed frontline employees as important to business success as customer satisfaction and retention (Yavas & Babakus, 2010). However, caught in the middle between discerning customers’ service excellence demands and management’s productivity and performance requirements, and because they often participate in unscripted and challenging interactions with customers contributing to their stress (Zablah, Franke, Brown, & Bartholomew, 2012).
According to United States Bureau of Labour Statistics (2000) bank tellers conduct most of a bank’s routine transactions. Some of the transactions as outlined by the US Bureau of Labour Statistics include: cashing checks, accepting deposits and loan payments, and processing withdrawals, selling savings bonds, accepting payment for customers’ utility bills and charge cards as well as process necessary paperwork for certificates of deposit. Bank tellers’ work begin early in the working hours and closes very late after counting cash on hand, listing the currency-received tickets on a balance sheet, make sure the accounts balance, and sort checks and deposit slips (United States Bureau of Labour Statistics, 2000; Farr, 2001). Bank tellers worked for more than 8 hours, sometimes more than 10 hours per day (Yun, Lee, Eoh, & Lim (2001).

Bank tellers are among employees who work have long working hours in the banking sector. Moreover, the performance of teller duties requires great deal of attention to details (United States Bureau of Labour Statistics, 2000). For instance, the US Bureau of Labour Statistics explain that before a check is cashed, a teller must verify the date, bank name, identification of the person to receive payment and legality of the document. Perhaps, appreciation of workload on bank tellers and quality concerns has motivated technological developments in customer service delivery over the years. These technological innovations include internet banking, counting machines and Automated Teller Machines (ATMs) aimed at improving customer service and relieving tellers of workload.

Nevertheless, a number of studies carried out pertaining to the effectiveness of ATMs in the Ghanaian banking sector (Narteh, 2013; Arhin & Sanda, 2011; Ayimey, Awunyo-Vitor, & Somuah, 2012) point to bottlenecks that hinder its full utilization. However, most of these studies have largely examined the phenomenon from customer satisfaction perspective. Arhin and Sanda (2011) studies on the use of ATMs as a workload reliever for tellers, reported that though majority of respondents 105 (87.5%) preferred the use of ATM for amounts below GH¢250, only 15 (12.5%) preference of using ATMs for withdrawals above GH¢250 up to a maximum of GH¢400 which can be done using the ATMs. In whole, the study found that majority of the customers, as indicated by 95 (79%) of the respondents, will rather go to the banking halls for cash withdrawals than use the ATMs.

Consequently, Arhin and Sanda (2011) concluded that banks in developing economies are not benefiting from the full potential of ATMs as a customer service delivery tool, and also as a strategic workload reliever for tellers who service customers inside the banking halls. The findings by Sanda and Arhin (2011) sharply contrasts with a study in Europe by Meyer (2006) disclosing that seventy-three percent (73%) of all European banking customers use automated teller machines (ATM) each month. Poor ATM services and negative customer attitude towards its use in Ghana certainly translate into huge workload for bank tellers as customers’ queues in the banking hall. Moreover. There is however, a dearth of studies on stress and work outcomes for bank tellers in Ghana. While the study by Sanda and Arhin (2011) is unequivocal on under-utilization of ATMs resulting in high workload for bank tellers, the study did not probe its implications on employee work outcomes, such as the job satisfaction of bank tellers.
From the background exposition, bank tellers in Ghana work for long hours and continue
to grumble with considerable workload due to underutilization of ATMs while performing
strenuous physical movements of twists and turns using computer, money counting machine,
photocopier and counterfeit detector in a capsule environment. The purpose of the study
was to understand the effect of workload on the job satisfaction of Ghanaian bank tellers.

LITERATURE REVIEW

Spector (1997) defined workload as demands assigned on the employee by the job
which may be qualitative workload or quantitative. Qualitative workload refers to the
difficulty of job tasks either physical or mental while quantitative workload refers to the
amount of work that an employee completes. Parasuraman, Purohit, Godshalk, & Beutell,
(1996, p. 280) defined work overload as “the perceived magnitude of work-role
demands, and the feeling that there are too many things to do and not enough time to do
them.” The boundary-spanning role of front-line bank employees often make them
susceptible to heavy workloads and inflexible work schedules (Karatepe & Tekinkus, 2006).
Continual communication, repetitive tasks, long periods of standing within a small area, and
a high level of attention to security characterize bank tellers job (US Bureau of Labour
Statistics, 2000). Besides, long-hours culture is common among many organizations (Spinks,
2004). In the banks long hours constitute major work requirement that may conflict with
family and social roles of employees predisposing them to stress. Moreover, customer
participation in service delivery has been linked to perceived workload and stress.
Although some scholars (Lovelock & Young, 1979; Larsson & Bowen, 1989) have
proclaimed the importance of customer participation in the service delivery process, and
that the service industry is generally applying customer participation mechanisms, empirical
results of this study by Hsieh, Yen, and Chin (2004) there is a positive relationship between
customer participation and service providers’ perceived workload. According to Hsieh et al.
(2004), customers may not understand the service offering or their role in obtaining the
service experience. In a like manner Bowen and Ford (2002) avers that customer
participation require service providers to spend more time with customers. This may
compound workload particularly where bank tellers’ have to assist customers in corrections
and filling of forms because they are unable to do so. Teller workload is also compounded
at peak hours where management does not augment teller. Close observation of banks in
Ghana shows empty tellers cages compounding workload on few operating tellers.

Besides, Varlander and Julien (2010) argue that that financial services are forced to
respond to customer demands through offering greater service through the use of the
internet for transaction-based tasks means service employees are tasked with more
complex services, requiring a stronger skills set. Moreover, while interaction quality has
been found to be a significant dimension of banking service quality, these front line
employees are also prone to role stress (Karatepe, Haktanır, & Yorgancı, 2010). Tellers
undertake multiple banking transactions such as paying cash, receiving cash/utility bills,
paying money transfers among others. These transactions are processed by alternating and
switching to different software posing stress.
Few studies have been carried into work demands of bank tellers. For instance, Seifert, Messing and Dumais (1997) examined the work activity and health symptoms of female bank tellers whose work was undergoing reorganization. The study gathered data through collective and individual interviews, analysis of work activity, and a questionnaire administered to 305 tellers. The study further reports that bank tellers’ work require great feats of memory and concentration. Moreover, the study found that bank tellers’ worked in a standing posture over 80% of the time work, also indicated that more than two-thirds frequently suffered pain in the back, legs and feet.

In a similar study, (Yun, Lee, Eoh, & Lim, 2001) report of high workload among female bank tellers in Korea. Working hour data as reported by the study showed that all of the respondents worked for more than 8 hours, sometimes more than 10 hours per day. Besides, the study found out that high workload indices are very much related to the job definition and work organization structure in Korean banks, place a very heavy workload on the tellers compared to the other jobs in the bank. In addition, Yun and colleagues revealed Work-Related Musculoskeletal Disorders (WMSD) of 51.4% for the shoulder, 38.3% for the lower back, 38.0% for the neck, 31.2% for the upper back, 21.7% for the wrist, and 13.6% for the fingers among tellers. The studies above have largely focused on health implications of workload on bank tellers. Considerable studies have gone into assessing the relationship between workload and job satisfaction in other occupations. For instance, Timms, Graham, and Cottrell (2007) found that workload constituted the major source of dissatisfaction among teachers. Previous studies have equally indicated a negative relationship between workload and work outcomes for teachers (Hargreaves & Fink, 2003; Scott & Dinham, 2003). Elsewhere in Athens, Antoniou, Davidson, and Cooper (2003) investigated the relationship between occupational stress and job satisfaction among Greek Doctors working found out that major determinant of job dissatisfaction common to male and female was demands of the profession largely attributed to long working hours and hospital working conditions. Likewise, the negative relationship between workload and job satisfaction have also been confirmed among nursing staff (Healey & Mckay, 1999) and University lecturers (Zainuddin, 2010).

Even though extant literature supports a negative relationship between workload and job satisfaction across a wide range of occupation, few studies have found a neutral and positive relationships between workload and job satisfaction. For instance, For instance, Nadeem and Abbas (2009) established that workload had a positive but insignificant correlation with job satisfaction among top management in Pakistan. Though it may be argued that top management’s control over their work could positively influence workload, this arguably cannot be said of frontline employees with little work control. However, Sahin and Sahingoz (2013) found out that though personnel workload was not excessively high in accommodation and nutrition establishments, low work satisfaction was reported. This gives an indication that workload may not have any bearing on job satisfaction as found by extant literature. Cabrita and Perista (2006) however found a positive relationship between workload with particular regards to working hours and job satisfaction among Denmark and Portugal employees. At this point one may agree that the relationship between workload and job satisfaction is not that straight forward as thought.
to be. On the basis of these arguments, the following hypothesis (H) relative to bank-teller job in Ghana was proposed and tested in this study.

H: The perception of work-overload by Tellers in Ghanaian Banks will affect their job satisfaction.

RESEARCH METHODOLOGY

A cross-sectional research design was used to guide the study. Data was collected using a questionnaire that was divided into three sections. The first section collected information on the respondents’ demography. The second section measured the respondent’s work-overload. The measurement subscale was adapted from Caplan, Cobb, French, Van Harrison, and Pinneau, (1980) work-overload scale. The third section measured the respondent’s job satisfaction. The measurement subscale was adapted from Schriesheim and Tsui’s (1980) job satisfaction scale. Using the simple random sampling technique, a sample of two hundred and eighty (280) bank tellers across six (6) banks were selected for the study. Correspondingly, 280 questionnaires were also administered to all the 280 respondents out of which 250 were used in final data analysis upon completeness checks.

The six banks involved in the study namely; Agriculture Development Bank (ADB), Ecobank Ghana, Access Bank, UT Bank, Ghana Commercial Bank (GCB) and Barclays Bank Ghana selected based on management access. This was considered appropriate target population because the Nation’s capital, Accra, serves as a hub of banking in Ghana with the highest concentration of banks. The commercial and cosmopolitan nature of the city has made it attractive to domestic and foreign banks creating a very competitive banking atmosphere.

RESULTS OR FINDINGS

The study aimed at assessing the effects of workload on the job satisfaction of bank tellers in Ghana. A research question (what is the effect of workload on job satisfaction of bank tellers in Ghana?) was posed to that effect. In order to answer this question, it was hypothesized that; the perception of work-overload by Tellers in Ghanaian Banks will affect their job satisfaction. First, bank tellers reported above average workload of 3.63 on a scale of 1(Rarely) to 5(very often). However, both Pearson correlation and simple linear regression showed a positive relationship between workload and job satisfaction. Pearson correlation in Table 1 shows correlation (r) of 0.166 with a significant value of 0.008. Though the correlation value (0.166) is weak, it is significant since 0.008 is less than 0.01. The result therefore attests to a weak but a significant positive relationship between workload and job satisfaction.
Table 1: Pearson’s moment correlation between workload and job satisfaction

<table>
<thead>
<tr>
<th>Workload</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.166</td>
<td>0.008</td>
<td>250</td>
</tr>
</tbody>
</table>

Moreover, regression analysis in Table 2 tested if workload indeed predicts job satisfaction. The regression has a standardized Beta (β) of 0.166 with a significant of 0.008. Even though the Beta value (0.166) is low, it is significant since 0.008 is less than 0.05. This result shows that workload has a positive and significant relationship with job satisfaction implying that a unit increase in workload leads to 0.166 increase in job satisfaction of tellers in the selected banks.

Table 2: Coefficient Regression of Workload on Job Satisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized β</th>
<th>Std. Error</th>
<th>Standardized β</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.645</td>
<td>0.287</td>
<td></td>
<td>9.212</td>
<td>0.000</td>
</tr>
<tr>
<td>Workload</td>
<td>0.207</td>
<td>0.078</td>
<td>0.166</td>
<td>2.653</td>
<td>0.008</td>
</tr>
</tbody>
</table>

Both analyses attest to a weak but significant positive relationship between workload and job satisfaction indicating that higher workload marginally increased job satisfaction of tellers in the selected banks in Ghana. The study hypothesis (the perception of work-overload by Tellers in Ghanaian Banks will affect their job satisfaction tellers) is therefore supported according to the present finding.

**DISCUSSION OR ANALYSIS**

The present finding which attests to a positive relationship between workload and job satisfaction is at variance with extant literature that workload is negatively related to job satisfaction (Healey & Mckay, 1999; Antoniou, Davidson, & Cooper, 2003; Zainuddin, 2010). Though one may wonder what may have accounted for the present finding particularly when bank tellers reported high levels of workload, a number of factors may explain this. First, the high perceived workload could be traced to age and tenure with organization composition of bank tellers. Age and years with organization had a significant negative correlation with workload implying that perception of workload reduces as age and tenure increases. However, since 62.8% of bank tellers were aged thirty and below while a greater majority of 74.4% had five years tenure or less with their banks could account for the high perceived workload. Over time however, young and short tenure bank tellers may adapt and become used to work demands hence perceive less workload.

Secondly, the relationship between workload and job satisfaction could be explained by JDCS model by Karasek (1979) indicates that insufficient job demands may lead to boredom and job dissatisfaction. Likewise, LeFevre, Matheny and Kolt (2003) assert that work under load may lead to boredom and frustration, whereas excessive demands contribute to distress and burnout. Applying Adams Smith theory of diminishing marginal returns to workload and job satisfaction, it is logical to argue that job satisfaction may increase with workload up to a certain point before diminishing returns of job.
dissatisfaction sets in. Besides, stress has been described stress as a eustress (good stress) and distress (bad stress) based on the skills and abilities of employees to match work demands (LeFevre, Matheny, & Kolt, 2003). In this light, having the necessary capacity in terms of skills, abilities and management support, employees are likely to perceive workload positively resulting in the present finding. In the light of this knowledge, high workload may not necessarily translate to job dissatisfaction.

It is therefore not surprising that few studies have found neutral and positive relationships between workload and job satisfaction. For instance, Nadeem and Abbas (2009) established that workload had a positive but insignificant correlation with job satisfaction of top management in Pakistan while Sahin and Sahingoz (2013) found that though personnel workload was not excessively high in accommodation and nutrition establishments, low work satisfaction was reported. Moreover, the present findings is congruent with a study by Cabrita and Perista (2006) that points to a positive relationship between workload with particular regards to working hours and job satisfaction among Denmark and Portugal employees. The study also found that income mediates the relationship between workload and job satisfaction as higher income is positively correlated with longer working hours. These findings may be applicable to bank tellers who work for long hours, probably well paid and receive tips from customers that may alleviate the negative effect of high workload.

CONCLUSION

The study sought to understand the effects of workload on the job satisfaction of bank tellers in Ghana. Based on the findings, the study concludes that workload has a marginal positive effect on the job satisfaction of bank tellers in the selected banks in Ghana. Besides, age and years with organisation are negatively correlated with workload of these bank tellers. Irrespective of the positive relationship between workload and job satisfaction, the study is hesitant on recommending increased workload for tellers since this may sooner than later trigger job dissatisfaction.

However, looking at the impressive educational background of tellers, management can engage tellers in some intellectual job assignments. Besides, management should engage tellers in more training in order to enhance their skills and competencies. This is likely to reduce perceived high workload. However, since the study was generalized across selected banks, the findings may not exactly depict individual bank scenarios. A comparative study can therefore be carried out in various banks for instance comparing traditional Ghanaian banks such as GCB and ADB to foreign banks such as Standard Chartered Bank and Barclays bank Ghana. Moreover, future studies using a mix method can further explore the positive relationship between workload and job satisfaction of bank tellers by looking at the level of control bank tellers have over their work in line with JDC model by Karasek (1979).
REFERENCES


Structural Empowerment Activities Enhancing Frontline Employees’ Task Performance in Ghanaian Retail Banks

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ABSTRACT

The purpose of this paper is to identify the structural empowerment activities that are initiated at the retail banks in Ghana to enhance the task performance of frontline employees. To identify these activities, survey data were collected by a self-administered questionnaire from frontline employees from nine retail banks with their branches in Tema and Accra. A total of 300 respondents participated in the study. Out of this number, 245 questionnaires were retrieved and finally 223 were complete and thus used in the analysis of the study. Perceived structural empowerment practices in the banks were measured using the adapted form of Conditions of Work Effectiveness Questionnaire II (CWEQ-II). Factor analysis was used to examine the objective and question posed for this research.

Statistically significant results were obtained. Four components were generated from the rotated matrix. All the variables had high factor loadings which were above 0.5. This research therefore concludes that the structural empowerment activities initiated at the banks can be grouped into four dimensions which are availability of information, flexibility of work schedule, encouraging innovativeness and knowledge of organizational position. Employees should be empowered in organizations because it's through empowerment that an organization will be able to survive, grow, compete, and face challenges posed by globalization. This paper provides a new instrument which can be adopted in measuring structural empowerment.

Keywords: Empowerment, Structural empowerment, Frontline employees, Retail banks, Ghana

INTRODUCTION

The banking sector in developing countries has been the subject of several regulatory changes since the late 1990s, resulting in increased competition among the banks (Anabila & Awunyo-Vitor, 2013; Sureschander, Rajendran, Anantharmman, & Kamakananabhan, 2002). However, prior to the 1980s, the banking system in these developing countries was largely dominated by state owned banks (Yavas, Bilgin, & Shemwell, 1997). In many sub-Saharan African (SSA) countries, financial sector reforms since the 1990's have contributed significantly to the development and efficiency of their financial and specifically banking systems. The reforms have strengthened retail banks’ capital bases and their risk management practices have improved; credit to the private sector has risen, and most of
the sub-Saharan African banking systems have proved resilient to the recent events of global financial stress (European Investment Bank, 2013). At the same time, there is potential for a significant change in the landscape for banking in many sub-Saharan African (SSA) countries, such as the expansion of mobile banking and regional banking groups (European Investment Bank, 2013). This, the Bank believes augurs well for enhanced competition in national banking sectors and facilitates the spread of new technologies.

According to the report by the European Investment Bank, 2013, despite reforms and strong economic growth, the banking systems in most of the sub-Saharan African countries are still underdeveloped, with low and inefficient intermediation and limited competition. Impediments to the banking sector development include the small national markets, low income levels and weak creditor rights and judicial enforcement mechanisms.

One of the features of SSA banking developments in recent years has been the rapid expansion across borders of pan-African banking groups, most often based in Nigeria and South Africa, which are the region’s two largest economies. This includes Ecobank, domiciled in Togo but now with footprints in 33 African countries. Other South African and Nigerian banking groups have also expanded aggressively in the region, including Standard Bank or Stanbic Bank (South Africa) and United Bank for Africa (Nigeria). The Bank of Africa group, which was originally established in Mali, currently operates in 11 sub-Saharan African countries. Reports by the Financial Investment Bank, 2013 again indicates that the spread of pan-African groups has enhanced competition in national banking systems and facilitated the spread of new technologies: regional banking groups may be better positioned to compete in the general banking market (as distinct from the ‘high end’ of multinational companies and high wealth individuals) than non-African-domiciled banks, given their experience in serving this wider market in home markets.

In Ghana, the dynamics in the banking sector particularly followed the liberalization of the financial sector following the implementation of the various financial sector reforms recommended by the IMF and the World Bank. This liberalization in the financial sector has resulted in the increase in the number of banks locally and the influx of foreign banks particularly from Nigeria and South Africa. These developments have also resulted in considerable competition in the Ghanaian banking sector which currently has 25 universal banks with over 120 other financial institutions. Banking sector competition is expected to provide welfare gains by reducing monopoly rents and cost inefficiencies (Reininger et al., 2002). According to Reininger et al. (2002), a higher degree of banking competition should result in a lower monopoly power of banks, and therefore a decrease in banking prices. Currently, the banking environment has changed. Hinson and Hammond (2006) report that, with the passage of the universal banking law however, all types of banking can be conducted under a single corporate banking entity and this greatly reorganizes the competitive scopes of several banking products in Ghana. Thus reform and deregulation has brought the banking sector into the competitive arena in terms of customers and products (Hinson & Hammond, 2006). In order to deliver value to their customers, banks must transform their operations, including people, products, networks and channels, processes and technology for greater efficiency (Ghana Banking Survey, 2012). Senior executives of banks in Ghana also rated competition as second after regulations by the regulator as the next big thing that banks expect will influence change in the industry. Bank
executives acknowledge that with the additional capital that they have procured, there is even more pressure to produce above market average returns to investors. Thus, in the near term, banks expect there will be significant jostling within the industry to secure domestic market with such competition being more aggressive among the domestic banks, rather than from new market entrants (Ghana Banking Survey, 2012). The majority of bank executives interviewed again rated “people” as the variable that would matter most to banks in the battle for the future. The industry defined “people” to include employees, (including management) customers, and shareholders (Ghana Banking Survey, 2012). This means that employees at the various banks are going to be the divers of the competition. The most important asset of any business, it has often been said is its employees. Indeed, people and the management of people are increasingly seen as key elements of competitive advantage (Allen & Wright, 2007; Boxall & Purcell, 2003; Pfeffer, 1994). According to Carlzon (1987) the customer’s first impression of an organization comes during contact with frontline people. He further wrote that the front-desk clerk or the queue walker at the banking hall often has the first opportunity to serve the customer. Unfortunately, these employees most often earn low pay, receive little formal training, and are given little recognition for the important duties they perform. Frontline employees must be both competent and caring as well as have a certain level of maturity and possess the social skills needed to build customer loyalty. Employees in the banking sector and particularly, those who have frequent contacts with the customer usually serve as representatives of both the organization and their products or services to the customer at contact point.

As part of the financial sector reforms in Ghana, employers are required to train their staff or employees. This training could be on the job training or giving employees study leave. Employers would normally ask some of its employees to go for further studies, attend banking seminars and forum as a means of empowering their employees. Again, employers hold monthly management meetings to deliberate on various issues of interest and to give current information about the happenings in the banking sector to their employees so that they can serve customers in real time. All of these would also put the employee in a position where he can make decisions without consulting his superior all the time. Therefore, the purpose of this paper is to identify the structural empowerment activities that are initiated at the retail banks in Ghana to enhance the task performance of frontline employees.

LITERATURE REVIEW

Considering that, a satisfied customer and employee are of important value to the organization; it therefore, becomes the duty of the management to put in place a system that would ultimately generate either satisfaction, or dissatisfaction from their customers and employees. It is in this light that today more than 70 per cent of organizations around the world have adopted some kind of empowerment initiative for at least part of their workforce (Lawler, Mohrman & Benson, 2001). According to O’Toole and Lawler (2006) to be successful in today’s global business environment, companies need the knowledge, ideas, energy, and creativity of every employee, from front line workers to the top level managers in the executive suite. The best organizations accomplish this by empowering their employees to take initiative without prodding, to serve the collective interests of the
company without being micro-managed, and to act like owners of the business (O'Toole & Lawler, 2006). According to Ford and Fottler (1995), empowerment is the topic of the day. Empowerment involves giving employees the autonomy to make decisions about how they go about their daily activities (Carless, 2004; Haas, 2010). As service industries become more competitive, the importance of empowerment in the banking sector is increasingly recognized as a key to catering for more and more demanding customers (Boshoff & Allen, 2000).

The concept of empowerment first came up in the field of education in the 1980s (Edwards et al., 2002), and it is still open to discussion (Greasley, Bryman, Naismith, & Soetanto, 2008). According to Wilkinson (1998) and Dainty, Bryman, and Price, (2002), the term "empowerment" is flexible and so it is not always clear what it means in different organizations. However, concepts of empowerment are derived from theories of participative management and employee involvement (Spreitzer, Kizilos & Nason, 1997). The theories of participative management believe that managers should share decision making power with employees to enhance performance and job satisfaction (Wagner, 1994). Lawler (1991), on the other hand argues that employee empowerment highlights information, rewards, cascading power and training to the lowest level possible in the organizational hierarchy to increase the discretion of workers. However, in this study employee empowerment is about decision-making, information sharing and power sharing.

Structural empowerment is rooted in theories of social exchange and social power. The development of structural theory of empowerment was born by Kanter (1977). Kanter’s (1977) study showed how women were small in their organizations and as a result their successful advancement was impeded as they lacked access to tools that would give them power which includes opportunity, information, support, and resources. Kanter’s (1977) original research has now served as the foundation of the large body of empowerment research from a social-structural perspective. The structural perspective of empowerment is embedded in the values and ideas of democracy, where power ideally resides within individuals at all levels of a system (Prasad, 2001; Prasad & Eylon, 2001). Employees at low levels of the organizational hierarchy can be described as empowered if they have access to opportunity, information, support and resources. Liden and Arad (1996) are of the view that the essence of the structural perspective on empowerment is the idea of sharing power between superiors and subordinates with the goal of cascading relevant decision-making power to lower levels of the organizational hierarchy. Empowerment from the structural perspective is about sharing power, that is, formal authority or control over organizational resources (Conger & Kanungo, 1988) through the allocation of responsibility throughout the organizational chain of command. By sharing decision-making power, upper management may thus have more free time to think strategically and innovatively about how to move the organization forward. In this perspective, power means having formal authority or control over organizational resources and the ability to make decisions relevant to a person’s job or role (Lawler, 1986). Empowered employees have the power to make decisions that fit within the scope and purview of their work. Thus, structural empowerment is about employee participation through better access to opportunity, information, support and resources throughout the organizational chain of command.
Again, the structural perspective focuses on how organizational, institutional, social, economic, political, and cultural forces can root out the conditions that foster powerlessness in the workplace (Liden & Arad, 1996). Practically, organizations can change organizational policies, processes, practices, and structures away from top-down control systems toward high involvement practices where power, knowledge, information and rewards are shared with employees in the lower ranks of the organizational hierarchy (Bowen & Lawler, 1995). For example, management can change practices to allow employees to decide on their own how they will solve a service problem and then surprise-and-delight customers by exceeding their expectations without waiting on supervisors for approval.

**RESEARCH METHODOLOGY**

The design of this study followed the survey method. The main purpose of using the survey method is to ensure that any subsequent assessment of the attributes of the sample population is accurate, and the findings can be generalized. The study also adopted a descriptive approach. Descriptive approach was used to describe the situation as it is in the banks while the exploratory was used to find out the structural empowerment activities initiated in the retail banks in Ghana. For the purpose of this research, the study population comprised frontline employees in the retail banks in the Greater Accra Region. Respondents from two cities, Tema and Accra were selected to participate in the study. These cities were chosen because they host most of the banks and most of the banks have their head offices in these two cities. The convenient sampling method was however used in choosing the various banks to participate in the research. Therefore only banks which were ready to allow their employees to partake in the study were used in the study. Purposive sampling was used in selecting only frontline employees. Frontline employees who took part in the study included, branch managers, tellers, relationship officers, relationship managers, customer service officers and customer service managers as well as sales officers.

The number of employees that were sampled depended on the total number of frontline employees in each organization obtained from the head offices of the various banks. The population for the nine banks was 896. The mathematical model from Miller and Brewer (2003) to determine sample sizes was adopted to compute the sample size for the study.

\[ n = \frac{N}{1 + N(a^2)} \]

where N is the target population; n is the sample size and α is the error estimated at (0.05). The sample size for the research was therefore estimated at 300 from the population. The main tool or instrument used for data collection was the questionnaire. The questionnaire was used to obtain data from the 300 bank frontline employees.

Structural empowerment was measured by using the Conditions of Work Effectiveness Questionnaire II (CWEQ-II). CWEQ II was developed by Laschinger, Finegan, Shamian, and Wilk in 2001 to test Kanter’s (1993) theory of structural empowerment. The CWEQ-II used.
in this study is an adapted version of the original and consisted of 12 self-reported items that measure the six components of structural empowerment described by Kanter (information, support, resources, opportunity, formal power, and informal power). This study used this CWEQ-II for only four components: information, support, resources, and opportunity (3 items of each component). The items were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The CWEQ-II has been used in previous studies, and the overall reliability of CWEQ-II is 0.78 to 0.93 (Laschinger, 2005). A pilot study using 21 respondents from a micro finance company showed that the reliability of the CWEQ-II in this study is high (Cronbach’s alpha =0.90).

Three hundred (300) questionnaires were distributed however, not all the questionnaires were retrieved. A total of 245 were retrieved but 22 were incomplete. Therefore two hundred and twenty three (223) complete questionnaires were used in the analysis. The data collected from the questionnaire was analyzed using the factor analysis technique, in which the rotated principle component matrix was generated, and the factor loadings for the variables in the different components estimated. The statistical package for social sciences (SPSS) version 20 software was used the analytical tool.

RESULTS AND DISCUSSION

Of 223 respondents, 115(52%) were males and 108(48%) of respondents were females. Looking at their ages, the below 20 age group was 1(0.4%) the 20-29 year group constituted 114(51%) of respondents, 30-39 years, 94(42%) and 40-49 year group was made up of 11(5 %) and then the 50-59 year group was also made up of 3(1.6%) of the respondents. Regarding the duration of their employment in their various banks, 114(51%) of the total have been in the service of the organization between 0-3 years, 72(32%) fell between the 4-7 years range. The respondents who have been with their banks for 8-10 years were made up of 22 (10%). The rest of respondents 15 (7%) fell in the category of 10+ years. 16(7%) of the respondents were in the management position and 26(12%) were in senior staff position. However, majority of respondents fell in the junior staff position making up 181(81%) of the 223 frontline employees.

The objective of the study was to identify the structural empowerment activities that are initiated in the banks. Hence the question for the study was what structural empowerment activities are initiated at the banks. The 12 items of structural empowerment were subjected to factor analysis to identify the structural empowerment activities initiated at the banks. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The KMO and Bartletts test results are shown in table 1.

Table 1: Results from KMO and Bartlett’s test for structural empowerment
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.809
---|---
Bartlett’s Test of Sphericity | Approx. Chi-Square: 1243.031
 | Df: 66
 | Sig.: 0.000

The Kaiser Meyer-Olkin value was 0.81, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and Bartlett’s Test of Sphericity (Bartlett, 1954) reached statistical significance, that is 0.000 (p < 0.05) therefore supporting the factorability of the correlation matrix. Table 2 shows the pattern matrix generated from the factor analysis conducted.

**Table 2: Component matrix for structural empowerment variables**

<table>
<thead>
<tr>
<th>Pattern Matrix</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am given specific comments about things I could improve.</td>
<td>0.904</td>
</tr>
<tr>
<td>I am given specific information about things I do well.</td>
<td>0.837</td>
</tr>
<tr>
<td>I am being given helpful hints or problem solving advice.</td>
<td>0.830</td>
</tr>
<tr>
<td>I have time available to do necessary paperwork</td>
<td>0.931</td>
</tr>
<tr>
<td>I have time available to accomplish job requirements</td>
<td>0.899</td>
</tr>
<tr>
<td>I acquire temporary help when needed.</td>
<td>0.739</td>
</tr>
<tr>
<td>I have the opportunity to do challenging work.</td>
<td>0.889</td>
</tr>
<tr>
<td>I gain new skills and knowledge on the job.</td>
<td>0.723</td>
</tr>
<tr>
<td>I use all of my own skills and knowledge on tasks I perform</td>
<td>0.673</td>
</tr>
<tr>
<td>I know the values of top management.</td>
<td>0.904</td>
</tr>
<tr>
<td>I know the current state of the bank.</td>
<td>0.859</td>
</tr>
<tr>
<td>I know the goals of top management</td>
<td>0.662</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 8 iterations.

The pattern matrix gave four components. The first component had three loadings which were high (0.904, 0.837 and 0.830). These three items make up availability of information. The second component also had three loadings which were also high (0.931, 0.899, and 0.739). These items can be summarized as flexibility of work schedule. The third and fourth components equally had three factor loadings which were also high (0.889, 0.723, and 0.673) and (0.904, 0.859 and 0.662) respectively. These are also items that can also be summarized as encouraging innovativeness and knowledge of organizational position respectively.
These results from factor analysis performed indicated that all four variables under Kanter’s (1977) structural empowerment theory prevailed at the retail banks in Ghana. This includes access to opportunity, information, support, and resources. It is advantageous to organizations by allowing employees access to information, offering support to employees, and providing the necessary resources required for employees to complete their work. Kanter (1993) further states that another mandate of management is to provide on-going opportunities for employee development in the work setting. These opportunities help to develop their resources to the fullest.

CONCLUSION
In conclusion, this research found that the 12 items which were adapted from the CWEQ II questionnaire can be summarized into four main variables which are in line with Kanter’s theory which are also made up of four variables. Thus from the study, the structural empowerment activities initiated at the banks are availability of information, flexibility of work schedule, encouraging innovativeness and knowledge of organizational position. The scale which was developed for this study can therefore be adopted by other researchers who want to do further studies on structural empowerment. The following recommendations can be made:

• Employees should be empowered in organizations because it’s through empowerment that an organization will be able to survive, grow, compete, and face challenges posed by globalization.

• Leaders who empower must not just delegate and disappear. They must mentor their employees so that they have good chance of being successful in decisions they make. This mentoring process involves training and providing employees’ especially frontline employees with the necessary resources especially the information resource.

REFERENCES


The Influence of Psychological Factors on Career Development: The Moderating Role of Organisational Support

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ABSTRACT
The study investigated the influence of psychological factors on career development at the Volta River Authority in Ghana. It also investigated the moderating role of organisational support on the relationship between psychological factors and career development. One hundred and ninety four employees were purposively sampled across departments from five locations of Volta River Authority. Participants completed questionnaires on psychological factors comprising of career resilience, self-efficacy and career identity. They also completed questionnaires on their perceived organizational support and career development. Standard multiple regression, hierarchical regression and moderating analysis were employed to analyse the data. Results indicated that psychological factors predicted career development with organizational support moderating the relationship between psychological factors and career development as predicted. This paper contributes to the literature by being one of the first to examine the moderating role of organisational support on the relationship between Psychological factors and career development. It was concluded that employees would need to have career resilience, self-efficacy and career identity in order to develop in their careers. However, it is essential that organizations provide support to their employees in their career development pursuits.

Keywords: Career development, organizational support, career resilience, career identity, self-efficacy

INTRODUCTION
During approximately the last fifteen years, changes in the global and local work environments have left in their wake globalization, increased competition from worldwide and emerging markets, rapid increase in cost of labour and pension liabilities, which has led organizations to replace full-time, permanent workers with temporary or part-time employees (Sullivan, 1999). As employees strive to create a career in a world of fast-paced technology, decreased job security and increasing personal responsibility for constant up-skilling, these employees are faced with several challenges (Baruch, 2004;
Coetzee, Bergh & Schreuder, 2010; Marshall & Bonner, 2003; Sinclair, 2009). Individuals in organizations are compelled to be more efficient and flexible in their struggle to survive in this complex and turbulent environment and an essential means is through career development (Golian-Lui, 2003). It is therefore pertinent to look at the factors that influence the career development of individuals in organizations and how these relationships are enhanced.

Krieshok, Black and McKay (2009), describes career development as a major aspect of human development which spans one’s entire lifetime. It pertains to the interventions of a person or body geared to the application of determinants which can be self-originated and/or externally originated, for the influencing of the career consistent with policy objectives (Boerlijst, 1998), hence career development is not the prerogative of only individuals but organizations as well (Millward, 2005). It is therefore incumbent on organisations to provide a conducive organisational environment to enable employees develop their careers.

**LITERATURE REVIEW**

Organizational support considerably influences the career development of employees in organizations (Nicholson, 2006; Schein & Schein, 1978) and has been found to be related to career development (Judge, Cable, Boudreau & Bretz, 1995); Ng, Eby, Sorensen & Feldman, 2005). London (1993) and Noe, Noe and Bachhuber (1990) also found that workers who believed they were empowered and who felt that their supervisors supported their career development yielded higher career resilience. London (1993) proposed that people who become resilient have been reinforced for exercising their judgment, and have received approval and admiration for taking challenges and acting independently.

Organisational support could be in the form of supervisor support, organizational resources, training and skill development opportunities and this have been found by Ng et al. (2005) to have a strong relationship with career development. Some studies have found a significant relationship between psychological factors and organizational support such as support from supervisor and colleagues (Fisher & Stafford, 2000; Kidd & Smewing, 2001). Individuals may strive to develop their careers but may not be successful if organisational variables are not supportive hence the moderating role of organisational support would be assessed on the relationships that would be studied. Organisational support would be studied as a moderator of the relationships that would be observed. This would enable the researcher address “when” or “for whom” psychological factors most strongly predicts career development. Specifically, the researcher would observe if, and the extent to which organisational support changes the direction or strength of the relation between psychological factors and career development (Baron & Kenny, 1986).

Organizations are on the brink of a major cultural shift; contemporary organizations require flexibility, technical competence and mobility as well as high levels of commitment. The key issue is therefore to ascertain individual needs and expectations and to reconcile them with organizational expectations as they develop in their careers.
There is a dearth of empirical research on career development; the unit of analysis in career development research has often focused on individuals in management positions (Millward, 2005), which has helped in the understanding of how individuals achieve success in their careers. It is however important, to study those who are not successful yet or working their way towards success to be able to find out why they are sometimes unable to attain success. There has also been too little focus on organizational factors in the study of career development, even though it has been found to have some form of influence on an individual's career (Schein & Schein, 1978).

Largely qualitative and exploratory methods have usually been adopted in career development research; this has made it difficult to study very large samples thus making generalization to the larger population difficult. It is therefore necessary to also use a quantitative approach to help clarify the relationships espoused and also to consider large samples so that generalization may be possible.

RESEARCH METHODOLOGY

The sample was drawn from the population of employees working at the Volta River Authority in Ghana. Two hundred and fifty participants were randomly sampled for the study, questionnaires were administered to all the participants however, 194 participants responded giving a response rate of 77.6%. The demographic characteristics of the participants are presented in Table 1 below.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Demographic Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Characteristics</td>
</tr>
<tr>
<td>Position in organizations</td>
<td>117</td>
</tr>
<tr>
<td>Supervisory role</td>
<td>92</td>
</tr>
<tr>
<td>Non-supervisory role</td>
<td>25</td>
</tr>
<tr>
<td>Educational level</td>
<td>117</td>
</tr>
<tr>
<td>Doctorate</td>
<td>6</td>
</tr>
<tr>
<td>Masters</td>
<td>24</td>
</tr>
<tr>
<td>First degree</td>
<td>64</td>
</tr>
<tr>
<td>GCE 'A' Level</td>
<td>4</td>
</tr>
<tr>
<td>GCE 'O' Level</td>
<td>6</td>
</tr>
<tr>
<td>HND</td>
<td>12</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
</tr>
</tbody>
</table>

The study employed a Correlational cross-sectional survey. The independent variables in this study were psychological factors (career resilience, career identity, career efficacy). The moderating variable was the organisational support the participants perceive with the dependent variable being career development. Participants completed standardized questionnaires on psychological factors comprising of career resilience, self-efficacy and career identity. They also completed questionnaires on their perceived organizational
support and career development. Standard multiple regression, hierarchical regression and moderating analysis were employed to analyse the data.

RESULTS OR FINDINGS

Descriptive statistics of the data, which comprised summarizing the raw data obtained by finding means and standard deviations is presented Table 2.

Table 2 Descriptive Statistics and reliability coefficients of Continuous Variables in the Study.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>34.14</td>
<td>9.38</td>
<td>.933</td>
<td>-.039</td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>6.73</td>
<td>7.22</td>
<td>.628</td>
<td>.412</td>
<td></td>
</tr>
<tr>
<td>Self-efficacy scale</td>
<td>4.65</td>
<td>1.25</td>
<td>-.834</td>
<td>.147</td>
<td>.680</td>
</tr>
<tr>
<td>Career resilience scale</td>
<td>114.72</td>
<td>13.33</td>
<td>-.969</td>
<td>.962</td>
<td>.855</td>
</tr>
<tr>
<td>Career identity scale</td>
<td>77.57</td>
<td>11.30</td>
<td>-.071</td>
<td>-.267</td>
<td>.923</td>
</tr>
<tr>
<td>Survey of perceived organisational support scale</td>
<td>33.90</td>
<td>8.27</td>
<td>-.030</td>
<td>-.028</td>
<td>.860</td>
</tr>
<tr>
<td>Career development questionnaire</td>
<td>30.50</td>
<td>6.29</td>
<td>-.438</td>
<td>.473</td>
<td>.917</td>
</tr>
</tbody>
</table>

(N=194)

The first hypothesis stated that Psychological factors (career resilience, self-efficacy, career identity) would significantly predict career development. The multiple regression analysis was used to analyse this hypothesis and the result is presented in Table 3.

Table 3 Standard Multiple Regression Analysis for Psychological Factors as a predictor

<table>
<thead>
<tr>
<th>Step1</th>
<th>B</th>
<th>SEB</th>
<th>B</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>6.60</td>
<td>3.9</td>
<td>1.68</td>
<td>.095</td>
<td></td>
</tr>
<tr>
<td>Career resilience</td>
<td>.03</td>
<td>.03</td>
<td>.07</td>
<td>.99</td>
<td>.323</td>
</tr>
<tr>
<td>Career identity</td>
<td>.26</td>
<td>.04</td>
<td>.47</td>
<td>7.06</td>
<td>.000**</td>
</tr>
</tbody>
</table>

Note: R²=.246, **p<.001.

Findings from Table 3 indicate that the model (step 1) consisting of the psychological factors accounted for 24.6% of the total variance in career development [F(3,190) = 20.637, p=.000, R²=.246]. Therefore, the hypothesis that psychological factors (career resilience, self-efficacy, career identity) would account for a significant variance in career development was partially supported by the data. This is because only career resilience and career identity accounted for a significant variance in career development. Career resilience accounted for 7% of the variance whereas career identity accounted for 47% of the variance in career development.
The second hypothesis stated that organisational support would moderate the relationship between psychological factors (career resilience, self-efficacy, career identity) and career development. Specifically, the relationship between psychological factors and career development would be strengthened positively in the presence of organisational support. The hierarchical multiple regression was used to test this hypothesis following the procedure outlined by Baron and Kenny (1986) and results are shown in Table 4.

Table 4
Hierarchical Multiple Regression Analysis Testing the Moderating Effect of Organisational Support on the Relationship between Psychological Factors and Career Development.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Constant</th>
<th>6.60</th>
<th>3.9</th>
<th>1.68</th>
<th>.095</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-efficacy</td>
<td>-.01</td>
<td>.31</td>
<td>-.01</td>
<td>.997</td>
</tr>
<tr>
<td></td>
<td>Career resilience</td>
<td>.03</td>
<td>.03</td>
<td>.07</td>
<td>.99</td>
</tr>
<tr>
<td></td>
<td>Career identity</td>
<td>.26</td>
<td>.04</td>
<td>.47</td>
<td>7.06</td>
</tr>
<tr>
<td>Step 2</td>
<td>Constant</td>
<td>29.13</td>
<td>.62</td>
<td>47.41</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>Self-efficacy</td>
<td>-.14</td>
<td>.05</td>
<td>-.03</td>
<td>-3.14</td>
</tr>
<tr>
<td></td>
<td>Career resilience</td>
<td>-.15</td>
<td>.01</td>
<td>-.31</td>
<td>-30.03</td>
</tr>
<tr>
<td></td>
<td>Career identity</td>
<td>-.14</td>
<td>.01</td>
<td>-.25</td>
<td>-20.30</td>
</tr>
<tr>
<td></td>
<td>Psychological factors × organisational support</td>
<td>.01</td>
<td>.04</td>
<td>.19</td>
<td>94.75</td>
</tr>
</tbody>
</table>

Note: $R^2 = .246, \Delta R^2 = .739, *p < .001.$

From Table 4, the results in step 2 reveal that the model significantly accounted for 74% variance in career development [$F(1,189) = 8977.724, \rho = .000, R^2 = .739$], indicating that upon the addition of the interaction of psychological factors and organisational support, the model was predictive of changes in career development ($\beta = .19, \rho = .000$) accounting for a variance of 19%. Therefore, the hypothesis three which stated that Organisational support would moderate the relationship between psychological factors and career development was supported by the data.

DISCUSSION OR ANALYSIS

It was found that Psychological factors (career resilience, self-efficacy and career identity) partially but significantly predicted career development. Organizational support moderated the relationship between Psychological factors and career development. The study sought to determine if psychological factors would influence the career development of employees in Volta River Authority. In view of this the first hypothesis stated that psychological factors (career resilience, self-efficacy and career identity) would significantly predict career development. Psychological factors accounted for 25% of the total variance in career development. This implies that for an employee to develop in his career he would need to possess some level of career identity, resilience and self-efficacy. This hypothesis was supported by the results of the study, indicating that the psychological factors predicted career development.
The findings from this study suggest that an employee who possesses psychological factors such as career resilience, self-efficacy and career identity is more likely to attain career development such as increase in pay, promotion or progression up the career ladder. This finding is explained by London and Mone’s (1987) theory of career motivation, which postulates career identity and resilience as important factors influencing the development of an individual’s career. This theory assumes that individual and job traits can be matched and if they are matched closely enough, they will positively correlate with career success or development (Parsons, 1909). Thus, employees with high levels of career resilience would develop in their careers just as those who are high on career identity are also most likely to develop in their careers. On the other hand, those who have low career resilience would not develop in their careers. In the same vein, those who are low on career identity are less likely to develop in their careers. Consequently, career resilience was also found to denote self-efficacy as purported by (Betz, 2000). As a result, self-efficacy contributed a significant variance in the career development model. Accordingly, it implied that if an individual believes in his ability to develop in his chosen career, and is resilient in the face of challenges bouncing back from setbacks in his career, coupled with a good sense of identification with his career, that individual is most likely to attain career development.

This finding of the present study is consistent with those of Judge, Higgins, Thorensen and Barrick (1999) and Coetzee, Bergh & Schreuder (2010), who found psychological factors to have a significant positive relationship with career development. Career identity also revealed a significant positive relationship with career development. In other words, as an employee’s career identity increases the employee’s career development increases and vice versa. Blustein and Noumair (1996) regard identity as one of the most important influential factors for career development from an intra-personal experience. Employees who have a high sense of career identity have specific career goals and they plan towards achieving them. They are also aware of their strengths and weakness, respect feedback on their performance and are usually on the lookout for job assignments that would aid them to achieve their career goals. This is because according to London (1983) career identity refers to how central an individual’s career is to his identity, and it includes both work centrality and a desire for upward mobility not necessarily in just one organisation but in any organisation that would offer an opportunity for career development.

The results also showed a significant positive relationship between career resilience and career development. This implies that as an employee’s career resilience increases, the employee’s career development would also increase and as the employee’s career resilience decreases the employee’s career development would also decrease. This finding is also consistent with other studies which have also reported a significant positive relationship between psychological factors and career development (Coetzee et al., 2010; Wang, 2009).

The results revealed that there was no significant relationship between self-efficacy and career development. This implies that the fact that an employee believes he or she is capable of working towards career success or development does not necessarily mean that, that employee would actually work at developing his or her career and thus achieve career development. This is probably the reason for which London and Mone (1987) did
not inculcate self-efficacy in their model of career motivation. Self-efficacy was however, found to have a significant positive relationship with career resilience; and this was consistent with the findings of (Betz, 2000). Resilience seems to denote self-efficacy, and these two play a critical role in the career development of employees especially in these turbulent times of constant organizational change (Maurer, 2001). It is essential that employees are able to bounce back from setbacks and disappointments which are inevitable in the quest of developing ones’ career. Thus, merely possessing self-efficacy does not ensure that an individual would develop in a chosen career. However, such an individual would also need some level of career resilience and identity as proposed by London and Mone (1987).

The study further sought to examine if organisational support would moderate the relationship between psychological factors and career development. Specifically, it was hypothesised that organisational support would moderate the relationship between psychological factors (career resilience, self-efficacy and career identity) and career development. Results from the study indicate that organisational support moderates the relationship between psychological factors and career development, accounting for 19% of the variance in career development. The relationship between psychological factors and career development is positively strengthened by the support that employees receive from their organisations (Baron & Kenny, 1986). This implies that when employees have these psychological factors, they would still require some level of support from their organisation in order to develop in their careers.

The finding that organisational support positively strengthens the relationship between psychological factors and career development is consistent with theoretical arguments advanced by Schein and Schein (1978). He asserts that career progression in organisations is influenced by the organisations, these influences could be positive in the form of organisational support, where the organisation values contributions made by employees to the growth of the organisation. It could be a show of concern for the development of the employee or a sense of appreciation for efforts made by the employee. It could also be in the form of organisational sponsorship or even mentorship. However, these influences could be negative, such as boundaries that the employees perceive to hinder their progression in the organisation, for example, ‘glass ceiling’ usually perceived by female executives (Nicholson, 2006). This assertion made by Schein and Schein (1978) is relevant in the present study since it throws more light on the perceived organisational support that the employees assented to, which according to Blau (1964) is based on social exchange theories. In the organisational context the employees need to know whether the organisation values their contribution, cares about them, appreciates any extra effort they may exert in their jobs and whether they are generally satisfied. Or on the other hand, the organisation fails to appreciate them, shows very little concern and ignores complaints from the employee. Accordingly, when employees feel supported by the organisation, they identify with the organisation and believe that they would be rewarded in terms of increase in pay or promotions thus leading to their career development (Allen & Meyer, 1990).
The finding, organisational support strengthens the relationship between psychological factors and career development is, however, contradictory to that of Soer (2009). The study examined the moderating role of the organisational climate on the relationship between psychological factors, specifically, career identity and teacher career development. It was found that the school climate had very little influence on the relationship between the psychological factor, career identity and the career development of the teachers. Further findings in her study, however, revealed that the individual self had a significant influence on the relationship between career identity and task-related career development. It is, therefore, possible that if other psychological factors were observed in the study in tandem with career identity, Soer (2009) may have arrived at similar findings. The finding in the present study is inconsistent with Soer (2009) probably due to the disparity in the samples studied. The present study used a sample that cut across a myriad of professionals and careers but Soer (2009) considered only teachers in the study. The study's findings were similar to that of Millward (2005) who, in their investigations of career self-concept and career in organisational context, found a significant relationship between psychological factors (career identity, career self-efficacy and career focus) and career success, and found that organisational opportunities provide a significant influence on this relationship. In the present study, the relationship between psychological factors of career resilience, career identity and self-efficacy and career development was moderated by the organisational support that employees perceived. This implied that when employees perceive significant support coming from the organisation it would enhance their career development significantly, especially if they possess the psychological factors that aid in the development of their careers. The organisational support, therefore, plays a facilitating role enhancing when and how the career development occurs for these employees.

The study was also somewhat consistent with Brutus, London and Martineau (1999), who found organisational support, specifically support from subordinates, influencing setting of developmental goals among other career choices as compared to ratings by supervisors and peers. This means that among even the general support that employees perceive to receive from their organisations; differences exist even in the extent to which each type of support influences employees’ career development. The study, however, did not probe further to investigate the types of support that the employees perceived and how they each influenced their career development; but this study throws more light on the relationships that were examined in the current study.

The results of the present study may be practically applicable in several ways. Firstly, the findings give explanations on how employees career development are influenced by factors which are inherent in them and factors which they may have little control over. It also offers some explanations as to why some Ghanaian employees may not have developed in their careers. Based on the moderating hypotheses tested, the present study suggests that it is important for organisations to take an active part in the career development of employees. It is vital that organisations provide an organisational environment which is supportive of employees’ career development. There should also be avenues created for employees to explore their capacity for growth, such as on-the-job
training and internal recruitment. This would increase employability of these employees and also enhance their skills and expertise thereby increasing organisational effectiveness.

Career development, according to Hirsh (2007), holds out both opportunities and threats for an employing organisation. One of the threats is that it increases the employability of an employee and gives him or her more opportunity thus increasing the tendency of such an employee searching for a better position. There is also the possibility of raising employees’ expectations which the organisation may not be capable of meeting. If an employee’s expectations are not met in the present organisation they may move to another organisation that may provide better terms of service. This implies that organisations need to learn and understand the dynamics of career development so as to be in a position to deal with them. The organisation needs to build an organisational career that encompasses the collective identities of its employees to ensure their stay with the organisation.

The study reveals that career development holds out the possibility of growing critical skills within the organisation, which are often not available on the external labour market. Career development improves deployment of people in jobs where their talents are well used. An organisation with the career development of employees as one of its core goals has an improved ability to attract good people and possibly retain them as well as maintain improved flexibility in the workforce and therefore, a greater ability to respond to business change. There also exists the strong relationship of positive career development and workforce motivation which is essential in growing organisations today (Purcell, Kinnie, Hutchinson, Rayton & Swart, 2003).

The study provides knowledge on the predictors of career development. Considering the benefits espoused, organizations should broaden their training needs analysis and training evaluation to assess the extent to which corporate values of career development have been imbibed and help employees to cultivate these psychological factors seen to be essential in the development of their careers. In addition, managers in the course of person analysis should be in the know of the interplay of these psychological and human capital factors and how they can be harnessed to develop employees with a high competitive urge on the global market.

During recruitment and selection, managers who intend to encourage career development in their outfit should look out for employees who are high on the psychological factors: career resilience, career identity and self-efficacy. They should take into consideration those who have a willingness to invest in themselves and in their careers as this will go a long way to help the organisation achieve its strategic developmental goals.

For individual employees, the study suggests that they own their careers, take a personal interest in upgrading themselves and be ready to bounce back when they fail. It will be prudent for employees to take the pains to invest in their education, take up responsibilities, challenging tasks at work and be willing to learn from their experiences. They may need to set clear personal goals and put in place practical measures to ensure the attainment of these goals. Even though the study found that the relationship between psychological factors, human capital and career development was moderated by organisational support,
it is essential that the employee is willing to take risks and adapt to changing circumstances in the organisation and if possible adopt a 'boundary-less' career development stance so that he or she is not caught up in the winds of constant organisational changes.

CONCLUSION

It was concluded that employees would need to have career resilience, self-efficacy and career identity and invest in their human capital in order to develop in their careers. However, it is essential that organizations provide support to their employees in their career development pursuits.

REFERENCES

The Role of Key Activities within National Innovation Systems (NIS) in Achieving Innovation Capabilities: Ghana’s Experience

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ABSTRACT

The purpose of this study was to understand the effects of key activities within National Innovation Systems (NIS), with the support of institutional actors on firm’s innovation capabilities building. The methodology used was mainly reviewed of existing literature on innovation capabilities, NIS and general management, after which a theoretical framework on innovation capabilities within the context of NIS in a less developing country was proposed.

This study depicts that innovation capabilities may be influenced by key activities within NIS, supported by institutional actors such Government, Universities/Research Institutions and the Private sector. It also shows that innovation capabilities may lead to firm competitiveness. Furthermore, as firms exist in ever changing market environment, the best performing firms are classified as innovative and continually develop capabilities to innovate.

Keywords: Innovation capabilities, NIS, firm, LDCs

INTRODUCTION

Innovation has been recognised as a strong strategic weapon and it is widely agreed that potential of ideas that are new will be the major force for achieving success in the 21st century (Hamel, 2000). Innovation refers to as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (OECD, 2009). A Firm’s ability to introduce an innovation in an economic system may stimulate value creation and reduction in operational costs, leading to higher profit margins (Gabrielsson, Politis, & Dahlstrand, 2013).
The complex nature of innovation requires firms to develop capabilities in order to bring an innovation to fruition. Building capability to innovate has been recognised as an important catalyst for socio-economic development. The role of capability building as a precondition for a successful catch-up for countries in Latin American and Asia has been shown in a number of empirical studies (Fransman & King, 1984; Kim, 1980; Lall, 1992). Kim for instance suggests that Less Developing Countries (LDCs) need to pay much attention to issues regarding innovation capabilities. Innovation capability consists of ability to generate and create new knowledge in the collective recreation of value (Le Masson, Weil, & Hatchuel, 2010). Börjesson and Elmquist (2011) argue that innovation capability is not about number of patents or product launch but a firm’s preparedness and development of its “muscle” for innovation.

Since 1980s the concept of NIS has emerged as analytical framework to help develop and diffuse innovation. Edquist (2005) defines NIS as “all important economic, social, political, organisational, institutional and other factors that influence the development, diffusion and use of innovations” (p.183). Hence, I argue that National Innovation Systems (NIS) in LDCs should focus on developing firms’ capabilities to innovate, considering the mismatch between the natural and human resources in the sub-Saharan Africa, and number of patents and breakthrough innovations that have been registered so far. For example, Ghana registered 1 industrial design and 3 patents from 2010 to 2012 whilst Sweden a small country registered an average of 17,739 industrial designs and 22,058 patents in the same period (WIPO, 2014). The low level of registered industrial designs, patents and innovations in general with respect to Ghanaian situation require firms to develop their innovation capabilities.

Research that specifically focuses on capability to innovate is limited (Bjorkdahl, 2012; Börjesson & Elmquist, 2011; Haynes & Stewart, 1992; Schreyögg & Kliesch-Eberl, 2007). In addition, most of the literature on NIS so far has neglected the study of key activities within NIS and its effects on firms’ innovation capability. Finally, most of the innovation capabilities and NIS studies focus on firms in developed economies. This study therefore contributes to fill that gap, by examining the effects of key activities within NIS, supported by the institutional actors in influencing firm’s innovation capabilities.

The purpose of this study is therefore, to understand the role of key activities within NIS, supported by institutional actors in influencing innovation capability process of a firm. I focus on a firm, because a firm is regarded as the key element in any innovation systems (Lundvall, 2007; Metcalfe & Ramlogan, 2008).

The main research question in this study is:
RQ. How Does the Key Activities within NIS, supported by Institutional Actors Influence Innovation Capabilities of a Firm?

This study focused on Ghana. The country presents an interesting example of LDC’s attempt to promote innovation. Recently the country launched the National Science, Technology and Innovation Policy in 2010 as the key policy document that drives research and innovation.
The structure of the paper captures the existing literature on National Innovation Systems and innovation capabilities, the theoretical framework, brief discussion of the methodology, conclusion and suggestions for future research.

LITERATURE REVIEW

National Systems of Innovation in Less Developing Countries (LDCs)

The growth and popularity of Traditional System of innovation as an analytical framework can be traced to several researchers (Edquist, 2011; Freeman, 1987; Freeman, 1995; Freeman & Soete, 1997; Lundvall, 2009; Lundvall, 1992).

Freemans’ (1987) framework has been very influential and inspired the development of national systems of innovation. Several scholars including (Edquist, 1997, 2005, 2011; Lundvall, 1992; Lundvall, Johnson, Andersen, & Dalum, 2002; Lundvall, 2007), have further developed the concept of NIS. Their studies focused on general innovation development and diffusion without specifically looking at how the key activities within NIS can influence firm’s innovation capabilities building.

Other streams of NIS literature focusing on developing economies concentrate on examining the linkages among the institutional actors within NIS (Feinson, 2003; Intarakumnerd, Chairatana, & Tangchitpiboon, 2002; Lee & Park, 2006) without paying attention to firms’ capabilities to innovate. For example, a recent study by (Koria, Bartels, Koeszegi, & Carneiro, 2012) examined the role of computational ICT in promoting science, innovation and technology in Ghana. By this, their study missed the critical role of innovation capabilities in stimulating socio-economic development.

Kim (1997) and Adeoti (2002), propose the use of NIS in developing technological capabilities in LDCs, Kim describes technological capability as the ability to utilise technological knowledge in order to assimilate, use, adapt and change existing technologies. Technological capability has limitations due to the neglect of social dimensions of innovation. Innovation capabilities thus, extend beyond technological capability by including socio-economic dimensions in innovation capability building.

Fagerberg and Srholec (2008) empirically found a positive relationship between NIS and catch-up process through innovation capabilities. They examined governance, openness and political systems as the main innovation capability measures. Castellacci and Natera (2013) examined the relationship between NIS and co-evolution of two dimensions: absorptive capacity and innovation capability. They found a positive relationship between NIS and three innovative capability outputs (scientific output, innovative output and technological output). However, their studies rather focused on innovation performance measures instead of examining the role of key activities within NIS in stimulating a firm’s capabilities to innovate.

Key Activities within National Innovation Systems

Feinson (2003) highlights the importance of focusing on specifics activities within NIS. The concept of NIS includes all aspects of nation’s social, economic, political and cultural activities. Therefore, in order to understand the effect of key activities within NIS on
innovation capabilities building, I reviewed few studies focusing on key activities of NIS and its relevance to a firm’s innovation capabilities.

Some of the most important key activities within NIS involved in the development and diffusion of innovation in a national economy has been identified by (Edquist, 1997, 2005, 2011) as follows:

- Provision of R&D results
- Competence building
- Formation of new product markets
- Articulation of new product quality requirements emanating from the demand side
- Creating and changing organizations needed for developing new fields of innovation
- Networking, interactive learning and knowledge integration
- Creating and changing institutions—for example, patent laws, tax laws, environment and safety regulations, R&D investment routines, cultural norms, etc.
- Incubation activities such as providing access to facilities and administrative support for innovating efforts
- Financing of innovation processes
- Provision of consultancy services relevant for innovation processes.

According to Edquist (1997; 2005; 2011), the key activities identified within NIS have broader application in overall innovation diffusion process. What is missing in the literature is examination of how these key activities can stimulate a firm’s innovation capabilities. This study therefore contributes to existing literature by highlighting the extent to which key activities within NIS, with the support of institutional actors may influence innovation capabilities which may in turn lead to firm competitiveness.

**Characteristics of Ghana’s National Innovation Systems**

Ghana’s NIS is relatively small and underdeveloped. The National Science and Technology Policy document was revised and launched in 2010 as The National Science, Technology and Innovation (STI Policy. The main institutional actors responsible for shaping Ghana’s NIS are the Universities/Research institutions, Government and the Private sector. I shall describe how the NIS may contributes to innovation capabilities by examining the institutional actors and linkages in Ghana’s NIS. This description is based on Ghana’s, Science, Technology and Innovation Policy Review presented to United Nations Conference on Trade and Development (UNCTAD, 2011).

**Institutional Actors in Ghana’s National Innovation Systems**

**Universities:** Currently, there are seven (7) public universities and twenty two (22) private universities and Colleges. Statistics from (Legon), Ghana’s first and largest University indicates that from 1999 to 2006, eighty two (82) percent of the student population is concentrated in humanities whilst eighteen (18) percent concentrated in Sciences (UNCTAD, 2011). This trend is similar to other Public and Private Universities in the country.
Government: In Government’s desire to promote technological development in the country, Science and Technology policy document was adopted by cabinet 2000. In the year 2010, the policy document was refashioned into Science, Technology and Innovation policy (STI). The innovation policy has not received needed support from the policy makers. The STI policy is being implemented under Ministry of Environment, Science and Technology, instead of being implemented under separate Ministry.

Research Institutions: The Centre for Scientific and Industrial Research (CSIR) is the largest and oldest public research institution established in 1968, CSIR has 13 research institutes. Funding for research is very low, for example in the year 2004, eighty one (81) percent of budgetary allocation to CSIR went into payment of emolument and only nine percent (9) for research funding. These developments render the research institutions incapable of supporting innovation activities in the country.

A study by Lall and Pietrobelli (2005) examining NIS in sub-Saharan Africa including Tanzania, Kenya, Uganda, Zimbabwe and Ghana, concluded that most of the Public R&D institutions “generally lack the facilities (physical and human) to provide meaningful support to industrial enterprise...they have no means of assessing the technological needs of industrial enterprise or of diffusing to them the few technologies they have created (or adapted)” (p.85). The public research institutions and universities are currently not in a better position to make a significant impact on technological and innovation capability that may lead to technology assimilation and adaptation, design engineering and innovation diffusion.

Private sector: The private sector in Ghana comprises of SMEs, Multi-National Companies (MNCs) and financial institutions. Most of the private firms do not invest in innovations or undertake R&D activities in Ghana, but rather invest in R&D activities in their home country (UNCTAD, 2011).

LINKAGES AMONG INSTITUTIONAL ACTORS IN NATIONAL INNOVATION SYSTEMS

Intersectoral knowledge flow in an input output perspective
The report indicates that output from public universities/research institutions are not being turned into product and services. Linkages between universities and SMEs are very weak, since most of the SMEs seem not to value any partnership with universities. The MNCs are reported to undertake innovation related activities in their home countries (UNCTAD, 2003a). The Universities are confronted with poor academic infrastructure and comparably low research output. These developments further weaken the relationship between universities and industry. However, the Universities and other tertiary institutions are making significant contribution to the economy by educating critical and skilled knowledge workers.

Weak Links between Public Research Institutions and Private Sector
The poor linkages between research institutions and private sector have contributed to the poor innovation capacity in Ghana (UNCTAD, 2003a; UNESCO, 2007). The report further
indicates that the public research institutions lack appropriate marketing strategy in commercialising research output to businesses and industrial sector.

**Innovation Capabilities**

Innovation capability driven theories help in understanding the process through which a firm changes and develop in dynamic market environment. Viewed from this perspective, innovation capabilities may be regarded as a firm’s ability to “continuously modify knowledge and ideas into new systems, processes and products for the benefits of firms and its stakeholders” (Lawson & Samson, 2001 p.384). The indigenous learning process through which innovation and new technologies are diffused will depend on their absorptive capacity. Absorptive capacity can be described as a firm's ability to assimilate and utilize external information for transfer into new knowledge (Cohen & Levinthal, 1990). Björkdahl and Börjesson (2012) identify eight key dimensions of innovation capabilities including: strategy for innovation, prioritisation, culture, idea management, external environment and linkages, systems and decision rules, implementation and organisational context and learning. They argue that these dimensions help in assessing a firm’s innovativeness or commercialisation of innovation.

**THEORETICAL FRAMEWORK**

**Linkages between Key Activities within NIS and Innovation Capabilities**

The identification of key activities within NIS is needed in order to build the basis required to explore the effect of the key activities of NIS on innovation capabilities. In this section, the linkages between key activities within NIS and innovation capabilities, that form the core of the theoretical framework (see figure 1) is presented.

*Strategy for innovation*: Consultancy services in the form of commercial information, market opportunities, transfer of technology and partnership opportunities (Edquist, 2011) can strengthen a firm’s innovation capabilities. Consultancy services from private or public agencies may help firms in crafting innovation strategies.

*Prioritisation*: Prioritisation may prevent management from abandoning projects with huge potential outcome (Björkdahl & Börjesson, 2012). In this regard, formation of new product market as one of the key activities within NIS can help firms to produce goods ahead of delivery. According (Edquist, 2011), this key activity involve a situation whereby the state places an order for non-existing goods or provides required inputs or information needed to produce the goods. This key activity may help a firm to prioritise in terms of what to produce and at what point in time. In this instance, firms are assured of ready market and enjoy pre-financing facility option from the state. These policy initiatives may accelerate production and innovation capabilities.

*Culture*: Lawson and Samson (2001) identifies employee empowerment, creative time, tolerance and effective communication as some of the major cultural factors influencing innovation capabilities. Culture as an internal factor can drive or inhibit individuals or firms capabilities to innovate. The state can regulate innovative activities by supporting collaborative programmes, removing barriers to cooperation and aid movement of labour from firms through Innovation policy (Edquist, 2011). The innovation policy and improved
innovation management practices, can empower employees to question how things are done within an organization. This help to change corporate culture and improve employees absorptive capacity as well as innovation capabilities of firms in Ghana.

**Idea Management:** Idea management can be described as systems, structures, and routines instituted by a firm to search and generate valuable ideas and to device mechanisms for its management (Bjorkdahl, 2012). Incubating activities may help innovative firms to nurture a promising business idea from idea generation to delivery of the product or service to the market. The incubator “is an organisation – private or public – which provides resources that enhance the founding of new small business, and are assumed – directly or indirectly – to support corporate spin-offs, such as new technology-based firms” (Löfsten & Lindelöf, 2001))

The idea of incubation and financing of innovative ideas have been shown to increase the level of SMEs capability to innovate. For example, Albaladejo and Romijn (2000) in their study on SMEs in UK found that roles played by the regional science base in nurturing high-tech spin-offs positively influence capabilities to innovate.

In 2011, the Government of Ghana adopted a business support unit, Ghana Center for Entrepreneurship, Employment and Innovation (GCEEI) as a policy measure of helping individuals and firms to nurture business ideas. The programme is under a Public Private Partnership (PPP) with the Government of Ghana through the Ministry of Finance. However, research is needed to understand the inter-relationship of PPP and the start-ups propensity to create jobs through their capabilities to innovate.

**External environment and linkages**

Interactive learning, networking and knowledge integration as one of the key activities within NIS may influence a firm’s interaction and networking with its environment, in the process of generating valuable ideas and resources for innovation. The interdependence and nonlinear nature of innovation implies that firms need to exchange information and other resources with stakeholders such as the universities/research institutions, private sector, customers and suppliers in order to build innovation capabilities.

Countries that have achieved remarkable innovation success in science based industries are as a result of interactions among firms and key stakeholder (Edquist, 2011). Innovation policy should provide incentives and support for firms to engage open innovation. Firms can acquire valuable ideas, competencies, skills and expertise through external environment to boost their capability to innovate.

**Implementation:** Implementation of business idea is very crucial in encouraging firms to innovate. Individuals possess stock of ideas which need support and assistance with respect to turning these ideas into commercial ventures. The relevance of Research and Development (R&D) as the main tool for an innovation process is gradually diminishing, because an innovation process is viewed more of an evolutionary and path dependent (Lundvall, 2007; Martinez-Román, Gamero, & Tamayo, 2011) than long held linear view. Research has shown that R&D is behind less drastic innovations, and that innovations rather originate from the market (Cobbenhagen, 2000) due to continuous interaction among customers, suppliers, producers and other stakeholders. As a result, Edquist (2011) and Edquist and Zabala-Iturriagagoitia (2012) argue that governments, should channel part of the R&D funding into experimentation and idea implementation, and engage in public procurement for innovation.
In Ghana, NIS has been perceived from a linear perspective. The Universities/Research Institutions are seen as knowledge generation outfit, without proper linkages with industry. A change in policy direction towards support for idea experimentation and implementation among firms may stimulate innovation capabilities in Ghana.

Organisational context and learning
According to Lundvall et al. (2002), competence building refers to “…formal education and training, the labor market dynamics and the organization of knowledge creation and learning within firms and in networks.” (p. 224.). Competence building include processes and activities related to the capacity to create, absorb, and exploit knowledge for individuals and organizations (Edquist, 2011).

In Ghana, formal learning has been on the increase for the past few years. Competence building has the potential to promote innovation capabilities that have been absent consistently in the educational system. Competence building focuses on learning-by-using, learning-by-doing and learning-by-interacting (Edquist, 2011). Therefore, I argue that competence building may significantly influence innovation capabilities of firms.

Building on the foregoing theoretical discussions, the theoretical framework (figure 1) depicts simplified version of NIS, taking into consideration the role of a firm as the center of diffusion and commercialisation of innovations (Edquist, 2011; Kim, 1997). Therefore, in this study’s theoretical framework, there are three main institutional actors that generate key activities within the NIS. These institutional actors include the Government, private sector and universities/research institutions. The key activities within NIS consist of factors which are capable of influencing innovation capabilities of a firm, the key activities considered in this study include consultancy services, formation of new product market, institutional changes, incubating activities, interactive learning, networking and knowledge integration, competence building and financing. The key activities will interact with the innovation capabilities dimensions as shown in figure 1. The innovation capabilities dimensions include strategy for innovation, prioritisation, culture, idea management, external environment and linkages, systems and decision rules, implementation and organisation context and learning (Björkdahl & Börjesson, 2012).

The theoretical framework suggests that a firm’s innovation capabilities building process will be influenced key activities in the NIS, through continuous interaction between key activities within NIS and innovation capability building process.

As figure 1 shows, the key activities within NIS will influence innovation capabilities. The innovation capabilities will in turn influence firm competitiveness. Firms are most likely to enhance their competitiveness through innovation capabilities. For example, innovation capability have been found to contribute to achieving firm competitiveness (Tuominen & Hyvönen, 2004). The interaction of the variables in figure 1 and their impact on innovation capability is emphasised instead of stressing on the relative importance of each construct in the theoretical model. This requires shift in innovation policy direction at national level and since innovation will not be possible without well-developed capabilities to innovate which may lead to firm competitiveness.
**RESEARCH METHODOLOGY**

The role of key activities within NIS in influencing innovation capabilities in achieving a firm's competitiveness is under researched. This study used exploratory research based mainly on insights drawn from extant literature on innovation management, NIS and innovation capabilities. Exploratory research serve as a means to expand the understanding of a phenomenon or knowledge of the subject under investigation (Cooper & Schinder, 2006). By reviewing existing literature I developed an integrated theoretical framework by specifically linking key activities of NIS with eight innovation capabilities dimensions proposed by (Björkdahl & Börjesson, 2012). The theoretical framework suggests that key activities within NIS with the support of institutional actors may positively impact on a firm’s innovation capabilities, and firms may in turn achieve competitiveness through capabilities to innovate.

**CONCLUSION**

The main contribution of this study is to understand the effects of key activities within NIS, with the support of institutional actors: Government, universities/research institutions and the private sector on influencing innovation capabilities building of a firm. The study highlights that firms that are able to innovate may derive support from key activities within NIS. The interactions among institutional actors, key activities within NIS and innovation capabilities may generate positive effects on firms’ competitiveness in the current changing market environment.
SOME IMPLICATIONS

As argued elsewhere (Tuominen & Hyvönen, 2004) and in this study, firm competitiveness can be achieved through capabilities to innovate. A crucial drive towards firm competitiveness should be the ability to continually use existing internal and external knowledge to develop innovative products and services. Activities within NIS will be required to foster ability of firms in LDCs capabilities to innovate. In addition, the NIS analytical framework applied mainly in developed world, I have introduced perspective of LDCs, particularly Ghana. Based on the insights drawn from the support of institutional actors and key activities within NIS, the theoretical framework (see figure 1) proposes that the key activities within NIS will influence a building of innovation capabilities and that may lead to achievement of firm competitiveness.

Finally, I wish to emphasise that the problems of building innovation capabilities in LDCs is huge and challenging. Hence, LDCs can undertake what Edquist, (2011), termed as “diagnostic analyses” that is identification of problems to be solved before designing innovation policy that can contribute significantly to innovation capabilities building, given the limited resources LDCs have at their disposal.

SUGGESTIONS FOR FUTURE RESEARCH

The present study is mainly conceptual. The theoretical framework requires further empirical investigation based on the insights presented in this study. This will better help in understanding the extent to which institutional actors support in generating key activities within NIS and how the key activities in turn influence a firm’s innovation capabilities building and achievement of a firm’s competitiveness.

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Examining Gender Equity Research in Ghanaian Mines: A Meta-Analytical Approach

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ABSTRACT

Gender-oriented persons constitute majority of the Ghanaian population yet underrepresented in mining exploration, underground mining and mineral processing. In Ghana, the 2010 population and housing census figures on gender participation proportion in mining stood at 0.6% for females as compared to 2.0% for males. The purpose of this study is to create understanding on the politics of employing gender oriented persons in mine work, as well as identifying the organizational and socio-cultural challenges facing them. The study employed a meta-analysis technique for data collection. The results showed that some mining companies advertised their mining jobs openly expressing preferences for male employees due to general physical hardness of the conditions under which the mineworkers operate. In addition, the work demonstrates prevalence of organizational and socio-cultural barriers affecting effective participation of gender oriented persons in the mines. It is, therefore recommended the need to promote gender mainstreaming and gender equality as part of development strategies in Ghanaian mines, a situation that might enable gender oriented persons to earn a decent living from a decent workplace, allowing escape from poverty and improvement in their standard of living.

Keywords: Gender, Gender oriented persons, socio-cultural barrier, meta-analysis, Ghanaian mines
INTRODUCTION

Ghana has a long tradition of mining, stretching back to the days of gold trading during the tenth century. According to the Ghana Statistical Service, (2011) the mining sub-sector grew remarkably by 14.3% in 2011 compared to the 8.3% it recorded in 2010. The sector contributed to the impressive 14.4% GDP growth the economy chalked in 2011. Regrettably, gender inequality prevails in this economically viable industry due to the culture of male dominance. Recruiting women into traditionally male-dominated jobs has been a challenge due to their historical exclusion from mining because of culture and some legislative restrictions (Benya, 2009). In Great Britain, women were legally excluded from working underground by the 1842 Mines Act. In the early 1900s, Article 2 of the International Labour Organisations (ILO) Convention 45 of 1935 came into play, forbidding the inclusion of women in underground mining. The article stated that no female, whatever her age, should be employed in underground work in any mine. It exempted however, any other females who may occasionally have to enter the underground parts of a mine for the purpose of a non-manual occupation such as health and welfare services; and females who, in the course of their studies, spend a period of training in the underground parts of a mine. Although women were excluded in Britain from working in mines, they still participated in strikes and supported aktivisms (Bradley, 1989).

Gender is not a personal trait; it is an emergent feature of social situation, social arrangement and as a means of legitimating one of the most fundamental divisions of society (Ampofo, 2014). Ampofo (2014) noted that while almost everyone is born with a particular sex, as either male or female, people are not born with a gender but grow into one, or are given one. Someone is described a girl or woman if she behaves in a manner that society and culture considers feminine. It is these social and local understandings of gender that determines what it means to be feminine or masculine and what appropriate behaviours for women and men, boys and girls are or should be. Thus, it is possible to be a biological female, but belong to the male gender and vice versa (Ampofo, 2014). According to Ampofo (2014), many people view gender as synonymous to women, as if men do not have gender, indeed men do have gender and consequently suffer from gender inequalities. In this vein, emphasis is placed on gender as a code pointing to inequalities, discrimination and marginalization in African societies, irrespective of one’s sex.

The 2010 population and housing census in Ghana puts the population of ‘gender oriented persons’ over 54.2% constituting majority of the Ghanaian population yet they appeared to be underrepresented in mine work. General literature on mining has increasingly focuses on health and safety, human capital development, unionism, legislation, changing technology and global markets to the neglect of an equally critical aspect–gender in the mine work environment. The relatively few works done on gender in mining however, are characterized with huge doses of research gaps in the following respects: methodologically, many of the studies employed purely qualitative technique, despite the many positive aspects of this technique, it continues to be criticized for lack of objectivity and generalizability, adoption of the mix method would have been most appropriate. Other studies also employed purely the survey technique, which is limited in
providing in-depth understanding of the issues pertaining to workplace cultures, gender and mining. Content wise, some studies complicate the place-based binary categorization performances of gender by exploring how individuals continuously rewrite the strict but unwritten codes of gendered behaviours at mines. Some of the works fall short in provision of adequate information to permit replication of such studies, while in some cases sample selection procedures were not clearly defined, making room for potential sample biases. Some longitudinal studies, spanning over a period of 50 years in the mines were silent on issues bothering on ethics and protection of human rights of the participants. As if these research gaps are not enough, many of the studies done on gender in mining were foreign in nature, with a relatively few works done in Ghana. This in the world of research and gender studies constitute significant knowledge gaps, hence the justification for this work to bridge these gaps. The purpose of this study is to meta-analyze a body of literature that provide understanding of the politics of employing ‘gender oriented persons’ as well as identifying the organizational and socio-cultural challenges facing them.

METHODOLOGY

To gather as much information as possible, a number of different databases and search tools were used. JSTOR, Emerald, Wiley, SAGE Journals online, Academic Search Elite and Ebscohost. Others are; Beech tree Publishing, Taylor and Francis, Oxford Journals, Geological Society, WEB of science, Google Scholar, Labordoc (ILO), Annual Reviews and abstractions. These sources consolidated databases maintained by researchers regarding gender and mining (Pini & Mayes, 2013; Yakovleva, 2007; Lahiri-Dutt, 2013; Abrahamson & Johanson, 2006; Joan & Booth, 2002; Loreva & Marinova, 2010; Purevjah, 2010). Different combinations of the following search words were also used: gender and underground mining, socio-cultural and organizational challenges facing gender oriented persons. Others include gender equality, health and safety, risk, work environment, masculinity, feminity, gender in mining, gender mainstreaming, gendered labour market, politics of employing ‘gender oriented persons’, mining and technology among others. Relatively few relevant articles and reports were found and compiled. These articles were meta-analyzed and the findings interpreted with supporting empirical sources.

FINDINGS AND DISCUSSION

**Gendered Identity in the Mining Labour Market**

The introduction of significant number of women into mining fundamentally challenge ways in which the mining labour market operated in the past (Abrahamsson & Johansson, 2006). The mining labour market was being ruled by economic laws that are gender-blind (Sperling & Owen, 2000). They view the market as operating purely on non-gender terms. The contemporary liberal feminists’ explanation of gender inequality in the mine labour market hinges on four factors namely: the social construction of gender, the gendered division of labour, the doctrine and practice of public and private spheres of
life as well as patriarchal ideology. The private-public dichotomy has to do with women being given primary responsibilities for the private sphere like care giving, emotional management, maintenance of routine and order. In the public sphere, men are given privileged access to what is described as the locus of true rewards of social life - money, status, power, prestige, freedom, opportunities for growth and self- worth (Ritzer, 2000). The two spheres constantly interact in the life of a woman more than that of the man. However, women find their experience within the public sphere of education, work, politics and public space more limited by practices of discrimination, marginalization, inequality and harassment (Ritzer, 2000).

The women exclusion phenomenon however was not universal. Bradley (1989) has evidence that in Germany, India and Belgium, women worked underground until the twentieth century. The post-World Wars also led to a huge increase in the employment of women in the mines. According to Bradley, these women did heavy work such as dragging and pushing trucks or covering of coal. They also worked as coal carriers, sieving coal, loading and unloading coal and weighing it. This however changed in the 1950s, and men started taking over, to a point in the 1970s only 0.4% of all workers in mining and quarrying were women. In the 1960s in India women worked in opencast mines, and in the 1970s Chinese and American women also took up mine work (Bradley, 1989). The growing masculine culture among underground miners challenges the development of the mining industry. Much of the global socio-economic inequalities are created in the world of work. Labour unions and gender activists have directed their arguments and demands in this respect. Researchers and gender analysts, at least since the industrial revolution have often examined the world of work and the labour processes to gain the understanding of how gender inequalities are produced and perpetuated (Acker, 1999). Gender is a process that separates men and women's activities in society based on norms and believes that men and women are fundamentally different. According to Ritzer, the ability of women to compete in career and profession is limited by the demands of the private sphere of life. The ideological link between women and the private sphere translated into them being expected to perform this additional work in the public sphere and subsequently trucked into under-remunerated jobs (Humphery, 1987). This could explicitly explain why gender-oriented persons are few in mining sector of the Ghanaian economy. The wage rates are purely determined by forces of supply and demand, as is the case with goods and services. This shows that gender reaches right into the centre of capitalist production, and influences the manner in which work is performed and controlled. Thus, Humphrey (1987) argues that the labour market is anything but gender-blind.

Using the qualitative, Purevjah (2010) did a study on mining in Mongolia to explore gender roles in the Mongolian mines. The study showed that majority of the mining companies advertised their mining jobs openly expressing preferences for male employees due to general physical hardness of the conditions under which the mine workers operate. The study revealed that once the extractive mining sector bears a relationship with development, the traditionally masculine industry must adopt policies favouring gender equity. Bryant and Jaworski (2011) did a study in Australian mines, aimed at examining the gendering of skills shortages at selected industry sites including the mines, using the qualitative
method, interpretative and inductive analysis. Results showed that skills shortages were influenced by gender discrimination in the mines. Loreva and Marinova (2010) also did a study in Australia that examined gender differences and how power negotiation may lead to the marginalization of women. Using a gender analysis technique, the work showed that mining operations flourished, offering limited opportunities to women and the youth. Joan and Booth, (2002) in Australia did a similar study, aimed at probing how gender and sexuality organize a mine site through organizational design productivity management, and to explore the gender politics of employing women miners, using a qualitative technique. The results showed that women engage in construction of their gendered identities and show resistance both to management manipulation of this gendered identity and to male co-workers’ attempts to link gendering to sexuality. The results further showed that women were skillful at managing their own agenda in mining, and at producing a more active workplace position for themselves as miners.

**Technology and Gender in Mining**
Abrahamson and Johanson (2006) conducted a study in Sweden to ascertain the technical development of underground mining and its implications on qualification, identity and gender. They found that modern technology has created a new type of work in the mines with less need for traditional mining competencies, attitudes and ideals. This new type of mine work has resulted in the traditional workplace culture of ‘macho style’ in the mines being challenge (Abrahamson & Johanson, 2006). A study was also conducted by the British Columbia Mineral Exploration and Mining Labour Shortage Task Force (2011), aimed at analyzing the state of female participation in mining and mineral exploration workforce in British Columbia. The industry has more than 20 major operating coals, metals, aggregate mines and smelters. Employing an on-line survey technique, the study concluded that female participation in the industry is estimated to be less than 16% and the women perceive the industry as being physically demanding, male dominated, solitary, isolated and not family friendly. Results of a similar study in Mongolia indicated a mining skills shortage in the country (Bryant & Jaworski 2011). This amount to a sellers-market in human resource practice and theory, a phenomenon that brings cost to the mining companies as employers; they embark on continuous adverts and quote higher pay to attract the requisite skillful personnel. This phenomenon of mining skills shortage is caused by low levels of female workforce participation in the Mongolian mines. Organizational development theory points to the fact that diversity management and practice has the advantages of ensuring effectiveness, efficiency and above all, maximizing productivity and profitability. Margaret Fuller (1998) argued in this respect that, for good corporate performance and governance in any economy, there is the need for such female virtues like cooperation, caring, pacifisms and their nonviolence nature to promote peaceful coexistence in industrial organizations. Lahiri-Dutt, (2013) stated that, the mining sector bears a direct relationship with socio-economic development. Lahiri-Dutt, (2013) further argued that this traditionally masculine industry must not be gender-blind; rather there is the need to adopt policies that favours gender equity. This suggestion is in line with the outcome of the Beijing conference in 1995, characterized with gender awakening programmes and a search for tools to bring about gender equitable development a reality. Indeed, promoting gender equality...
and women empowerment in its broader scope is a key objective of the Millennium Development Goal 3. Furthermore, the research suggested that mining operations in Australian mines flourished, but offering limited opportunities to women (Loreva & Marinova, 2010). This is a classical situation of gender inequality in society as a whole, often exposing women to marginality, unproductive and incapable of contributing positively to societal growth, and therefore seen as perpetual burden on families and society at large, which leaves some of them in vicious cycle of poverty. This gender neutrality project was explored by Acker (1990). The study of Benya (2009) in South Africa showed many organizational and socio-cultural barriers affecting women in the mines. This viewpoint was supported by Yakovleva, 2007, who argued that, barriers to effective female participation in mining are linked to socio-cultural taboos, domestic and family commitments which imposed heavy burdens on them.

Women's Participation in Ghanaian Mines

According to Ampofo, (2014) Ghanaian societies exhibit several complementarities between men and women roles. Men as a group enjoy more rights, power and privileges than women. Indeed, in many cases in Ghana, women rights, power and enjoyment of privileges are tied to men as fathers, husbands and brothers (Ampofo 2014). Ampofo further stated that women in Ghana encounter greater inequalities in organizational life because of the society’s patriarchal structure that privileged men. The concept of gender differences exist in Ghana, posing challenges in socio-economic development. Many institutions, policies, practices and processes in Ghana, though may not overtly express discrimination against women and marginalized groups such as persons living with disabilities, but they are not gender neutral. This then calls for Ghanaian institutions like the mining companies to be gender mediators of development policies and practices. Relative to men, women and other marginalized groups are still under-represented and under-acknowledged in the modern economy and public sector of the Ghanaian economy. Most women in Ghana are still clustered at the bottom of most establishments in semi-skilled, poorly paid jobs that reflect historical barriers, in terms of educational qualifications, colonial reinforcement of a culture of domesticity for women, and cultural prejudice to women and other marginalized group’s entry into a number of occupations (Ampofo, 2014).

Yakovleva, (2007) conducted a study in Birim North District of Ghana. Using a case study approach on perspectives of female participation in mining, the work showed that the barriers to effective female participation in mining are linked to sociocultural taboos, domestic and family commitments that impose heavy burden on women, hinders their independence and mobility to effectively participate in mining work. Kwame (2007) also did a study aimed at identifying the challenges facing women participation in Ghanaian mines. Using a qualitative approach, the study showed that women in mining face similar problems as women in any other technical industry. The problems of lack of skills, due partly to lack of interest, prejudice and cultural restrictions, combine to challenge this huge chunk of the nation’s human capital from participation in mining. A similar study conducted by Werthmann, (2009) in Burkina Faso, showed that many women complained about common problems associated with carrying loads, which include headaches, waist pains,
neck pains, back pains, and minor injuries such as cuts and bruises. The local health authorities also reported malaria, anaemia, hypertension, and diarrhoea as the common diseases that affected women in mining. Besides, they are extremely vulnerable to HIV/AIDS and other sexually transmitted diseases. Further, Benya (2009) using a qualitative technique, did a study in the platinum mine near Rustenburg in South Africa to explore the challenges women face in response to the masculine occupational culture and physical demands of underground work in the mines. The work showed that men do not take women serious at mines, do not respect them and do not see them as equals. The findings further showed that men in mining see women as lazy and slowing down the work process.

CONCLUSION

This study explored and meta-analyzed available body of literature on the politics of gender in the mines across cultures. It was found that that some mining companies advertised their mining jobs openly expressing preferences for male employees. However, a contrary view emerged that argued that adoption of modern technology in the mines, created a new culture of mine work with less need for traditional mining competencies, hence a challenge to the culture of ‘macho style’. Most important findings were division of labour in the Ghanaian mines, informed and directed by the notion of a masculine external-productive world and a feminine internal-emotional world, and the male dominance led to the masculinisation of the labour force, hence the prevailing male-dominance in the mining industry. Obstacles facing gender oriented persons in Ghanaian mines are marginality, inequality, prejudice and discriminatory practices. In seeking to bring about positive mine work industrial change, the researcher is of the view that, female ways of being must be recognized as viable alternative to male modes and that public knowledge, academic scholarship and organization of social life be adjusted to take serious account of female recruitment into the mines in Ghana. There is also the need to promote gender mainstreaming and gender equality as part of development strategies in Ghanaian mines, a situation that might enable all and sundry to earn a decent living from a decent workplace, allowing escape from poverty and improvement in the standards of living. The study has implication in ensuring gender equality in industry as well as working towards achieving the millennium development goal 3. The study however was limited on grounds of using mainly secondary data sources characterized with issues of credibility verification and determining the value of the data. Therefore, the need for future research using a mix of secondary and primary sources of data is recommended.
REFERENCES


Track F1:

Health Services Management and Sustainability
Track Summary

The papers in this track address issues on health services management and sustainability, focusing on violent assaults on mental health workers and quality health service under the National Health Insurance Scheme (NHIS).

Violent assaults on health workers is known to negatively affect healthcare delivery, and further affect the emotional stability of workers. In spite of its alarming rate in the Ghanaian mental hospitals, little is known about the individuals, and the segments of mental hospital workers most vulnerable to it. The track looks at which mental health workers are most susceptible to violent assault. The findings show that nurses, pharmacists and non-clinical workers are among the most assaulted group of health workers. Violent assaults on health workers result in injuries such as bleeding, ligament tears, fractured limbs and head injuries. Causes of these assaults include compulsion when administering care, service providers' demeanour and stock-outs of antipsychotic drugs. In order to ensure sustainable health delivery, the track recommends security measures to create a conducive environment in mental health delivery.

Moreover, since quality of health delivery is an integral part of sustainable health management, the track also examines quality concerns in the NHIS. It was noted that the tremendous increase in health service utilization, upon the inception of the health insurance scheme in Ghana is not without poor service concerns, especially to insured patients in Ghana’s health care institutions. However, the report shows no discrimination with respect to quality of care in hospitals between patients with health insurance and those without health insurance. It recommends measures to address quality care concerns, such as inadequate resources and long waiting times for the benefit of all patients. In an attempt to address quality concerns under the NHIS, Capitation was introduced on a pilot basis as a complementary payment method to improve health delivery. The track sought to ascertain the satisfaction of patients under the capitation system of the NHIS. It reveals that patients are generally satisfied with health services under the capitation system even though their expectations are not being met. Unavailability of essential drugs in dispensaries or failure of hospitals to make it available to patients is seen as one of the setbacks with the capitation system. Besides, patients are not satisfied with regard to promptness, waiting time and responsive care, though the perceived health facilities are accessible, affordable and customer care is good. It calls for more to be done by health service providers to bridge the gap between patients’ expectations and their perceived service.
Health workers experience of violent assaults and risk assessment of mental hospitals: implications for sustainable mental healthcare delivery in Ghana

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ABSTRACT

**Background:** The paper seeks to examine health workers’ experiences of violent assaults by patients with psychiatric disorders and risk perception of the workplace, and to clarify the nature, causes and injuries associated with these violent assaults.

**Methods:** Mix-method data were used to address the study’s objectives. Logistics regression models were computed to determine experiences of physical and non-physical assaults and how they influence risk perception of the workplace. Thematic content analysis was used in analyzing the qualitative data. Results were then triangulated.

**Results:** Both physical and non-physical violent assaults were significantly experienced by female health workers (p < 0.01). All but the non-clinical category of health workers experienced violent assaults. Low job tenure significantly increases the chances of experiencing violent assaults (p < 0.05). The workplace was perceived to be risky by all except older respondents, support staff and those with high job tenure. Assault victims suffered varying degrees of injuries that culminated in physical deformation to disabilities.

**Conclusion:** Findings suggest stepping up security measures backed by intensive campaigns to create awareness on the characteristics of imminent violence from aggressors, dealing with aggressive patients and promoting therapeutic relationships with patients in order to create an a conducive environment for sustainable mental healthcare delivery.

**Keywords:** violent, assaults, risk, hospital, Ghana
INTRODUCTION

“He gave me a dirty slap, pounced on me again and tried to pierce his finger into my eyes. In fact he threatened to kill me”

The above quotation reflects a psychiatrist nurse’s ordeal in one of Ghana’s mental health hospitals and illustrates some of the experiences that health providers go through in their quest to provide quality care to mental health patients. Mental health providers in Ghana work in complex and insecure environments where they are frequently exposed to risk and violent assaults by patients. Several media reports have highlighted violence incidence against health workers in mental health hospitals, many of which are often accompanied by injuries and sometimes mortalities (Ghana News Agency [GNA], 2010). A recent study suggests that a major source of disappointment by mental health workers in Ghana relates to non-existence of insurance cover for injuries often sustained from violent assaults (Jack et al., 2013). Piecemeal compensation approaches have been introduced to motivate injured health workers. However they are seen as informal and cannot be not be sustained (GNA, 2010). Violent assaults worsen as psychiatric hospitals in the country are used as dumping grounds for mental patients who cannot be managed at home. This is seen as a problem for sustainable mental healthcare delivery in Ghana, as efforts to decongest the psychiatric hospitals would be difficult.

Assaults caused by patients with psychiatric disorders present a problem to health workers and other patients receiving treatment in the facility. Violent assault is defined as “incidents where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health” (International Labour Office/ILO, 2002). Violent assault takes the form of threats of intent to cause harm including verbal threats, physical attack ranging from slapping and beating to sexual harassment (Kisa, 2008). Victims of violent assaults often sustain varying degrees of minor or severe injuries relating to fractures, lacerations and bruises (Erdos and Hughes, 2001). Other consequences of violent assaults include post-traumatic stress disorders, self-blame and embarrassment (Woods and Ashley, 2007). The overall effect of violent assaults is loss of working days, hospitalisation and reduced family and social commitments (Woods and Ashley, 2007).

Research has shown that violent assaults have reached epidemic proportions and keep increasing. Global estimates suggest that the rate of physical and non-physical assaults directed at mental health providers is 40% (Simon, 2011). In all circumstances of violence acts caused by patients with psychiatric disorders, the most affected health workers have been nurses (Inoue et al., 2006; Kisa, 2008), novice clinicians (Antonius et al., 2010) and psychiatrists including psychiatric trainees (Dhumad et al, 2007; Rueve and Welton, 2008). Other studies have documented that nonclinical staff, including secretaries, receptionist and administrative staff are not spared violent attacks by patients (Anderson and West, 2011).

Assaults against health workers have the potential of undermining healthcare delivery. In particular, affliction and despair from violent attacks can lower an individual’s capacity to provide quality care (Roche et al., 2010; Cashmore et al., 2012). The fear of working in risky and insecure environment also has the adverse consequence of creating
retention problems for the existing scarce mental healthcare professionals (Estryn-Behar et al., 2008). Moreover, health workers who experience violent episodes are more likely to report increased occupational strains, poor commitment to patient health outcomes and high psychological distress (Gates et al., 2003; Magnavita and Heponiemi, 2012). Violent incidences can transform the workplace environment into one of risk and insecurity. Risk in this context refer to a situation when health workers harbour that a bad consequence or a particular adverse incident will happen (Prins, 1996) during the course of administering care within the environment of the health facility. Perception about risk induces fear and reduced mental fitness to work. Evidence-based research suggests that healthcare settings characterised by high risk can lower health professionals’ ability to provide care that is patient-centred (Buback, 2004).

It is clear from the literature that violent episodes negatively affect healthcare delivery on the one hand and the emotional stability to work on the other hand. In Ghana, although violent assaults in mental hospitals is reportedly alarming, little is known about individuals and segments of mental hospitals most vulnerable to assaults. This somewhat limits policy focus on creating a sustainable conducive workplace environment for efficient and quality mental healthcare delivery. The purpose of this study is to examine the nature, incidence and consequences of violent assaults as well as health workers experience of violent attacks in Ghana’s referral mental hospitals.

METHODS

Study setting
The study was conducted in the three purposively selected referral mental health hospitals in Ghana. Two of these hospitals, namely, Accra Psychiatric Hospital (APH) and Pantang Mental Health Hospital (PMH) are located in the National capital, Accra while the third hospital, Ankaful Mental Health Hospital (AMH) is located in a district capital, Ankaful in the Central Region. The hospitals provide general psychiatric care with no specialised services for geriatric psychiatry, paediatric psychiatry and forensic psychiatry (Ewusi-Mensah, 2001). Bed capacities in the hospitals are woefully inadequate to accommodate between 300 and 1200 patients reporting for mental treatment (WHO, 2007; Jack et al., 2013).

Study design and data collection methods
The study used a cross-sectional design with a mix-method approach to data collection. A structured questionnaire was used to collect data from mental health workers including psychiatric and registered general nurses, health assistants, pharmacists, students on practicum and non-clinical staff including accountants, administrative staff, cooks and security officers. The questionnaire sought answers about respondents’ background information and the measures of violent assaults broadly contextualised as physical and non-physical. Physical violent assault included various forms of battering, kicking, hitting and injuries from assaults. Measures of the non-physical violent assault were verbal abuse, threats of attack and sexual harassment. Responses to items for both physical and non-physical violent assaults were dichotomous (1 = “yes” if an individual confirms the question being asked and 0 = “no” if otherwise).
The last section of the questionnaire was modeled on risk assessment of the hospitals. This was evaluated by asking participants questions relating to safety in the workplace; danger of working amidst fear of being attacked and risks associated with working in the wards and administering treatment to patients. All the measures of risk assessment were dichotomous responses (1 = “safe” if an individual views the workplace to be safe and 0 = “unsafe” if the workplace is perceived otherwise). Study participants were randomly selected in the various units of the hospitals including OPD, inpatient wards, community psychiatry, occupational therapy, catering, and administration. Respondents totaled 503; 172 from AMH, 162 APH, and 169 from.

A total of 20 Key Informants (KI) interviews were conducted with purposively selected Health Service Administrators, Heads of Nursing and Unit Heads in the hospitals to probe further into the nature of reported assaults, injuries, causes attacks, safety and security of workers. These participants were purposively selected because they are senior clinical and administrative whose expertise and experiences are substantial in providing rich information about the phenomenon under investigation (Saunders et al., 2007). 10 victims of violent assaults were also interviewed to gather valuable evidence on their experience of violent assaults. Interviews were audiotaped and transcribed. Secondary data available in the hospitals were also collected to analyse annual incidence of reported physical violent assaults and injuries between 2009 and 2012.

Data analysis
Data were analysed with SPSS version 18. Descriptive statistics were used to analyse secondary data. Multivariate regression models were computed to examine associations between the dependent variables (i.e. physical violent assault, non-physical assault and risk assessment of the workplace) and the explanatory variables (sex, age, profession, job tenure, unit of work, contact with patients and place of residence.). Odds Ratios (OR) derived from the exponential form of the regression coefficients were used to account for the relative odds of experiencing physical and non-physical violent assaults and the probability of viewing the workplace as risky in different sub-groups. Transcribed interviews from the qualitative data were analysed based on the various themes outlined for the study, and the results were triangulated.

RESULTS

Demographic characteristics
More than half (57.5%) of the respondents were females. The mean age of the respondents was 31 years and those aged 51 years or older represented the least number of respondents. The majority of respondents were graduates from nursing training (43.1%) and belong to other professional practice other than being a nurse or health assistant.

Incidence of violent assaults and injuries
The results showed that the highest episodes of physical violent assaults and reported injuries in the hospitals occurred in 2011 and 2010 (Table 1). Poor interest in reporting
violent assaults in general and non-physical assaults in particular were major concerns in the hospitals.

**Table 1. Incidence of violent assaults and associated injuries**

<table>
<thead>
<tr>
<th></th>
<th>Incidence of violent assaults</th>
<th>Incidence of injuries</th>
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</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Maximum</td>
<td>17</td>
<td>41</td>
</tr>
<tr>
<td>Mean</td>
<td>13</td>
<td>29.67</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>3.61</td>
<td>10.6</td>
</tr>
</tbody>
</table>

The qualitative data indicated that the most common injuries often suffered by victims of assaults included body lacerations, ligament tear, fractured limbs, eye damages, swelling and bleeding. Some forms of severe injuries included shoulder subluxation, cervical spondylitis and head injuries. Almost every incidence of physical violent assault resulted in one or more of the aforementioned injuries. Almost all the KIs who have been victims of assaults revealed scars and bumps on their bodies apparently caused by physical assaults.

**Experience of physical and non-physical violent assaults**

Table 2 presents regression results of experience of physical and non-physical violent assaults. Females were significantly more likely to experience both physical violent assaults (OR = 2.957; p < 0.01) and non-physical violent assaults (OR = 1.610; p < 0.01). All but non-clinical staff were significantly more likely to experience both physical and non-physical violent assaults. However, when compared to other professional groups, registered nurses highly experienced physical violent assaults (OR 3.704; p < 0.01) and non-physical assaults (OR = 3.861; p < 0.01). High job tenure reduces the chances of experiencing physical violent assault. Those who work in the OPD, occupational therapy and community psychiatry were significantly more likely to experience both types of violent assault compared to respondents from the rehabilitation and pharmacy who significantly experienced only non-physical violent assault. The experience of non-physical violent assault is statistically significant for those living outside the hospitals premises (OR = 3.956; p < 0.01) and without direct contact with patients (OR = 2.791; p < 0.01).
The qualitative data revealed that hitting of staff physically or by the use of objects could take place in any part of the hospital. “I was stopped on my way to administer treatment, and strangely, a patient who was almost successfully managed with pharmacotherapy hit me at the back” (An assault victim). Some KIs indicated that they were witnesses in many occasions where some workers of the hospitals received blows and slaps especially from patients during the course of administering treatment. “We were administering treatment in the early hours of the day when an inmate hit me with a bench. As if that was not enough he went ahead and splashed water on me” (KI). “I was on night duty and...”

**Table 2: Relative odds of reporting physical and non-physical violent assaults**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Physical violent assault</th>
<th>Non-physical violent assault</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>OR</td>
</tr>
<tr>
<td>Gender (ref. male)</td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.144</td>
<td>2.957</td>
</tr>
<tr>
<td>Age (ref 20-30 years)</td>
<td></td>
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<tr>
<td>31-40</td>
<td>1.683</td>
<td>5.382</td>
</tr>
<tr>
<td>41-50</td>
<td>1.031</td>
<td>2.803</td>
</tr>
<tr>
<td>51+</td>
<td>0.915</td>
<td>1.498</td>
</tr>
<tr>
<td>Profession (ref. psychiatric nurse)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered nurse</td>
<td>1.351</td>
<td>3.704</td>
</tr>
<tr>
<td>Health assistant</td>
<td>1.045</td>
<td>2.844</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>-1.210</td>
<td>0.754</td>
</tr>
<tr>
<td>Student on practicum</td>
<td>0.454</td>
<td>1.574</td>
</tr>
<tr>
<td>†Non-clinical staff</td>
<td>-1.264</td>
<td>0.538</td>
</tr>
<tr>
<td>Job tenure (ref. less than 1 year)</td>
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<tr>
<td>1-5</td>
<td>0.546</td>
<td>1.782</td>
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<td>6-10</td>
<td>0.477</td>
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<td>11-15</td>
<td>0.689</td>
<td>1.902</td>
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<td>-0.092</td>
<td>0.197</td>
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<tr>
<td>21+</td>
<td>-0.077</td>
<td>0.481</td>
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<td>Unit (ref. inpatient)</td>
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<td></td>
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<tr>
<td>OPD</td>
<td>1.803</td>
<td>2.233</td>
</tr>
<tr>
<td>Occupational therapy</td>
<td>1.955</td>
<td>4.066</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>0.513</td>
<td>1.670</td>
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<tr>
<td>Administration</td>
<td>1.223</td>
<td>1.238</td>
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<tr>
<td>Other support unit</td>
<td>1.260</td>
<td>1.524</td>
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<tr>
<td>Pharmacy</td>
<td>1.413</td>
<td>3.110</td>
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<td>Community</td>
<td>1.928</td>
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<td>Place of residence (ref. within hospital premise)</td>
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<tr>
<td>No direct contact</td>
<td>-0.240</td>
<td>0.498</td>
</tr>
<tr>
<td>Off hospital</td>
<td>0.136</td>
<td>1.746</td>
</tr>
</tbody>
</table>

†cooks, administrative staff, records staff, security
**,** means significant at 1% and 5% respectively; ns, means not significant
a patient trailed me from the back, held my neck and gave me slaps. I struggled hard to free myself and could have been killed in the process” (KI).

Non-physical assaults were more or less considered a norm in the hospitals because every worker is prone to them. Some KIs lamented: “I have been verbally abused several times. On many occasions, patients threatened to either draw me into a fight with them or beat me if I walk pass them”, “I was on my way to administer treatment when a patient approached me and attempted to touch my breast and buttocks”. Another KI had this to say: “a patient has been sexually harassing me because I look like his wife”.

Causes of violent assaults
The major cause of patients’ aggression and the resultant assaults was found to be the use of excessive restraints. Using some minimal force as a tool for enabling patients to take prescribed medication was identified as a precursor for aggression and assaults. It was pointed out that anytime the hospitals run out of medications, especially antipsychotic drugs, the consequence is assault. These statements by some of the KIs are insightful: “Even when we administer drugs to patients, we are not totally safe, can you imagine how the situation might be without drugs?” Another informant at the management level remarked: “normally, when there are no drugs we face problems in the sense that high-risk patients become too violent”. Poor interpersonal relations with patients, inexperience of some clinical staff and lack of comprehensive knowledge of each patient were also mentioned as causes of assaults.

Risk assessment of the workplace
Table 3 presents results of perceived risk of working in the hospitals. Females and those staying off the hospitals were significantly more likely to view the workplace as risky (OR = 1.315; p < 0.01). Although all the categories of health workers perceived the workplace as risky, it was significantly high for registered nurses (OR = 4.396; p < 0.01) and health assistants (OR = 4.983; p < 0.01). Staff working in the OPD, occupational therapy and rehabilitation significantly perceived the workplace as risky. Older respondents and those with high job tenure have low risk perception of the workplace.

KIs were dissatisfied about poor security in the hospitals and protection of staff from violent harm. Seclusion rooms are not inadequate enough to restrain aggressive patients. This point reflected in the view of one of the informants: “safe to provide care? No because seclusion rooms are not enough to contain violent patients. You can even observe for yourself that many of the patients are loitering around. They can attack anybody who comes their way” (KI). Some KIs recalled instances when staff came under patient attack while security personnel were apparently missing. An informant indicated that in more critical situations of assault, the security themselves run for cover because they do not have a strong presence to collectively handle aggressors. Thus: “The facility does not have any security measures in place to protect staff and visitors. Not even a generator to provide light during power outages at night” (KI).
Table 3: of Perceived risk of the workplace

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coef</th>
<th>OR</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (ref. male)</td>
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<td></td>
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</tr>
<tr>
<td>Female</td>
<td>0.274</td>
<td>1.315</td>
<td>***</td>
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<tr>
<td>Age (ref. 20-30 years)</td>
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<tr>
<td>31-40</td>
<td>1.222</td>
<td>3.395</td>
<td>***</td>
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<td>41-50</td>
<td>0.368</td>
<td>1.444</td>
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<td>51+</td>
<td>-0.455</td>
<td>1.576</td>
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<tr>
<td>Registered nurse</td>
<td>1.926</td>
<td>4.396</td>
<td>***</td>
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<tr>
<td>Health assistant</td>
<td>1.017</td>
<td>4.983</td>
<td>***</td>
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<td>2.077</td>
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<td>0.741</td>
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<td>0.619</td>
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<td>1-5</td>
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<td>3.493</td>
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<td>1.311</td>
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<td>1.333</td>
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<td>1.732</td>
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<td>2.218</td>
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<td>0.747</td>
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<td>Other support unit</td>
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<td>ns</td>
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<tr>
<td>Off hospital</td>
<td>0.756</td>
<td>2.131</td>
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**,** * means significant at 1% and 5% respectively
ns, means not significant

DISCUSSION AND POLICY IMPLICATIONS

Findings show that reported violent assaults and injuries are marginally high in mental hospitals. Commonly experienced episodes of violent assaults included battering, intimidation, threats, sexual harassment, and verbal abuse including yelling, name-calling and insults (Kiza, 2008; Talas et al., 2011; Kowalenko et al., 2013). Various health workers have suffered varying degrees of injuries as a result of assaults by aggressive patients. These injuries were identified as lacerations, ligament tear, swelling, and bleeding. Some victims of assaults have even experienced severe injuries such as shoulder subluxation, cervical spondylitis, fractured limbs, and closed head injuries. The consequences of these
assaults included work days lost due to hospitalization and reduced mental capacity of victims to continuously provide patient-centred care.

Health workers who mostly experienced both physical and non-physical violent assaults were nurses (Inoue et al., 2006; Kisa, 2008; Magnavita and Heponiemi, 2012). This is understandable given that nurses were the key service providers in the hospitals. Working closely with patients, especially providing for their welfare on daily basis is a factor that exposes nurses to violent assaults (Anderson and West, 2011). In addition, the few number of psychiatrists have given rise to a situation where nurses took charge of calming or restraining aggressive patients, which possibly exposed them to risk of violent assaults. Pharmacists also experienced both physical and non-physical violent assaults (Erdos and Hughes, 2001), perhaps because of the nature of their clinical roles which among others involves preparing and dispensing medication.

Findings of the study fail to substantiate the literature that non-clinical health workers experience violent assaults (Anderson and West, 2011). This may be partly linked to the fact that non-clinical staff largely perform peripheral roles insofar as patient condition management is concern. Without direct contact with patients, the risk of experiencing violent assaults could be low. Novice clinicians such as students on practicum were more likely to experience both physical and non-physical violent assaults (Antonius et al., 2010; Rueve and Welton, 2008). We attribute this to inexperience on the job. In particular, when novice clinicians are not given adequate education on how to predict imminent aggression, the possibility of being exposed to assaults becomes high.

Statistically Significant association was found between health workers with less job tenure and both physical and non-physical violent assaults (Antonius et al., 2010). However, contrary to the view that less experience on the job is a risk factor of violent assaults in mental hospitals, we found that those with high job tenure in the hospitals also experienced violent assaults (Ayranci, 2005). This is suggestive that high job tenure does not guarantee immunity to violent attacks (Privitera et al., 2005). Findings of the study corroborate earlier studies that violent assaults are significantly high in support service units (Anderson and West, 2011) and community psychiatry (Dhumad et al, 2007; Rueve and Welton, 2008). This suggests that violent assaults could extend beyond clinical divisions to support services. In our view the experience of violent assaults among staff in support services divisions could be partly linked to poor knowledge on the prediction of imminent violent behaviour by patients. Defence may fall short when there is poor knowledge on aggressors’ behaviour.

The causes of violent assaults in the hospitals were varied. First, excessive use of restraint or compulsion when administering care to patients was identified as a common cause of aggression (Nijman, 2002). Second and more importantly provider demeanour including poor interpersonal relations with patients and poor interactive skills are potential causes of violent assaults. Essentially, provider behaviour that is inherently problematic rather than therapeutic can lead to aggression. We suggest that in-service training needs for frontline health workers centred on skill acquisition will enable them blend culturally appropriate methods with standardised medical treatment guidelines for the treatment of patients. Echternacht (1999) prescribed patient relationship training needs for nurses which can be extended to other health workers as well. They include communication skills, posturing techniques, good-mannered interaction and creating suitable and safe distance from aggressors. Didactic training on detection of imminent violence and techniques for assessing and responding to aggressive behaviour also deserve attention.
Third, violent assaults occur anytime the hospitals are faced with stock-outs of antipsychotic drugs especially tranquilizers (Ofori-Atta et al., 2010). Tishler et al. (2013) acknowledged the importance of medication by stating that restraints of all forms should be the last resort. Without essential medications, physical restraint and seclusion cannot end violence from highly aggressive patients. This finding calls for health managers to continuously maintain adequate stock of tranquilizers especially lithium and sodium valproate which are effective for controlling violent behaviours. Some other studies have recommended having in stock intramuscular olanzapine or ziprasidone to help providers calm imminent violence (Rund et al., 2006; Tishler et al., 2013).

Both the qualitative and quantitative findings revealed the precarious nature of the workplace environment. Our quantitative results show that almost all the respondents perceived the workplace as risky for effective healthcare delivery (Kowalenko et al., 2013). This was further confirmed by the qualitative results when the informants indicated that staff are not adequately protected against violent assaults. The problem of security was further exacerbated by security deficits and the slow pace of developing concrete and realistic policy measures to deal decisively with violent assaults. We suggest the need for making the safety of mental health workers a top priority by health managers. This may be pursued by embarking on intensive monitoring and regular security assessment to ensure that staff are always safe to provide care.

CONCLUSION

The findings suggest stepping up security measures backed by intensive campaigns to create awareness on the characteristics of imminent violence by aggressors, dealing with aggressive patients and promoting therapeutic relationships with patients. Active policy guidelines that are incorporated or built on existing legislations on mental healthcare can have the potency of ensuring that assault victims receive appropriate and effective support to ward off exit intentions.

Succinctly, findings of the study have profound effects on violence management in mental hospitals for sustainable healthcare delivery. The strength of our study lies in the application of mix-method techniques that expanded the scope of, and deepened insight into violent assaults in mental hospitals in Ghana. However, because psychiatrists were excluded in the quantitative data on grounds of their few numbers and busy schedules, we recommend that future studies should adopt a more holistic approach by including the different cadre of health professional groups in mental health hospitals.

REFERENCES


National Health Insurance Scheme Capitation and Patients’ Satisfaction with Service Quality in Public Hospitals in the Ashanti Region of Ghana

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ABSTRACT

National Health Insurance Authority has piloted capitation in Ashanti region and it is awaiting a nationwide rollout. The purpose of the study is to assess National Health Insurance Scheme subscribers’ satisfaction with service quality in public hospitals paid by the capitation in the Ashanti region. A modified version of SERVQUAL model was used as the data collection instrument and was administered to a sample of 188 insured patients receiving care in some selected public hospitals in Ashanti region that are paid under the capitation system. Factor analysis with Varimax rotation, repeated t-measures and regression model were used in the data analysis and presentation of results.

Results showed that patients’ expectations were not met during medical treatment. Perceived service quality was rated lower than expectations for all variables. The mean difference between patients’ expectations and perceptions was statistically significant (p = 0.00). Waiting time was found to be long as it produced the highest mean difference. Capitation did not have a direct impact on availability of drugs to patients. The findings of the study provide an important step towards strengthening service quality in public hospitals in the wake of the introduction of capitation as an alternative provider payment mechanism. Furthermore, close monitoring of hospital activities should be done by the National Health Insurance Authority, Ministry of Health and Ghana Health Service to ensure that accredited health facilities give patients what is due them.

Keywords: Health Insurance Scheme, Capitation, Patients' Satisfaction, Service Quality, Ghana

INTRODUCTION

Healthcare financing, the cornerstone of every health system has never been a consensus driven topic among world leaders. Different countries have diverse views on how their healthcare system should be funded. James et al (2006) note that, due to the chronically under-funded nature of many low and middle income countries’ health system, these countries keep on exploring different ways of financing their health system. Taxation, user fee, social health insurance, private and voluntary health insurance and donations and charities have been identified as the main sources of financing healthcare across the world. Whilst user fee has been known to present some undesirable effects on the populace,
Prepayment and risk pooling through social health insurance and taxation have been found to provide some solutions (Carrin, 2002; Ranson 2002; Xu et al. 2007).

In Ghana, an infamous system known as ‘Cash and Carry’ posed financial access barrier to the majority of the populace especially the poor in their utilization of healthcare services. The poor resorted to self-medication and reported to health facilities very late for treatment when their health conditions had worsened (Arhin-Tenkorang, 2001; Arhinful, 2003). Ghanaians explored a better financing mechanism to ameliorate the devastating effects the existing system had on the people’s health and the economy as a whole. Given that prepayment and risk pooling through social health insurance and taxation, was a better alternative to out-of-pocket payment at the point of service use, the government of Ghana passed the National Health Insurance Act in 2003. This was the legal basis for the establishment of the National Health Insurance Scheme (NHIS) as a replacement for “cash and carry”. Thus the NHIS has the main objective to provide financial risk protection against the cost of quality healthcare for all residents of Ghana (National Health Insurance Act, 2003).

Upon the implementation of the NHIS in 2005, access to healthcare has improved tremendously (Blanchet et al., 2012). The National Health Insurance Authority (NHIA) reported that outpatient utilization increased by over forty-fold from 0.6 million in 2005 to 25.5 million in the year 2011 while inpatient service utilization also increased over fifty-fold from 28,906 to 1,451,596 over the same period (NHIA, 2011). The scheme has been recognized as one of the most important health policies that have ever been implemented in Ghana. As such, it has received commendation from international organizations such as World Health Organization (WHO) and United Nations Development Programme (UNDP) (Government of Ghana, 2010; NHIA, 2010). Even though, the scheme has received commendations and international awards it has not been without challenges. There are some challenges that the scheme has faced since its inception in 2005. Unfortunately, the increase in utilization of healthcare service has not been matched with a proportionate increase in resources, especially health professionals and drugs in health facilities (SEND-Ghana, 2010; Osei-Akoto et al., 2012). In effect, health workers experience long working hours with little or no break and without any motivation from government for the extra workload (Dalinjong & Laar, 2012). The result of this situation is poor attitude of health workers towards patients and its consequent negative effect on service quality.

Under the NHIS, Fee-for-Service (FFS), Diagnosis Related Groupings (DRG) and Capitation are the main provider payment mechanisms specified in the National Health Insurance Act, 2012 (Act, 852). The scheme started with FFS in 2005 until the year 2008 when DRG was introduced as a complementary payment method. Under these two payment methods, their typical feature is that, claims are prepared by service providers on the list of services they have provided for clients and submitted to the NHIA for reimbursement. Under the DRG system reimbursement is based on vetted claim forms submitted by providers which have passed accuracy and genuineness test (Agyepong & Yankah, 2012). The complexity of administrative activities with regards to claims preparation, vetting and reimbursement under these two payment methods have always resulted in delays in claim payment. The obvious outcome is that, service providers are constrained in terms of access to funds to acquire the necessary resources for quality healthcare delivery.
At the center of these challenges is the issue of healthcare quality. Some scholars have therefore investigated the state of service quality in NHIS accredited facilities. Bruce et al. (2008) reported patients’ dissatisfaction with quality of care in the Dangme West District. A study by Dalinjong and Laar (2012) on perceptions and experiences of healthcare providers and clients in Bolgatanga and B ultrasound districts revealed that, insured patients experience long waiting times, verbal abuse, lack of physical examination and discrimination in favour of the affluent and uninsured. This report is corroborated with a study by Atinga (2012) which targeted premium holders’ perception on quality. According to the patients, waiting time was long. Other studies have generally reported poor quality of care under the NHIS (Atinga et al., 2010; Turkson, 2009; Ministry of Health, 2007). In a joint research by SEND-Ghana and World Bank, it was discovered that, the NHIS has had negative effect on the quality of healthcare delivery in Ghana (SEND-Ghana, 2010).

To address the challenge of delay in claims payment and its consequent effects, the NHIA has introduced Capitation as a complementary payment method. Capitation is a provider payment method whereby providers are typically paid in advance, a pre-determined fixed rate to provide a defined set of services for each individual enrolled with the provider for a fixed period of time (Agyepong & Yankah, 2012). This ties a client to a particular Preferred Primary Provider (PPP) of their choice. The amount paid to the provider is irrespective of whether that person would seek care or not during the designated period. It is meant to provide out-patient department primary care cases excluding in-patient, specialist care and hospital referrals (Agyepong & Yankah, 2012). Currently, capitation as a provider payment mechanism is pending a nationwide rollout after the evaluation of a pilot exercise in the Ashanti region if deemed successful (NHIA, 2013). The piloting which was supported by the World Bank started in 2012 and ended in 2013. However, after the evaluation and stakeholders meeting in 2013, capitation has been in operation in the Ashanti region only to date. Capitation is seen as a panacea and the advantages it presents are worth benefiting from compared to the demerits.

Health Insurance Capitation is a new concept in Ghana and presents a good opportunity for research. In fact, search for in-country literature proved futile as it appeared that little or no research has been done on the concept. Again, in the quest to extend capitation to the other regions of the country, it is appropriate to evaluate the state of healthcare quality from the perspective of the patient who is the ultimate beneficiary of the NHIS. It is established in literature that to a large extent, information about health insurance, particularly service delivery and patient satisfaction with healthcare quality is better obtained from the opinion of patients (Andaleeb, 1998; Lambrew et al., 1996). This study was aimed at finding out patients’ satisfaction with service quality in public hospitals which are paid under capitation. And to address this, the study specifically looked at patients’ expectations when visiting public hospitals, patients’ perceptions about services received after accessing public hospital, whether there are any gaps between cardholders’ expectations and perceptions in public hospitals, and the effect of capitation on the availability of drugs at dispensary of public hospitals.
METHODOLOGY

The study was a cross-sectional survey that found out the relationship between patients satisfaction with service quality under NHIS capitation. It was conducted in the Ashanti region- the only region in the country where capitation is fully operational as of the time the research was conducted. All patients accessing OPD services in accredited NHIS public hospitals paid under capitation formed the study population. A total of 188 respondents who are enrolled on NHIS and have chosen the facilities as their Preferred Primary Provider (PPP) were purposively selected from three different public hospitals that use capitation.

A modified SERVQUAL Questionnaire with seven service quality dimensions and on a five-point Likert scale was used to solicit patients’ expectations and perceptions on service quality. A pre-service use interview was conducted to find out expectations of patients while a post-service use interview was conducted at exit to find out patients perceptions after service use. Patients’ overall satisfaction was measured. Informed consent was sought from all respondents and the purpose of the study was thoroughly explained to them. Participating in the study was voluntary and respondents could quit at any stage. The data were analysed with SPSS version 18 and Microsoft Excel.

In analyzing the gaps between expectations and perceptions, repeated t-measures was conducted to find the mean difference between the variables, service quality dimensions and overall expectation and perception. While SERVQUAL scores were computed with Microsoft Excel. To test internal consistency of the constructs that underlie SERVQUAL, the Cronbach’s alpha coefficient was computed for each dimension. The level of reliability was ascertained as all constructs had alpha values exceeding the 0.70 threshold recommended (Peterson, 1994; Nunnaly, 1978; Hair et al., 1995). Factor Analysis using varimax rotation was conducted to reduce the data into appropriate structures. A paired-samples t-test was used to find the overall difference between patients’ perception after the use of healthcare services and their expectations before seeking healthcare in public hospitals. Finally, multiple regression was conducted to determine the determinants of patients’ satisfaction.

RESULTS

Sixty-seven percent of respondents were between the ages of 18 – 44 years while only 3.7 percent were above 70 years. There were more females (64.9%) than males (35.1%), 23.5% of respondents had never been to school before while about half (50.8%) have had junior or senior high school education. Only 14.2% of the patients had tertiary education. Hospital utilization measured in terms of number of visits over the past 12 months showed that, 44.2% of patients had visited the health facilities one to three times while 28.7 percent had visited the facilities between 4 and 6 times. About a quarter (24.5%) were farmers, 34% were self-employment, the formal sector employees were 23.4% were government employees, 7.4% were private sector employees, and the remaining 9.7% were jobless.

The rest of the results are presented in tables 1 and 2.


### Table 1 Results

<table>
<thead>
<tr>
<th>VARIABLES/DIMENSIONS</th>
<th>perception</th>
<th>Expectation</th>
<th>Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TANGIBILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up-to-date and well-maintained medical facilities and Equipment</td>
<td>3.362</td>
<td>4.500</td>
<td>-1.138</td>
</tr>
<tr>
<td>Clean and comfortable environment with good directional signs</td>
<td>3.989</td>
<td>4.633</td>
<td>-0.644</td>
</tr>
<tr>
<td>Doctors /staff are neat in appearance</td>
<td>4.144</td>
<td>4.654</td>
<td>-0.511</td>
</tr>
<tr>
<td>Informative brochures about services are available</td>
<td>2.473</td>
<td>4.314</td>
<td>-1.840</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.492</td>
<td>4.525</td>
<td>-1.033</td>
</tr>
<tr>
<td><strong>RELIABILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privacy is observed during treatment</td>
<td>3.973</td>
<td>4.638</td>
<td>-0.665</td>
</tr>
<tr>
<td>Services are provided at appointed time</td>
<td>3.543</td>
<td>4.532</td>
<td>-0.989</td>
</tr>
<tr>
<td>Services are carried out right the first time</td>
<td>3.824</td>
<td>4.452</td>
<td>-0.628</td>
</tr>
<tr>
<td>Doctors/staff are professional and competent</td>
<td>4.059</td>
<td>4.638</td>
<td>-0.580</td>
</tr>
<tr>
<td>System of error-free and fast retrieval of documents</td>
<td>3.606</td>
<td>4.426</td>
<td>-0.819</td>
</tr>
<tr>
<td>There is a consistency of service charges</td>
<td>3.734</td>
<td>4.404</td>
<td>-0.670</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.790</td>
<td>4.515</td>
<td>-0.725</td>
</tr>
<tr>
<td><strong>RESPONSIVENESS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients are given prompt services</td>
<td>3.676</td>
<td>4.559</td>
<td>-0.883</td>
</tr>
<tr>
<td>Doctors /staff are responsive</td>
<td>3.782</td>
<td>4.590</td>
<td>-0.809</td>
</tr>
<tr>
<td>Waiting time does not exceed one hour</td>
<td>2.559</td>
<td>4.394</td>
<td>-1.835</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.339</td>
<td>4.514</td>
<td>-1.176</td>
</tr>
<tr>
<td><strong>ASSURANCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude of doctors/staff instill confidence in patients</td>
<td>3.957</td>
<td>4.676</td>
<td>-0.718</td>
</tr>
<tr>
<td>Doctors/staff are courteous and friendly</td>
<td>3.904</td>
<td>4.569</td>
<td>-0.665</td>
</tr>
<tr>
<td>Doctors possess a wide spectrum of knowledge</td>
<td>4.000</td>
<td>4.548</td>
<td>-0.548</td>
</tr>
<tr>
<td>Patients are treated with dignity and respect</td>
<td>3.904</td>
<td>4.660</td>
<td>-0.755</td>
</tr>
<tr>
<td>Patients medical conditions are explained to them thoroughly</td>
<td>3.606</td>
<td>4.516</td>
<td>-0.910</td>
</tr>
<tr>
<td>Feedback is obtained from patients</td>
<td>3.596</td>
<td>4.596</td>
<td>-1.000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.828</td>
<td>4.594</td>
<td>-0.766</td>
</tr>
<tr>
<td><strong>EMPATHY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services are available round the clock</td>
<td>4.053</td>
<td>4.718</td>
<td>-0.665</td>
</tr>
<tr>
<td>Doctors /staff have patients’ best interests at heart</td>
<td>3.910</td>
<td>4.463</td>
<td>-0.553</td>
</tr>
<tr>
<td>Doctors/staff understand the specific needs of patients</td>
<td>3.819</td>
<td>4.404</td>
<td>-0.585</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.927</td>
<td>4.528</td>
<td>-0.601</td>
</tr>
</tbody>
</table>
### ACCESSIBILITY & AFFORDABILITY

<table>
<thead>
<tr>
<th>Feature</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital has adequate parking facilities</td>
<td>3.941</td>
<td>4.457</td>
<td>-0.516</td>
<td></td>
</tr>
<tr>
<td>The location is accessible</td>
<td>4.436</td>
<td>4.617</td>
<td>-0.181</td>
<td></td>
</tr>
<tr>
<td>The charges for the services rendered are affordable</td>
<td>4.053</td>
<td>4.489</td>
<td>-0.436</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.144</td>
<td>4.521</td>
<td>-0.378</td>
<td></td>
</tr>
</tbody>
</table>

### CULTURE

<table>
<thead>
<tr>
<th>Feature</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>No discrimination on the basis of ethnic or religious background</td>
<td>4.319</td>
<td>4.761</td>
<td>-0.441</td>
</tr>
<tr>
<td>No discrimination on the basis of economic status</td>
<td>4.133</td>
<td>4.723</td>
<td>-0.590</td>
</tr>
<tr>
<td>The hospital staff use language patients understand</td>
<td>4.309</td>
<td>4.681</td>
<td>-0.372</td>
</tr>
<tr>
<td>The hospital had all the prescribed drugs at the dispensary/pharmacy</td>
<td>3.005</td>
<td>4.628</td>
<td>-1.622</td>
</tr>
<tr>
<td>Total</td>
<td>3.941</td>
<td>4.698</td>
<td>-0.757</td>
</tr>
</tbody>
</table>

**GRAND MEAN**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations (total)</td>
<td>4.5600</td>
<td>188</td>
<td>0.37895</td>
<td>.02764</td>
</tr>
<tr>
<td>Perception (total)</td>
<td>3.7817</td>
<td>188</td>
<td>0.31798</td>
<td>.02319</td>
</tr>
</tbody>
</table>

*All gaps are statistically significant P<0.001

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error</td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception (total)</td>
<td>-</td>
<td>0.77825</td>
<td>0.44411</td>
<td>0.03239</td>
<td>0.71435</td>
<td>0.84214</td>
<td>24.027 187 0.000</td>
</tr>
<tr>
<td>Expectation (total)</td>
<td></td>
<td>0.44411</td>
<td>0.37895</td>
<td>0.02764</td>
<td>0.31798</td>
<td>.02319</td>
<td></td>
</tr>
</tbody>
</table>

There was statistically significant difference (gap) from expectation (Mean = 4.5600, SD = 0.37895) to perception (Mean = 3.7817, SD = 0.31798), t (187) = 24.027, P<0.0001 (two-tailed). The mean difference between expectation and perception was 0.77825 with a 95% confidence interval ranging from 0.71435 to 0.84214.
DISCUSSION AND CONCLUSION

Consistent with previous studies (Abuosi & Atinga, 2013; Sohail, 2003; Mostafa, 2005) patients’ expectation with regards to the entire variables decreased after their service encounter. Patients’ perception with regards to the service quality dimensions revealed that their expectations were not met. Concerning the culture dimension, all the variables in this dimension had high mean perception scores with the exception of availability of prescribed drugs. It had the third largest gap, which is statistically significant (P = 0.000). The finding is of significance because availability of drugs is an important factor that influences quality of care (Atinga, 2012). This particular case raises concern as previous studies (Atinga et al., 2010; Turkson, 2009; Dalinjong & Laar, 2012) reported regular shortage of drugs in NHIS accredited facilities usually blamed on the delay of claims payment to service providers. However, the NHIS capitation has been introduced to make funds available in advance to health facilities to procure the needed resources for service delivery. Amongst the basic resources needed to deliver quality service are drugs, but the findings show that facilities do not have all the essential drugs in their dispensaries or if hospitals have, they are not made available to patients. This could be a revelation of the disadvantage or weakness of capitation payment method as there is the tendency of providers to undertreat patients with the intention of making more profit (Agyepong & Yankah, 2012; Seddoh et al., 2011; Yip et al., 2001). The effect is that NHIS subscribers’ loyalty can steadily deteriorate if they get to know that they are being denied of essential services that they are legitimately entitled to. This can affect their renewal intention or behaviour. Moreover, if patients are not given the prescribed drugs and they are also not able to purchase them in the open market, there is the tendency that recovery will delay or not be achieved. Consequently, patients will end up revisiting their PPP which will in turn increase workload and cost simultaneously.

The behaviour of healthcare providers towards patients during the healthcare encounter cannot be underestimated. Staff attitude plays important role in determining service quality from patients’ perspective. The study findings revealed that patients’ perception on service providers’ demeanor is good even though it does not meet their expectations (Table 1). Thus, patients agree that staff show respect and dignity, are courteous and friendly while they show they possess in-depth knowledge that instill confidence and trust in patients. The friendly environment they create allows patients to be open, seek clarification where necessary and continuously utilize services provided in the health facility (Mittal & Lasser, 1996). Fortunately, this finding is a relief to service providers and more importantly to the NHIA because it is contrary to a study by Dalinjong and Laar (2012) which revealed that sometimes NHIS cardholders seeking care experience verbal abuse. In fact, it can be partly attributed to the capitation which tends to tie down NHIS subscribers to a preferred primary provider (PPP). The effect is that, it strengthens the gatekeeper system and limits service abuse by cardholders thereby reducing the workload on health professionals. One intriguing finding which has legal implication was the fact that, patients’ medical conditions are not thoroughly explained to them. The paternalistic medical care in the 18th century seems to be in operation in Ghana, where medical staff make decisions without the involvement of patients. The knowledge gap between patients and medical staff could be attributed to such incidence. Sadly, some patients in Ghana are still not enlightened under the patients’ charter to hold medical staff responsible for their
demeanor (Abeka-Nkrumah et al., 2010). Overall, statistically significant gap exist between perception and expectation of the assurance dimension (0.766; p = 0.000). Even though perception is relatively good, appropriate measures should be put in place to narrow the gap by improving the variables to increase patients’ perception.

Empathy, compared to its expectation fared well. Patients’ perception on this dimension is good. Provision of 24-hour service had the highest mean score in this dimension. Given that, people can get sick at any time and may seek care even at odd hours, service provision round the clock is very important. According the findings, patients believe that public hospitals do not have closing hours like supermarkets and other organizations such as banks do. Emergency cases make this policy of 24-hour service provision more apparent. Moreover, strengthening empathy through understanding specific patients and seeking patients’ best interest paying attention to the emotional and social needs of patients when needed (Zarei et al., 2012) are recommended. Contrary to the study by Zarei et al. (2012), the results indicate positive perception in this direction hence a good sign for the service providers and NHIA as empathy has been identified in previous studies as a good predictor of overall service quality (Zarei et al., 2012).

The findings for the tangibility dimension suggest that perception is poor. Patients’ perceptions and expectations present the second largest gap amongst all the dimensions. As shown in the table (1), the gap indicates that there is room for improvement in quality on this dimension. Patients fairly agree that medical equipment are up-to-date and well maintained though it is the fourth lowest overall perception score. Physical structures and the environment as a whole could be better maintained to enhance perception of patients on quality as Atinga (2012) found that the environment largely influences perceived quality of care. Providing comfortable seats, good directional signs, adequate lighting and other amenities need investment. Capitation payment can facilitate this because funds are made available. May be for capital intensive investments it will take a longer period to see such projects in health facilities, nonetheless basic painting of buildings, provision of bins for rubbish collection, as well as investment in modern but inexpensive medical equipment such as thermometers, weighing scales, stethoscopes etc may be feasible under capitation. It is worth noting, that patients’ perception about staff appearance is good as well as clean and comfortable environment. The results suggest health professionals adhere to the GHS code of ethics on clinical staff wearing a prescribed uniform. Like the environment, Fottler et al. (2002) state three reasons why tidiness is important in the hospital: first it creates an excellent opportunity to meet if not exceed patients’ expectations, secondly, it improves the mood and boosts patients and service providers morale and finally adds value to other functions of the health facility. Investment in the tangibility dimension which has been identified as an influential factor in service quality can enhance patients recovery as it communicates to them that service providers acknowledge their social, psychological and medical needs and seek to fulfill them (Atinga, 2012). Overall, perception of patients with regards to the tangibility dimension is fairly good and this corroborates a similar finding by Abuosi and Atinga (2013).

Accessibility and affordability is the highest perceived service quality dimension among all the dimensions. The only dimension that recorded a mean greater than 4 (mean = 4.144) suggesting that patients agree that service charges are affordable while location of health facilities are not difficult. Affordability in this dimension has particularly been made possible through the NHIS. Patients’ positive rating of this dimension could be traced
to the fact that health insurance cardholders seeking care are not expected to pay any user fees at the point of service use. This situation is particularly important because it has enhanced the healthcare seeking behavior of Ghanaians (Ghana Health Service, 2009) albeit the challenges that have come along with the increased utilization of healthcare. The easy location of hospitals is also important as sick people are not in a better position to be roaming around searching for healthcare facilities. In addition, ambulances can easily access the hospital in times of emergency. The dimension has the smallest overall gap (mean = 0.378) as it variable “location is accessible” recorded the least difference (0.181) between expectations and perceptions on all variables. This result is consistent with previous studies (Ahmed & Samreen, 2011) in Karachi on one hand while on the other hand, it contradicts its finding of a maximum difference of 2.333 for the variable “Service charges are affordable” because the finding from this study is as low as 0.436. Obviously, the vast discrepancy between these two findings can be attributed to the NHIS which has enhanced affordability of hospital services for Ghanaians.

Long waiting time which has been revealed in other studies (Dalinjong & Laar, 2012; Atinga, 2011) could not meet the average mark. Patients disagree that waiting time does not exceed one hour. To some extent, facilities could do little about the clinical staffing. Given the poor health professionals to patient ratio in developing countries including Ghana, the study showed that hospital staff could not provide responsive service. This supports previous studies (Abuosi & Atinga, 2013; Mostafa, 2005). All variables in the responsiveness dimension fall within the least perception scores category. With the least perception score (mean = 3.339) and the largest overall dimension gap (1.176), this needs particular attention. Capitation may have mitigated the situation to some extent by limiting service abuse by patients, but more effort is needed to still better the situation. Particular attention should be paid to waiting time which is not solely caused by the poor doctor to patient ratio but delays in patients’ records retrieval and other manual procedures patients go through under the NHIS regime. Waiting time is of concern because preceding studies have revealed that patient perceived quality of healthcare and satisfaction is linked with the time spent at the hospital (Bielen & Demoulin, 2007). The overall the perception of patients with regards to promptness, waiting time and responsive care is low but fairly good as patients may have accepted their fate of inadequate health professionals in their country.

Supportive of previous findings (Abuosi & Atinga, 2013; Sohail, 2003) patients’ perception about service providers’ ability to provide services accurately and dependably did not meet what they expected. The results show that patients hold the view that doctors and other staff show professionalism and competence. This is good for the NHIA and Ministry of health because it communicates to the public that quality is not being compromised under the capitation payment method as anecdotal evidence suggests. The mean score of this dimension indicates that patients fairly agree that there is some level of accuracy and dependability in service provision in public hospitals. The lowest perception score (3.543) is related to “services are provided at appointed time”. In Ghana, service strictly by appointment is uncommon. However the “shift system” among health professionals particularly medical doctors, sometimes consulting time may have accounted for this finding. Thus when doctors exhaust their working hours they leave before the arrival of the one to take over and put patients on wait sometimes without any explanation to patients.
The overall difference between perceptions and expectations of patients was found to be statistically significant at (mean = 0.778; p = 0.000). The high expectation levels of patients and their corresponding low perception levels on the variables measuring service quality accounted for this gap. This finding corroborates previous findings in Ghana and other countries (Abuosi & Atinga, 2013 Ghana, Mostafa, 2005 (Egypt), Suki et al. 2011 (Malaysia), Ahmed & Samreen, 2011 (Pakistan), Karasavidou et al., 2009 (Greek). Patients perceived service quality to be satisfactory, however, given the gaps in the different dimensions, service quality can still be improved under the capitation system.

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Track F2:

Public Sector Administration and Sustainability
The Political Challenge of Protecting the Poorest: insights from the Ghana School Feeding Program

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ABSTRACT

In line with the growing recognition of the need to bring politics back into poverty analyses, this paper explores the politics of social protection in Ghana. It does so through a case study of the Ghana School Feeding Programme (GSFP) – a recently-initiated social protection programme aimed at bridging regional inequalities in primary education. Drawing evidence from elite interviews, the paper highlights three main factors that are particularly critical for understanding the politics of social protection for the poorest in Ghana: ideas about state legitimacy and the maintenance of political power; the prevalence of pork-barrel politics in the context of increased electoral competition; and unequal power relations among regional and local elites in terms of lobbying for more public resources for their constituents. The paper concludes that the effectiveness of social protection programmes in redressing the vulnerability of the poorest is not simply about getting the technical dimensions of policies right; it is more importantly about “getting the politics right”.

Keywords: politics, social protection, school feeding, inequality, Ghana

INTRODUCTION

“Politics is crucial to the adoption, design and implementation of social assistance programmes” (Barrientos and Pellissery, 2014: 2)

A growing body of studies have increasingly highlighted the potentially progressive role of social protection for contributing to the reduction of poverty, inequality and vulnerability. To date, however, much of the literature has often focused on highlighting techno-economic factors as the underlying reasons for the ineffective implementation of social protection programmes, but with little attention to the role of politics (Hickey, 2008; Nino-Zarazua et al, 2012; Barrientos and Pellissery, 2014). Much of the voluminous literature on social protection in Ghana has adopted a similar approach. Observers have increasingly highlighted the failure of a wide range of social protection programmes to disproportionately benefit the poorest in Ghana as planned, but tend to blame such ‘targeting errors’ to inappropriate design and targeting mechanisms, lack of transparent
allocation procedures, and weak monitoring and evaluation mechanisms (Wodon, 2012). As such, it is suggested that “further improvement in Ghana’s social protection system mostly lies in its ability to (i) improve targeting efficiency and (ii) reduce implementation costs for greater coverage...” (World Bank, 2011: 82).

Through a case study of the Ghana School Feeding Programme (GSFP) – a recently-initiated social protection programme aimed at bridging spatial inequalities in primary education – this paper argues that the effective delivery of social protection is not simply a technocratic exercise that is shaped by the technical design of programmes. Rather, much also depends on the role of politics and political processes that shape the actual implementation of such programmes. The term ‘politics’ is used here to refer to “all the processes of conflict, co-operation and negotiation in taking decisions about how resources are to be owned, used, produced and distributed” (Leftwich, 2009: 13).

The paper proceeds as follows. Section 2 presents the methodology of the paper. Section 3 highlights the rhetoric of the GSFP in terms of its aim of targeting the poorest, before turning to discuss the actual distributional patterns of GSFP expenditures in Section 4. Section 5 explores the underlying political factors that explain the observed ‘targeting errors’ faced by the programme, before drawing conclusions in Section 6.

METHODOLOGY

The paper employed a mixed methods research approach, combining a spatial analysis of quantitative expenditure data on the Ghana School Feeding Programme (GSFP) with a qualitative inquiry into the underlying political drivers of the observed patterns of expenditure allocation. Expenditure data on the GSFP was obtained from the programme’s secretariat in Accra. The qualitative aspect of the paper is based on a combination of documentary analysis (primarily parliamentary hansards) with interviews conducted with officials at the GSFP secretariat, the Ministry of Local Government and Rural Development, as well as NGO representatives.

THE GHANA SCHOOL FEEDING PROGRAM (GSFP): A BRIEF CONTEXT

The GSFP was launched in 2005 with the long-term goal of contributing to poverty reduction and food security in Ghana. Designed as part of Ghana’s efforts towards the MDGs on hunger, poverty and universal primary education, the programme aims to provide children in public primary schools with one balanced meal per each school attendance using locally-grown foodstuffs. It is envisaged that these meals will improve the nutritional status among children, while the demand for home-grown food is expected to provide a ready market for food crop farmers – the poorest economic group in Ghana. With this approach, the GSFP seeks to: i) reduce hunger and malnutrition; ii) increase school enrolment, attendance and retention; and iii) boost domestic food production (GoG, 2006:21).
With its primary concern of enhancing the livelihoods of the poorest, the GSFP was explicitly designed to target the ‘Hunger hotspots’ in Ghana, much of which happen to be located in the poorer northern regions of the country. Indeed, the programme was designed to specifically target “the most deprived districts/communities and the poor” (GoG, 2006:20). Thus, the selection of beneficiary districts was to be guided by a number of poverty-oriented criteria, including the poverty status of regions and districts across the country, as well as school enrolment, attendance, drop-out and literacy rates (GoG, 2006:19-20). The crucial questions, therefore, are whether and to what extent have these selection criteria been upheld in the actual distribution of GSFP schools? What role did politics play in shaping the actual distributional pattern of GSFP beneficiary schools and funding allocations?

THE GSFP AND THE EXCLUSION OF THE POOREST

Despite clear-cut poverty-oriented criteria for the selection of beneficiary districts, it is surprising to note that actual implementation of the GSFP showed a distinct deviation from the original plan of reaching the poorest. To increase school enrolment (the first immediate GSFP objective), one would expect areas with the lowest enrolment and literacy rates to be a crucial target. And to contribute to poverty reduction and food security (GSFP’s long-term goal) through a reduction of hunger and malnutrition (the second immediate objective), areas where poverty and food insecurity challenges are most prevalent would seem a priority. However, a comparison of these targets with the actual distribution of GSFP schools and beneficiary pupil shows the completely opposite picture, whereby the allocation of covered schools and pupils tended to exclude the poorest. For example, of some 991 GSFP beneficiary schools in the 2006/07 academic year, the two poorer Upper regions had 18 schools each (or 1.8%), compared to well over 200 schools each for the Greater Accra and Ashanti regions where primary school enrolment rates are nearly universal (Table 1).
Table 1: Selected socio-economic indicators and GSFP allocations (%)

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<td>Ashanti</td>
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<td>B. Ahafo</td>
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<td>Central</td>
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<td>Eastern</td>
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<td>Volta</td>
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<td>Western</td>
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<td>U/East</td>
<td>70.5</td>
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<td>U/West</td>
<td>87.9</td>
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<td>National</td>
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A similar pattern is evident in the distribution of GSFP expenditures. Over the period 2005-2008, the Ashanti received the highest amount of GSFP spending (28%) compared to a mere 1% for the poorest Upper West (Figure 1). Among the seven administrative regions in southern Ghana, the Volta Region was the most marginalised in GSFP allocations, performing as poorly as the three northern regions (Figure 1).
Importantly, although one of the core objectives of the programme was to reduce hunger and extreme poverty (GoG, 2006:17), a comparison of the regional disbursements of GSFP expenditures to the regional distribution of the ‘extreme poor’ – defined within the Ghanaian context as “those whose standard of living is insufficient to meet their basic nutritional requirements even if they devoted their entire consumption budget to food” (Ghana Statistical Service, 2000:10) – shows that the areas where food insecurity and levels of extreme poverty are high have rather been those with the least GSFP expenditures. Illustratively, although the two Upper regions are the areas with the greatest food security challenges (Ghana Statistical Service, 2003) as well as those with the highest incidences of extreme poverty (Ghana Statistical Service, 2007), the cumulative GSFP expenditures of these regions amounted to less than 4% during 2005-2008. This compares unfavourably to the whopping 21% allocated to Brong Ahafo which has only 5.4% of its households having difficulties in meeting their basic food requirements (Figure 5.9). In essence, contrary to its stated objectives, it has rather been the areas with the poorest, most hungry pupils that tend to be excluded by the GSFP.
Thus, if anything at all, the GSFP can only be said to have served as a tool for further marginalizing the relatively deprived Northern regions (but also Volta), where the poor are also poorer (World Bank, 2011). This skewed distribution of GSFP spending and the resultant marginalization of the poorer regions remains evident even when analysed in per capita terms. For example, whereas Ashanti and Greater Accra accounted for 17.1% and 8.7% of total enrolment in public primary schools respectively in 2007/2008, their respective shares of GSFP allocations were 27% and 18.8%. Similarly, in 2008, total primary enrolment in Brong Ahafo exceeded that of the Northern region by 7 percentage points, and yet the former’s share of total GSFP allocations was in excess that of the latter by a whopping 23 percentage points. Relative to their enrolment rates, all the other regions received a less than proportionate share of GSFP allocations, with the Volta and three northern regions experiencing the largest shortfalls (Figure 3). Thus, even going by the share of each region’s contribution to national enrolment figures, the data shows that the more deprived regions were clearly short-changed.
Similarly, during the 2007/2008 academic year, Greater Accra accounted for only 5.9% of the total number of public primary schools, but had about 18.4% of its schools covered by the feeding programme. This contrasts sharply with the situation of the Northern Region which had a much higher percentage of public primary schools (13.6%) than Accra, but had a very limited share (4.4%) of its schools benefiting from the GSFP. Moreover, based on the principle of equity, the Ashanti and Brong Ahafo Regions should have had 15.9% and 11.6% of the total number of schools covered by the programme respectively, instead of the 25.6% (Ashanti) and 21.5% (Brong Ahafo) that they had. These findings challenge official government explanations that the relatively few number of GSFP schools in the poorer northern regions is mainly due to the overwhelming concentration of public primary schools and higher school enrolment rates in the South (See Ghana Parliamentary Debates Official Report, 4th June 2008, Fourth Series, Vol. 59, No.10, Col. 350 and 355).

Although other official explanations explained these distributional patterns by making reference to the existence of other feeding programmes in the North, evidence elsewhee suggests that such explanations cannot be sustained (Abdulai, 2012).

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16 Although other official explanations explained these distributional patterns by making reference to the existence of other feeding programmes by the CSR and World Food Programme in the North, evidence elsewhere suggests that such explanations cannot be sustained (Abdulai, 2012).
THE GSFP AND THE EXCLUSION OF THE POOREST: A POLITICAL INTERPRETATION

In a review of school feeding programmes (SFPs) in developing countries, Del Rosso (1999:11) observed that “since SFPs are highly visible and can offer a significant income transfer to families they will always be inherently political”. This section offers a political explanation to the marginalization of the poorer regions in the GSFP. It highlights three main factors for understanding the anti-poor distributional patterns of GSFP resources: ideas about state legitimacy and the maintenance of political power; the prevalence of pork-barrel politics; and unequal power relations among regional elites.

Between electoral calculus and ideas about state legitimacy

Research on the politics of poverty and inequality in Africa has pointed to the tendency of ruling elites to allocate public resources equally among regions irrespective of varied levels of need. In the context of Tanzania, Therkildsen (2008: 15) notes, for example, that recent programmes that in the past would have been pilot tested in poorer regions “are now started countrywide from the outset”, in view of growing fear among ruling elites that pilot testing development projects in specific regions may be interpreted by voters as demonstrative of “an unequal treatment of regions”. In the specific Ghanaian context, recent research suggests that such forms of elite bias towards national coverage are driven by a variety of factors, including ideas about state legitimacy through broad-based service provision, concerns for national unity, and the desire to reach out to as many potential voters as possible in order to win and maintain political power (Abdulai, 2012).

Findings here show that such ideas were at play in shaping the distributional patterns of the feeding programme. When the GoG developed the idea of the GSFP, it would seem that it had the twin objectives of reducing regional inequality as well as enhancing the political legitimacy of the ruling party. These competing objectives, along with ideas about national unity, would seem to have led to significant contradictions regarding the implementation arrangements of the programme. On the one hand, although it was designed to focus on the most deprived districts and the poor, it was on the other, supposed to be a national programme that was to cover every single administrative district in Ghana (GoG, 2006: ii). Importantly, official government data in Ghana point to significant disparities in the incidence of poverty among districts, varying from a mere 8% in the Accra Metropolis (Greater Accra region) to over 95% of the population in 6 administrative districts, all located in Northern Ghana (see National Development Planning Commission, 2005:76-77). This raises the question of how a programme designed to target ‘most deprived districts’ and ‘hunger hotspots’ be implemented in all administrative districts, when not every district could be considered as deprived or food insecure?

This contradiction arose mainly from ruling elites’ concerns for national unity and what they deem politically sensible in winning elections on the one hand, and what they deem desirable in overcoming the problem of spatial inequalities in access to basic services on the other. While political leaders apparently recognise the significance of spatially-sensitive interventions for equitable development, the implementation of such interventions
tend to be distracted by: 1) concerns for national unity which requires the avoidance of explicitly excluding any part of the country from the distribution of the ‘national cake’; as well as 2) politicians’ sensitivity to the logic of electoral politics which requires that visible symbols of development largesse be spread as thinly as possible to cover the widest spectrum of voters before the next election.

These ideas had important implications in the manner in which GSFP schools were planned to be distributed. Implementation of the programme started in late 2005 with 10 primary schools drawn from each of the 10 administrative regions (i.e. one school per region). After piloting the programme for about half a year, a first up-scaling was undertaken in June 2006 by extending it to 2 schools each per district. With additional funding from the Dutch government, a major up-scaling took place towards the end of the 2005/6 academic year, when the programme’s National Secretariat decided on yet another equal distribution criterion of five (5) schools per district. This implies that contrary to the pro-poor orientation of the GSFP, at no point in time was a conscious effort made to ensure the concentration of the programme to poorer localities. Rather, the dominant idea had always been to distribute GSFP schools equally to the regions in ways that rendered the programme less effective as a social safety mechanism for the poorest.  This argument does not seek to depict universal social protection programmes as inherently inequitable, but to emphasise the point that “such policies may fail to achieve truly universal outcomes if they rely too heavily on methods that do not take into account the additional challenges faced in spatial poverty traps” (Higgins et al., 2010:20).

Pork barrel politics: the GSFP as a pay-back period?

There is evidence to attribute the GSFP’s marginalization of the poorer regions to the clientelist character of politics in most developing countries. Although implementation of the programme started with equal distribution criteria across regions, strong political incentives soon came into play. One GSFP official explained that shortly after implementation started, there developed a strong a feeling within government cycles that:

“Even if you send them [GSFP schools] to certain areas, they will still not vote for you. So why not just limit it somewhere? So if you were not in the good books of the then administration, don’t expect to get. It was like a pay-back period”.

This seem to explain why the then ruling NPP’s vote bank, namely the Ashanti region, was also the highest recipient of GSFP expenditures, accounting for 28% and 29% of GSFP spending in 2007 and 2008 respectively (Figure 2). Although Brong Ahafo, one of the most favoured GSFP regions, is more of a swing region rather than an NPP electoral strong hold, a crucial parliamentary by-election was at stake in the Nkoranza district in the region, and the available evidence shows that the significantly large amount of GSFP expenditures in Brong Ahafo were specifically channelled to this district. Indeed, the Nkoranza district experienced a sharp rise in the number of schools benefiting from the GSFP in the months preceding the election, as ruling political elites increasingly lobbied GSFP officials to expand the programme in the area. One senior GSFP official explained:
“They [politicians] used to lobby us a lot. If there is a by-election from any district, be rest assured that that district that time will get all the schools” (Interview, 4/07/11).

Unsurprisingly, by mid-2007, the Nkoranza district alone had 30 GSFP schools, compared with only 32 schools spread across the 18 districts in the Volta region. The number of GSFP beneficiary schools in Nkoranza also compared very favourably with those of the three Northern regions – all the main opposition NDC’s electoral strongholds. This seems to confirm the conscious use of the programme as a carrot and stick instrument for electoral purposes. The ‘political targeting’ of the programme was somewhat facilitated by important positions occupied by key ruling party activists within its implementation structures. One senior civil servant responsible for coordinating the programme at the Local Government Ministry explained its poorly targeted outcomes to government’s appointment of prominent NPP politicians to crucial positions within the implementation structures of the programme. Thus, when asked of the main political drivers of the skewed patterns of GSFP expenditures, this respondent reluctantly commented: “Yeah, but it was political heads who were in charge. So that is what brought about the wrong targeting” (Interview, 27/07/11). Asking rhetorically as to whether any political appointee could have been expected to behave differently, the remark was that: “definitely you would want to take it to your community, why not? So that is what brought the wrong targeting” (Ibid).

Official data along with interviews with GSFP officials confirm that much of the poor targeting occurred under the leadership of Dr. Amoaku Tuffuor, the first Executive Chairman of the programme. Dr. Tufuour is a Founding Member of the NPP who also served as the Chief Advisor to the Vice President during the time of his leadership role in the GSFP. The appointment of such a trusted party stalwart opened up the programme to political abuses, not least as it provided grounds for more politically-connected regions to exploit their networks within the ruling coalition in attracting more schools to their constituencies. That this resulted in short-changing the regions with weaker political connections to the ruling party such as Volta and the three Northern regions (see Abdulai, 2012) helps illustrate how a region’s proximity to centres of political power can play a critical role in shaping its development prospects.

The GSFP also faced the general problem regarding the politics of (de)centralisation in much of sub-Saharan Africa, whereby decentralised structures are used by governing elites to building clientelist networks at the local level in ways that undermine inclusive development outcomes (e.g. Crook, 2003). Although in theory, the selection of GSFP schools was a collective responsibility of a District Implementation Committee (DIC) at the local level, in reality, the politically powerful DCE (see Chapter 4) enjoys extensive agenda-setting powers in this process, enabling the use of the programme for building clientelistic power bases at the local level. One NGO monitoring report revealed that in about 30% of districts visited, the selection of GSFP schools was the exclusive reserve of

17 For details on this district-level data, see the Finance Ministry’s website: http://www.mofep.gov.gh/documents/school%20feeding%207.pdf [Accessed 30.01.12]
the DCE, while “other major stakeholders...were conspicuously sidelined” (SEND-Foundation, 2008:15). Indeed, even when consultations with other members of the DIC were undertaken in the school selection process, more recent evidence suggests that:

“the final decisions [still] remained with the District Chief Executive and key district officers. This often resulted in selection based on attempting to balance political constituency demands which could override the initial selection carried out by the technical departments such as education” (WFP, 2010:36).

Together, these observations highlight the power of the political over the technical dimensions of policy implementation in Ghana.

Unequal power relations amongst regional elites

A closely related factor that explains the inequitable distribution of GSPF spending relates to unequal power relations among regional political elites in terms of lobbying for GSPF resources for their constituents. Apparently driven by the visibility of the programme and the potential political capital associated with it, regional and local level politicians (notably MPs and District Chief Executives), engaged in lobbying GSPF officials to attract more schools to their constituents:

“When we started the programme, it was fantastic; one region, one school. ...All of a sudden we were beginning to experience pressures across board. So instead of continuing with that pattern, it just dropped” (Interview, GSPF Official, 4/11/11).

Explaining how these ‘pressures’ occurred, this interviewee noted that “mostly, it was the case where DCEs and some Ministers or MPs will just come here with some lists for us to input” (ibid), or at times with caterers visiting the Programme’s Secretariat with a list of schools accompanied by introductory letters from influential political figures (ibid). Such pressures on GSPF officials would seem to have increased in the period leading to the December 2008 elections. In September 2008, one newspaper article captioned, ‘Politicians take over school feeding’, highlighted the ways in extent to which “politicians ... engaged in serious lobbying to get schools in their districts and constituencies to be selected for the programme” and how this in turn contributed to “forcing the GSFP to set aside its distribution formula for the selection of schools” (Public Agenda, 15 September 2008).

In the context of these political lobbies, the paramount consideration for spreading the benefits of the programme was no longer the equal distribution criteria with which implementation started, nor was it the poverty-oriented criteria spelt out in the programme document. Rather, it was essentially the differential political power among regional elites in lobbying GSPF officials and the strength of one’s political networks within the ruling coalition more generally. With core and influential party faithful better positioned to use their political networks in attracting more schools to their constituencies, the GSPF, it would seem, was effectively reduced into a tool for excluding regions that had the weakest access to political power within the NPP governing coalition, and where the ruling party was less present in terms of parliamentary representation. It does not appear to be coincidental, therefore, that the four electoral strongholds of the then opposition NDC (i.e. the three Northern and Volta regions) – which also happened to have been among the
least represented in the NPP governing coalition — were also those that consistently attracted the least GSFP schools and funds during the period under discussion.

With the above evidence, it is of little surprise that the Dutch Government which had earlier pledged to support the GSFP at an annual budget of about 11 million Euros for 4 years (2007-2011) had by 2008 withdrawn its support for it on grounds that:

"The implementation of the programme is excessively Politicised. The role of the national secretariat is not always clear and the rationale for decisions is rarely explained. ... Many decisions affecting implementation, such as school selection...are not made transparently" (SNV, 2007:3, original emphasis).

CONCLUSIONS AND POLICY IMPLICATIONS

Through a case study of the Ghana School Feeding Programme (GSFP), this paper has demonstrated the centrality of politics in shaping the impact of social protection on the reduction of poverty and vulnerability among the poorest in Ghana. Although designed to officially target ‘hunger hotspots’ or “the most deprived districts/communities and the poor” (GoG, 2006:20), the empirical evidence shows that it has rather been the areas with most hungry, food-insecure populations that have benefited least from the distribution of GSFP schools and expenditures. These apparent ‘targeting errors’ have little to do with techno-economic factors such as inappropriate design and targeting mechanisms, and more to do with a combination various incentives facing dominant political elites and programme implementers.

Thus, contrary to much of what extant literature on social protection programmes suggests, the effectiveness of targeted programmes in redressing the vulnerability of the poorest is not simply about getting the technical dimensions of policies right, but is more importantly about “getting the politics right” (Nino-Zarazua et al, 2012).

Given Ghana’s reputation as one of Africa’s most successful democracies, our findings also do offer some important lessons for international development practitioners, as well as raise fundamental questions about mainstream thinking on the politics of development more broadly. For example, these findings challenge recent arguments that “democratic politics has driven successive administrations to take serious measures to address inequalities” in Ghana (Gyimah-Boadi, 2009:11). While the rhetoric of redressing inequalities and vulnerability may have increased alongside the growing competitiveness of multiparty elections in Ghana, it is evident that the same cannot be said of the actual implementation. One reason is that the logic of winning elections compels political elites to allocating resources in ways that undermine the effective implementation of pro-poor and equitable development policies. From the policy perspective, these observations add some weight to the growing calls on mainstream development practitioners to shelve their ideological bias towards liberal democratic modes of governance, and to refocus attention on deeper forms of politics that shape policy outcomes in poor countries. Notably, there is need for mainstream development practitioners to refocus attention on understanding the
relationships, interests and incentives that underpin the functioning of state institutions instead of prioritising reform of formal institutions themselves (Centre for the Future State, 2010).

REFERENCES


Track F3:
Climate Change and Sustainable Development
Climate Change and Business Education in Ghana: A Study of the University of Ghana Business School

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ABSTRACT

In recent times it is no longer a secret or contested fact that the effects of climate change have the potential to impact negatively on ecosystems, water resources, human health, agriculture, infrastructure, energy production and, sustainable business. In a similar vein it is increasingly becoming a widespread acceptable fact that the integration of climate change in business education has a significant potential to facilitate sustainable business activities by educating future business leaders on the strategies to adopt in order to effectively and efficiently mitigate and adapt to the effects of climate change. Generally the aim of this study is to promote the integration of climate change in business education in Ghana. The study sought to achieve this aim by first determining whether University of Ghana Business School undergraduate students have a fair knowledge of climate change issues, secondly whether climate change is being taught at the undergraduate level either as a course or as part of a course and, thirdly to examine the perceptions of undergraduate students about whether the idea of integrating climate change in business education is relevant. A cross-sectional survey method of the quantitative approach was adopted to conduct the study involving 515 undergraduate students of the University of Ghana Business School. The findings indicate that most of the respondents have a fair idea as to what climate change is even though the findings revealed that climate change has not been formally integrated into the curriculum of their programmes. Furthermore the findings indicate that most of the respondents perceive the integration of climate change into business education to be very relevant. In conclusion the study recommends further research on climate change and business education and the promotion of integrating climate change in business education in Ghana.

Keywords: Climate Change, Education, Business Schools, Ghana

INTRODUCTION

Climate change is an environmental condition that has destructive effects on businesses and economies as a whole; it is the monster lurking on streets that so badly desires to suck the life out of humans and the things that make life meaningful to if not held captive. The impact of climate change is well documented such that it can be described as a reality that
affects all aspects of human life (Brown and Funk, 2008; Kinney, 2008; Mann, 2009; Reuveny and Moore, 2009; Tang, Petrie and Rao, 2009; Donohoe, 2010; Lin, 2010). However, all hope is not lost yet; according to Anderson (2012) education has the potential to develop climate conscious managers and employees who can ensure the sustainability of the environment through the adoption of effective mitigation and adaptation measures.

Sadly however, it can be observed that in Ghana there is very little or no research on how business leaders can effectively handle climate change concerns and, the role of business schools in educating future business leaders to combat it. This revelation coupled with the fact that Ghana’s economy is at the brink of being industrialized due to its current transition from a lower income status to a middle income status sparks the fear that Ghana is highly likely to experience worse climate change effects if adequate mitigation and adaptation measures are not taken by business leaders especially in the mining industry. In an attempt to correct this worrying trend the University of Ghana recently introduced a new multidisciplinary graduate course in climate change. This course is designed to equip graduate students with the necessary knowledge, skills and, abilities to take good business decisions that will ensure sustainable business practices. Even though this is a good attempt in the right direction it can described as inadequate.

Therefore this study aims to promote the integration of climate change in business education in Ghana. The specific objectives of the study are to first determine whether University of Ghana Business School undergraduate students have a fair knowledge of climate change issues, secondly whether climate change is been taught at the undergraduate level either as a course or as part of a course and, thirdly to examine the perceptions of undergraduate students about whether the idea of integrating climate change in business education is relevant.

LITERATURE REVIEW

Climate Change and Businesses
Climate change is a phenomenon that has elicited different definitions based on what is believed to cause it. According to the Inter-governmental Panel on Climate Change (IPCC) (2007) the concept is seen as a change in the state of the climate that can be identified (using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. The United Nations Framework Convention on Climate change (1992) similarly views climate change as an alteration in the composition of the atmosphere over a period of time, caused directly or indirectly by human activities. These definitions establish that climate change is an obvious scientifically established change in climatic conditions over a period of time attributable to natural and human causes. According to Polivka et al. (2012) the natural causes of climate change have been identified as the earth’s orbital changes, the sun’s output, volcanic eruptions and, continental drift. While, Frumkin et al. (2008) and the Intergovernmental Panel on Climate Change (IPCC) (2007) argue that the human causes of climate change consist of the release of greenhouse gases through burning fossils, land alterations through processes such as deforestation, desertification, agriculture, urbanization and, industrial
The elements of greenhouse gasses include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and chlorofluorocarbons (CFCs) (University of Michigan, 2008).

The effects of climate change can be experienced in a number of ways with varying degrees of intensity. Some of the most common ways climate change is being experienced are warmer surface temperatures, changing rainfall patterns, increased incidence of droughts, rising sea levels, increased tropical cyclones and, flooding. These effects have the potential to impact negatively on ecosystems, water resources, human health, agriculture, infrastructure, energy production and, sustainable business. In the area of human health for example, increase in the spread of infectious diseases, environment-related health afflictions and, malnutrition are the evidence of the negative impact of climate change (Mann, 2009). In the area of crop and animal production, the negative impact of climate change is evident in the current reduction in crop productivity and food scarcity. Another sector which is equally affected by climate change is the energy industry. The drying up of most water bodies has reportedly led to a reduction in the production of energy in most countries across the globe (Mann, 2009). The International Energy Agency (IEA) (2008) reported that, “current global trends in energy supply and consumption are patently unsustainable - environmentally, economically, socially”. It continued to state that, “a rapid transformation to a low carbon, efficient and environmentally benign energy supply”, because “what is needed is nothing short of an energy revolution”. Wilbanks (2007), states that infrastructure can be destroyed by the effects of climate change such as hailstorms, tornados and tropical cyclones, flooding, melting of permafrost, the increased incidence of rock avalanches and, rising global average sea levels.

On the issue of sustainable businesses, Maarten et al. (2007); Hayhoe et al. (2010); Karen et al. (2010); Nelson and Schuchard (2011); Streletskiy et al. (2012); Solterra Solutions (2012); and the International Centre for Integrated Mountain Development (2013); noted that the negative impact climate change has on businesses is tremendous and expensive. These occur through the physical destruction of businesses, increased cost of operational expenditure such as spending more on energy to either cool or heat offices in cases of extreme weather, unhealthy human resource, high health insurance and healthcare costs (Brown and Funk, 2008; Reuveny and Moore, 2009; Tang et al., 2009; Paul, et al., 2009; Hayhoe et al., 2010; Donohoe, 2010; Lin, 2010; and Karen et al., 2010). Furthermore, Dell et al. (2009) after a cross-sectional study of 134 countries revealed that a degree Celsius rise in temperature led to a reduction in GDP of 8.9 percentage points.

Nevertheless, climate change can be combated through mitigation and adaptation efforts. Adaptation can be defined as “adjustment in natural or human systems to a new or changing environment that exploits beneficial opportunities or moderates negative effects” (NRC, 2010). Adaptation efforts include building sea defenses, increasing production of crops during good seasons (Mann, 2009)and, opting for insurance cover against the harmful and unpredictable weather, for instance smallholder crop farmers in East Africa are reportedly seeking insurance cover against bad yield (Maarten et al., 2007; Kousky and Cooke, 2009; Solterra Solutions, 2012). Mitigation efforts on the other hand include decreasing greenhouse gas emissions, altering individual and personal lifestyles such as using fluorescent light bulbs, altering transportation patterns and rewarding employees to
conserve energy (Mann, 2009). Simply stating climate change mitigation is defined as an intervention to reduce the causes of changes in climate, such as through reducing emissions of greenhouse gases to the atmosphere (NRC, 2010). A much more interesting and pragmatic effort at mitigating climate change is that proposed by Angel (2006). Angel (2006) calls for the development of solar shields in space to reflect sunlight away from the earth.

**Climate Change and Business Education**

The educational environment has been found to be an untapped field for the control of climate change (Anderson, 2012). The social responsibility of higher institutions of education requires that they assume a leadership role in developing, testing and modeling solutions for addressing human concerns in the wake of rapid global change that threatens the proper functioning of present systems through research and education (American College & University Presidents’ Climate Commitment, 2012). Updates to the curricula of all fields of education can help equip students with adequate knowledge, skills, abilities and resources to make informed decisions in relation to climate change mitigation and adaptation.

A growing number of people are becoming increasingly critical about the issue of educating business students on climate change, because the lack of it can have serious implications for businesses, environmental and sustainability activities. For instance is in 2004, a survey of Fortune 500 Chief Executive Officers (CEOs) revealed that although 90% of them consider sustainable development as important, only 30% of them felt equipped in terms of the required skills, personnel and information to address the challenges (Weeks, 2004). This is why Accenture’s 2008 report of the 39% of 504 CEOs who consider climate change as a new business opportunity; carries a lot of weight (Accenture, 2008). As a result of these reasons and more the teaching and learning of climate change in business schools cannot be over emphasized. Manuel Escudero, the former head of the United Nations’ Principles for Responsible Management Education (PRME), is reported to have argued that most responsible businesses currently no longer consider short-term profit maximization the only goal of the company but also sustainability of the company itself over time; and sustainability of society and the environment. He also argued that the general focus of PRME is to modify business education in the light of changing ideas about corporate citizenship, corporate social responsibility, and sustainability (Alcaraz, and Thiruvattal, 2010).

The UN Secretary General, Ban Ki-moon stated that business schools have the capability to significantly ensure that tomorrow’s business leaders are able to demystify what responsible business means and how it can favourably impact both the company’s bottom line and the society in which it operates through the incorporation of climate change issues in business education (Bisoux, 2008). Through education, business schools can facilitate the decision-making capability of tomorrow’s business leaders by shaping the skills, and competence of business students to a desired state. Through research, they can develop means and frameworks for responsible business practices. Last, academia can influence public opinion about the critical importance of responsible business behavior to master environmental, social, and governance challenges. Again, Ban Ki-moon stated that, business
success does not rely on financial success as an isolated ideal and for that matter consideration should also be given to environmental and social issues (Bisoux, 2008).

Thus, one would agree with Marilyn Gist when she says that, students who received education in sustainable management have a higher probability to be more conscious of the social responsibility of businesses as well as the consequences of their actions and or business decisions (Bisoux, 2008). This according to Cooperrider, (2008) shall make students impulsively change their focus from the question “What do we want?” to ‘How do we do it?’ and ‘How do we turn the social and global issues of our day into bona fide business opportunities?’ It is therefore not surprising that, the Republic of Kenya after a study into the issue of ‘Integrating Climate Change in Education System’ concluded that climate change cut across all sectors of the economy and as such, climate change should be integrated into the various courses taught at universities in Kenya (Republic of Kenya, 2012).

RESEARCH METHODOLOGY

The cross-sectional survey method of data collection and analysis was adopted as the quantitative approach to research for this study. The choice of the quantitative approach to research was informed by the fact that it is the most suitable for the study’s research questions. For example questions such as “To what extent does climate change affect the environment?” “To what degree does business activities have an impact on climate change?” can only be suitably answered by a quantitative method. According to Moody (2002) “the selection of an appropriate research method is critical to the success of any research project, and must be driven by the research question and the state of knowledge in the area being studied”. The instrument for data collection was a questionnaire that consisted mostly of closed ended and, few open ended questions. The questionnaire was designed under three themes; demographic characteristics, climate change awareness and, perceptions about the relevance and level of integration of climate change into the curriculum of courses taught in the University of Ghana Business School. A total sample size of 515 respondents was randomly selected out of a total population of 1,873 undergraduate students in the University of Ghana Business School. The University of Ghana Business School is the sole faculty in University of Ghana that offers undergraduate and graduate level courses in business management and public administration. The areas available for specialization in level 300 are of accounting, finance, public administration, health services management, and marketing, insurance, and human resource management.

PRESENTATION OF FINDINGS

A total of 515 respondents with a mean age of 22 participated in the study. The respondents comprised of level 100 and 200 students (44.3%) categorized as non-specialized students, and level 300 students (29.1%) and level 400 students (26.6%) categorized as specialized students. Refer to Table1.
### Knowledge on Climate Change

#### Table 1: Descriptive Statistics on Knowledge of Climate Change

<table>
<thead>
<tr>
<th>Description of Variables</th>
<th>Frequency (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category of Respondents</strong></td>
<td></td>
</tr>
<tr>
<td>Level 100 &amp; 200</td>
<td>228 (44.3%)</td>
</tr>
<tr>
<td>L300</td>
<td>150 (29.1%)</td>
</tr>
<tr>
<td>L400</td>
<td>137 (26.6%)</td>
</tr>
<tr>
<td><strong>Mean Age</strong></td>
<td>22 years</td>
</tr>
<tr>
<td><strong>Heard Of Climate Change (CC)</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>498 (96.7%)</td>
</tr>
<tr>
<td>No</td>
<td>17 (3.3%)</td>
</tr>
<tr>
<td><strong>Source of Information on CC</strong></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>428 (83.1%)</td>
</tr>
<tr>
<td>Radio</td>
<td>353 (68.5%)</td>
</tr>
<tr>
<td>Internet</td>
<td>302 (58.6%)</td>
</tr>
<tr>
<td>Newspaper</td>
<td>290 (56.5%)</td>
</tr>
<tr>
<td>University Class</td>
<td>178 (34.6%)</td>
</tr>
<tr>
<td>Friends and Family</td>
<td>139 (27%)</td>
</tr>
<tr>
<td>Others (Workshops, Forums, JHS, SHS, Primary School)</td>
<td>24 (4.7%)</td>
</tr>
<tr>
<td><strong>Causes of Climate Change</strong></td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td>435 (84.5%)</td>
</tr>
<tr>
<td>Human</td>
<td>2 (0.4%)</td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
<tr>
<td><strong>Effect of Climate Change</strong></td>
<td>341 (66.2%)</td>
</tr>
<tr>
<td>Ecosystem</td>
<td>327 (63.5%)</td>
</tr>
<tr>
<td>Plants</td>
<td>303 (58.8%)</td>
</tr>
<tr>
<td>Water Resources</td>
<td>293 (56.9%)</td>
</tr>
<tr>
<td>Animals</td>
<td>292 (56.7%)</td>
</tr>
<tr>
<td>Health</td>
<td></td>
</tr>
<tr>
<td><strong>Personal Evidence of CC</strong></td>
<td></td>
</tr>
<tr>
<td>Increased Temperature</td>
<td>137 (26.6%)</td>
</tr>
<tr>
<td>Change in Weather Pattern</td>
<td></td>
</tr>
<tr>
<td><strong>Relevance of CC education to Business Studies</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>359 (69.7%)</td>
</tr>
<tr>
<td>No</td>
<td>132 (25.6%)</td>
</tr>
<tr>
<td>No Response</td>
<td>24 (4.7%)</td>
</tr>
</tbody>
</table>

Source: Field Data, 2014  
Note that respondents were permitted to choose multiple variables in some instances.

The findings indicate that a significant percentage of respondents (97%) possess a fair level of knowledge on climate change issues. The mediums through which they claimed they were educated on climate change (in order of most chosen) include television, radio, the internet, newspaper sources and the university classroom. See Table 1. Other sources of information are workshops, Senior High, Junior High as well as primary school. While almost all the respondents were of the opinion that, climate change is caused by natural

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19 Selected Sources (Most Significant); others include Library (10.5%), Environmental Groups (20.4%), Academic Journals (19.4%) and Government Agency (9.9%)
20 Selected Effects – Others include; National Development (30.7%), Mining (19%) and others (coastal erosion, food availability, humans, 1.6%)
21 Selected Personal Evidence. Others include High Humidity (0.3%), Low Humidity (1.2%) Increased Rainfall (2.3%) Reduced Rainfall (11.7%), No response (22.3%)
and human factors it was observed that, 27% more respondents stated that human factors are more responsible. Rising temperatures, change in rainfall pattern, rising sea levels, melting glaciers, change in fruit seasons, desertification and increases in intense tropical cyclones were indicated by respondents as the effects of climate change. Moreover, the respondents generally perceive that the ecosystem and mining are the most and least affected by climate change respectively.

**Climate Change and Business Education in Practice**

Table 1 states that approximately 70% consider climate change to be relevant to business studies and 25.6% considered it irrelevant. The results of the Chi-Square analysis performed to establish the relationship between the academic level of each individual respondent and his/her perceived relevance of climate change in business education indicates that the respondent’s sense of judgment was not influenced by whether they are in level 100, 200, 300, or 400. Binomial test of proportions was also ran to test for the significance of the respondents who acknowledge the relevance of climate change in business against those who did not acknowledge the relevance of climate change on business studies. Using a 5% significance level the results confirms that indeed a significant proportion of respondents perceive climate change to be relevant in business education; the majority opinion was 73% and the minority opinion was 27%. That shows that those who recognized that climate change is relevant in business studies are significantly higher than those who did not. These tests are an indication that respondents consider climate change issues as being very important in business studies. Reasons cited to support the position that climate change is relevant in business studies are: it affect businesses, it is a global environmental issue, creates knowledge and awareness, leads to behavioural change, and creation of business opportunity.

**Affect Businesses**

Approximately 12.4% of respondents attributed the relevance of integrating climate change in business education to the effect climate change has on businesses and vice versa. Respondents who belong to this school of thought were of the view that climate change has the likelihood to influence the decisions of most business leaders. They advanced the opinion that discussing climate change issues in business studies will prepare students for the job market as well as enable them to make better decisions when they become managers. For instance a respondent stated that:

“Climate change discussions in business studies will help in managerial decision making.” Similarly, another respondent reported that:

“Knowledge in climate change will equip students for the world of business’ and another stated ‘business leaders play critical roles in decisions which may affect the environment.”

**Global Environmental Issue**

Some respondents perceived that including climate change issues in business studies is relevant because it has become a global environmental issue. Holders of this opinion constituted approximately 7.4% of the respondents. A respondent expressed that:
“Climate change is now a worldwide change that can affect our world and our environment”.

**Creation of Knowledge and Awareness**

Majority of the respondents believed that discussion of climate change issues was relevant in business studies because it provides a platform for the acquisition of knowledge. Approximately 36% of respondents were of the opinion that climate change discussions will educate business students and thus increase their awareness of its effect on businesses. The popular reasons expressed in favour of this position are:

- to be abreast with climate issues,
- to get clear understanding of climate change issues and opportunities and
- to get students more informed about the subject and what it entails

These respondents stated that they appreciate the knowledge gained on climate change issues incorporated in courses being taught by their lecturers in the Business School. The courses listed are microfinance, managerial economics, principles of marketing, corporate social responsibility, human behaviour in organizations, human resource management, environmental management, export management, public administration, contemporary issues in public health, and risk management. The respondents added that they also acquired some amount of knowledge in the course of studying a University of Ghana Required Course (UGRC) entitled Science and Technology in Everyday Lives. The analysis revealed that, of the total number of respondents who listed various courses in which climate change was discussed, 78% of them are in level 300 and 400.

**Leads to Behavioural Change**

Other respondents constituting approximately 6% argued that the integration of climate change in business education is relevant because it has the potential to facilitate a desired change in behaviour. Responses provided to this effect include:

- knowing the practical ways of solving the problem of climate change
- avoiding human factors that cause climate change and
- enabling the preservation of the environment

**Creates Business Opportunity**

It was also observed that a minority of the respondents believed that discussion of climate change issues in business studies was important because it will help identify business opportunities. Responses put forward to express this belief included the ability of climate change in business studies to “open an opportunity for innovation” and “identify business opportunities”

**Irrelevant**

Climate change in business studies is considered irrelevant by approximately 25.6% respondents. It was observed that more of those who think it is irrelevant were specializing (levels 300 and 400). Reasons given provide some insight into why these students consider the discussion of climate change issues in business studies irrelevant. Some respondents believe it’s a scientific phenomenon and must thus be learnt by geographers and natural
scientists, whilst others consider it an extra workload on students if it should be taught. Examples of the reasons include; “not related to businesses” and “we have more than enough to study”

DISCUSSION

Knowledge on Climate Change
The respondents account of what the causes and effects of climate change are is in uniformity with the findings of Polivka et al. (2012), Frumkin et al. (2008) and, IPCC, (2007). These researchers stated that, climate change is caused by natural and human events and also mentioned the earth’s orbital changes, the sun’s output, volcanic eruptions and, continental drift as the effects it has on the environment.

Climate Change and Business Education in Practice

Affect Businesses
The reports of the 12.4% respondents who posited that climate change has devastating effects on businesses are confirmed by the findings of Maarten et al. (2007); Solterra Solutions (2012); International Centre for Integrated Mountain Development (2013); Hayhoe et al. (2010); Streletskiy et al. (2012); Nelson and Schuchard (2011); and Karen et al. (2010). Brown and Funk (2008); Reuveny and Moore (2009); Donohoe(2010); Lin(2010); Tang et al.(2009); Karen et al(2010); and, Paul, et al.(2009) for instance revealed that the effects of climate change on businesses include physical destruction of businesses, increased cost of operational expenditure such as spending more on energy to either cool or heat offices in cases of extreme weather, unhealthy human resource, high healthcare cost and, health insurance cost. Also Mann (2009) stated that the drying up of most water bodies due to climate change has reportedly led to a reduction in the production of energy in most countries across the globe.

Global Environmental Issue
The argument by respondents that climate change issues in business studies is relevant because it has become a global environmental issue is informed by a number of reports consisting of Mann (2009); Reuveny and Moore (2009); Donohoe (2010); Lin (2010); and Tang, Petrie and Rao (2009). The illustration of Mann (2009) about the effects of climate change on human health in particular lends credence to the argument of the respondents. Mann (2009) was of the view that globally human health is at a danger because the effects of climate change has led to an increase in the spread of infectious diseases, environment-related health afflictions and, malnutrition.

Creation of Knowledge and Awareness
The findings revealed that respondents are inclined that the integration of climate change in business education would equip students to effectively take sustainable business decisions. This finding is supported by the report of Bisoux (2008). “Through education, business schools can facilitate the decision-making capability of tomorrow’s business leaders
by shaping the skills and competence of business students to a desired state” says Ban Ki-moon (UN Secretary General) by Bisoux (2008).

**Leads to Behavioural Change**

The findings and literature reviewed are in agreement about the fact that the integration of climate change in business education is relevant because it has the potential to facilitate a desired change in behaviour. According to (Bisoux, 2008) Marilyn Gist stated that, students who received education in sustainable management have a higher probability to be more conscious of the social responsibility of businesses as well as the consequences of their actions and or business decisions. This is alluded to by Adams et al. (2011); Cooperrider, (2008) and, Anderson (2012) that knowledge in climate change as well as the belief in the concept of climate change will lead to behavioural changes.

**Create Business Opportunity**

Identification of business opportunities in climate change was one of the reasons given by the respondents for its integration into business education. Accenture (2008) also promoted the integration of climate change in business education because of the potential business opportunities it offers that business leaders can take advantage of. Certainly, when future business leaders are well informed about climate change they would be in a better position to effectively and efficiently take advantage of the options available to them when it comes to successfully applying their business ideas in the market. Also that would enable them to create and develop new and innovative business ideas that would provide them with the competitive advantage to satisfactorily offer timely and differentiated products and services to consumers.

**CONCLUSION**

It has been observed that 97% of respondents follow discussions on climate change issues and as such have a good idea of what climate change is and what its effects are on humans and the environment. The findings also indicate that even though climate change is not formally integrated into the curriculum of the University of Ghana Business School at the undergraduate level some efforts have been made by a number of lecturers to incorporate it in the courses they teach such as Environment Management, Public Administration, Contemporary Issues in Public Health, Risk Management, Microfinance, Managerial Economics, Corporate Social Responsibility, Human Resource Management and Principles of Marketing. Additionally the findings indicate that 70% of the respondents perceive the integration of climate change in business education to be highly relevant.

First the study recommends that the leadership of all business schools should encourage research on the impact of climate change on businesses and the impact of business activities on climate change. Such research findings can be discussed in class as part of courses to increase the consciousness of students on the effect of businesses and climate change on each other. Secondly the leadership of all business schools should encourage and promote the teaching and learning of climate change in business education. Thirdly the study recommends that the Centre for Management Research and Professional Development
(CMRPD) of the University of Ghana Business School as well as other business schools in the country should develop and run short courses on climate change and business to meet the needs of business executives who currently lack it.

The study concludes that due to the undesirable tremendous and expensive nature of the effects of climate change a conscious and well-coordinated effort should be made by governments and heads of business schools to ensure all business schools formally integrate climate change into the curriculum of all business courses instead of leaving it to the discretion of individual lecturers.

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PRE-CONFERENCE SESSION:

Doctoral Consortium

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RESEARCH BACKGROUND

Businesses have been outsourcing their information systems (IS) or information technology (IT) for years (Langfield-Smith & Smith, 2003) especially after the ‘Kodak effect’ in 1989 (Applegate & Montalegre, 1991) in a bid to exploit their core competencies and attain competitive advantage (Alborz, Seddon, & Scheepers, 2003). The advent of cloud computing in the last decade however, is changing the outsourcing landscape especially in the area of client–vendor relationships. To Hirschheim and Dibbern (2006), outsourcing involves making arrangements with an external entity for the provision of goods or services to supplement or replace internal efforts—a concept that has evolved from its beginnings as a cost-cutting tool, into an integral aspect of a firm’s overall IS strategy (Linder, 2004). Following Kern and Willcocks (2000), outsourcing means contracting out part or all of a client’s IT/IS related services to a vendor. In cloud computing context, the two basic actors in an outsourcing relationship according to NIST\(^{22}\) (Mell & Grance, 2011) are the cloud service provider (CSP) and the cloud service consumer (CSC).

Cloud computing offers users the option to choose from a pool of hardware, software, and networking infrastructure which are usually managed autonomously within an organization or externally by a vendor through the internet (Armbrust et al., 2010; Joint, Baker, & Eccles, 2009). It offers computing capabilities on a pay-per-use basis either as infrastructure, platform or a software and are delivered through the internet (Joint et al., 2009). These services can be deployed in one of four deployment models, private, public, community and hybrid clouds (Buyya, Yeo, Venugopal, Broberg, & Brandic, 2009; Mell & Grance, 2011; Weinhardt, Anandasivam, Blau, & Stosser, 2009).

The advent of cloud computing within the last decade (Marston, Li, Bandyopadhyay, Zhang, & Ghalsasi, 2011) with similar cost-cutting themes as IT/IS sourcing brings a new appeal of cost reduction and the opportunity to meet the IT demands of organisations with less IT expenditure. It is on this basis that organisations are fast looking beyond national borders to leverage on the advantages of cloud computing. SMEs in particular are increasingly adopting cloud computing to deliver their business services and products online.

\(^{22}\) National Institute of Standards and Technology (NIST) is the U.S. is the federal technology agency that works with industry to develop and apply technology, measurements, and standards.
(Repschlaeger, Erek, & Zarnekow, 2013) and also to leverage on the many advantages of flexibility, scalability, business agility, and pay-as-you-go cost structure that the cloud provides (Buyya et al., 2009; Sultan, 2011; Venters & Whitley, 2012).

Despite this advantages, SMEs are limited in financial resources and their IT adoption is often different from that of larger business with more resources (Alshamaila, Papagiannidis, & Li, 2013; Low, Chen, & Wu, 2011; Tan, Chong, Lin, & Eze, 2010). Cloud computing offers a new way of rendering IT services as a utility, with a unique approach as compared to other available computing service modalities (Sultan, 2011). The cloud has dramatically changed the way computing services are developed, deployed, scaled, updated, maintained and paid for (Marston et al., 2011). It’s the pay per use feature for instance, that makes it different from the traditional outsourcing IS/IT services, and the changes it brings have effects in traditional customer-vendor relationships in a traditional IS/IT outsourcing environment. In fact cloud computing is the latest trend to outsource some or the complete IT operations of a business to run from a public cloud to ensure highly flexible and scalable technology platform for business operations (Armbrust et al., 2010; Cattedu & Hogben, 2009).

Today, sourcing strategies are moving from traditional outsourcing arrangements to what is referred to as cloud sourcing. Cloud sourcing is a similar trend to outsourcing. Cloudsourcing is an arrangement in which a company pays a cloud provider to carry out services that could be provided in-house. With Cloudsourcing, virtually every IT requirement can be sourced on a utility computing billing model (Clarke, 2012).

The cloud vendor is faceless in terms of the client-vendor interaction as opposed to the traditional IT vendor. In the cloud environment, hardware and software become commodities, rather than platforms that need to be nurtured through their life cycle and this can likely change the attitude of cloud adopters like SMEs. The changes in the firm’s attitude to cost and management of IT services will change the longstanding relationships between traditional IT vendors and their customers. When these happens, there is likely to be a shift of the bonds between the client and the IT vendors to the cloud service providers. This means that clients and the cloud service providers will embrace each other not merely as commodity hosting providers or users in the traditional IT outsourcing environment.

Although cloud computing offers significant benefits, it also poses some challenges (Armbrust et al., 2010; Trigueros-Preciado, Pérez-González, & Solana-González, 2013), especially to traditional business process outsourcing and this may have a profound impact on how IT outsourcing is done (Weinhardt et al., 2009; Zhang, Cheng, & Boutaba, 2010). The impact of cloud computing on IT outsourcing is no doubt significant because cloud computing represents a fundamental shift in how organizations pay for and access IT services. This has created new opportunities for IT services providers and the outsourcing vendors will have to modify their strategy to take advantage of this new computing paradigm (Dhar, 2012). IT outsourcing proponents have emphasized that managing
outsourcing relationships\textsuperscript{23} is very important (Lacity & Willcocks, 2008). While IT outsourcing relationships have received some attention in the literature, no insights have been provided into the IT outsourcing (cloud sourcing) relationships between client and vendors in the cloud. Although the research on IT outsourcing (Cullen, Seddon, & Willcocks, 2006; Lacity, Willcocks, & Feeny, 2012; Lacity & Willcocks, 2008; Oshri, Kotlarsky, & Willcocks, 2011) help us to understand IT outsourcing relationships in general, our understanding of managing the relationship in a cloud computing environment remains limited. The relationship between the CSC and the CSP may differ from that in traditional client-vendor relationship in a traditional IT outsourcing relation. However, for this relationship to succeed and lead to the advantages offered by the cloud, there is the need for a balanced approach between the CSC and the CSP (Géczy, Izumi, & Hasida, 2012). Our understanding of the relationship that arises from cloud sourcing is critical because, the client-vendor relationship does not only occur through the operationalization of the contract between the two, but through a continuous interaction in a new outsourcing landscape.

There is a dearth of literature on cloud sourcing relationships between cloud service providers (Vendors) and cloud service consumers (clients). This thesis argues that the relationship in cloud sourcing is different from traditional outsourcing relationships. Though, cloud sourcing may have similar features as IT outsourcing, they are marked differences (Dhar, 2012). In the studies of IT outsourcing relationships in the literature, transaction cost theory (TCT) have been used widely (Lacity & Willcocks, 1998; Vitharana & Dharwadkar, 2007) but TCT alone have failed to explain some outsourcing behaviour (Miranda & Kim, 2006). In this thesis, I appropriate concepts from institutional theory (DiMaggio & Powell, 1983) and Social Exchange theory (Homans, 1958) and apply it to provide a comprehensive lens through which to examine the cloud sourcing relationship between SMEs and cloud vendors in a developing country context.

According to institutional theory, organizations and their relationships with others are subject to pressures from the institutional environment that force them to conform to institutionalized norms and beliefs (DiMaggio & Powell, 1983). This thesis argues that, mimetic, normative, and coercive pressures emanating from firms’ institutional environments influence cloud sourcing. SMEs may mimic other successful SMEs that they consider to be similar to them and have been successful in adopting cloud computing. Normative pressures from say, or professional associations may also force SMEs into a cloud sourcing relationship. The last institutional pressures is coercive pressures, which emanates from regulatory directives or technological changes that compel an organization to make changes. According to the institutional theory, the institutionalization follows a path in which there is (1) an early phase where some elements are created and adopted; (2) a middle phase of adaptation and stability; and (3) in some case, a final stage of decline (Scott, 2005).

\textsuperscript{23} A relationship is defined as “a long-term commitment, a sense of mutual cooperation, shared risk and benefits, and other qualities consistent with concepts and theories of participatory decision making” (Henderson 1990, p.5)
Hence, the nature and extent of institutional pressures on SMEs are likely to vary across the three stages. Institutional theory in part therefore, examines the changing dynamics between the SMEs and cloud vendors as a relationship progresses through the different phases. In order to gain broad insights into cloud sourcing relationships, we extend this theoretical perspective to cloud vendor and cloud consumer relationships.

TCT has also been criticised for a view that actors in a relationship do not interact in response to other actors but rather with the market (Emerson, 1972) making it unsuitable for this thesis. To explain, the cloud sourcing relationship however, more is needed than the economic view of TCT. There is the need to understand the exchanges and the resulting relationships from the standpoints of the CSP and CSC guided by their service level agreements. Social exchange theory (Homans, 1958) is therefore used to explain the two-way exchange relationship between the CSP and the CSC. This relationship consist of transactions involving the transfer of resources between two or more actors for mutual benefit and this social process of give-and-take can shape our understanding of the behaviour of the actors. Though social exchange focuses on the interaction between individuals and groups Kern and Willcocks (2000) argue that in the context of outsourcing, once an exchange occur, it leads to a continuous cycle of interactions reinforced by mutuality and this can shed light on the relationship in the cloud sourcing process.

RESEARCH PROBLEM

Cloudsourcing enables organizations to procure their entire IT infrastructure from a cloud (Rajan, 2010). While the concept of cloud sourcing has its origins grounded in the traditional IT/IS outsourcing (Dhar, 2012; Willcocks, Venters, & Whitley, 2013), the emergence of cloud computing and its growth and adoption among SMEs is bringing about a change in the relationship between vendors and clients as in a typical IT sourcing. Problems in relationships between clients and vendors are well documented in outsourcing relationships and there have been calls for research into the management of relationships in outsourcing (Kern & Willcocks, 2000).

Cloud computing provides SMEs with the advantage of no large up-front costs on IT resources for their production needs (Sahandi, Alkhalil, & Opara-Martins, 2012) as well as the scalability and flexibility of using computing resources on a pay as you basis (Armbrust et al., 2010). Whether a start-up SME or an already established one, the continuous reliance on the vendor’s services is key to leverage on the several benefits of the cloud. The reliance on the vendor will results in a constant flow of interactions largely influenced by many factors. These interactions and resulting relationships are different with the cloud vendor than with the vendor in traditional IT outsourcing. The changing landscape of IT/IS outsourcing is likely to lead to changing relationships. Also Cloud computing is perceived as offering computing services in a commoditized manner (Buyya et al., 2009) because it provides the basic level of computing service for everyday use. This change in view of computing services can change the attitude of cloud adopters. In other words, hardware, and software are seen just as a service and a means to an end, rather than IT artifacts to be venerated through long and arduous life cycles. With this changing view it is pertinent to
understand the effect of this transformation on how SMEs acquisition and consumption of computing resources will have on longstanding relationships between the SMEs and the cloud service providers (vendors). Due to the difference in IT outsourcing and cloud sourcing, further understanding of how cloud sourcing impacts on client vendor relationships is important. There has been much work done in IS regarding IT/IS outsourcing relationships (Goles & Chin, 2005; Goo, Kishore, Nam, Rao, & Song, 2007; Wan, Zeng, Zou, & Liu, 2008) but not in the cloud computing context. Also, no theoretical insights exist to inform client-vendor relationships in the cloud. Consequently, this research is an opportunity to provide a new theoretical lens for examining client-vendor relationships in cloud computing in SMEs. Also, research has not addressed the institutional pressures faced by the SMEs and their implications for cloud sourcing. In linking institutional pressures to social exchange explanations this research hopes to add to the understanding on the antecedents of cloud outsourcing relationships. This is important as empirical evidence has indicated that TCT which has widely been used to explain IT outsourcing behaviour has failed (Vitharana & Dharwadkar, 2007).

**RESEARCH OBJECTIVES**

The objectives of this study are:

1. To understand the motivation of SMEs to initiate their cloud sourcing engagements with Cloud Service Providers (Vendors).
2. To determine the critical factors in building and managing cloud sourcing relationships between SMEs and Cloud Service Providers (Vendors).
3. To investigate the impact of institutional pressures on cloud sourcing relationships between SMEs and Cloud Service Providers (Vendors).

**RESEARCH QUESTIONS**

To achieve the above objectives, the research seeks to answer the following questions

1. How are SMEs motivated to initiate their cloud sourcing engagement with Cloud Service Providers (Cloud Vendors)?
2. What are the critical factors in building and managing cloud sourcing relationships between SMEs and Cloud Service Providers (Vendors)?
3. What is the impact of institutional pressures on cloud sourcing relationships between SMEs and Cloud Service Providers?

**PROPOSED METHODOLOGY**

The research design will be a mixed method of qualitative and quantitative (Creswell, 2013). The study is an exploratory one requiring deep insights about an under-researched IS phenomenon from a developing country perspective. The study adopts an interpretive paradigm (Walsham, 1993). The purpose of an interpretive research is to go beyond the observable actions of people in the context of social phenomena and understand the subjective meanings they assign to their actions and thereby interpret and understand the reasons behind those actions (Klein & Myers, 1999).
A qualitative case study approach will be adopted because the case study valuable in generating knowledge or fresh perspective of a phenomena being investigated (Eisenhardt, 1989) as well as creating an understanding of a complex social phenomena (Yin, 2009). The case study method is appropriate because it will allows a study to retain the holistic and meaningful characteristic of real life events such as the relationship between that of a client and vendor. It is also preferred in examining contemporary events and when the relevant behaviors under study cannot be manipulated (Yin, 2011). Last, is to be v. Also, the survey method will be employed as part of the quantitative study. The survey method is applicable for different reasons. First, because of its suitability in answering the ‘what’ research questions, second because the phenomenon under study requires no control of behavioral events and third, the focus of the phenomenon under study is on contemporary events (Yin, 2009) in cloud computing. In this this research, our main objective is to explore the relationships in cloud sourcing relationship among SMEs and Cloud Service Providers in a developing country context.

Through a case study research design, several methods can be used to collect data (Yin, 2009). However, documents and in-depth interviews will be the main data collection method. The entire country will be clustered into two sections; North and South, with five regions constituting each of the clusters. A region each from each cluster will be purposively selected and four districts from each region will be randomly selected for the study. In sum, a total of eight (8) districts will be selected from two regions and these districts will form the source of the primary data collection. Justified on the socio-economic and demographic profile obtained through an initial literature review, the Greater Accra and Northern regions will be selected. The inequities in terms of growth and development between northern and southern Ghana are striking (Horton, 2001) such that no study can lay claim to sufficient coverage in Ghana without representing both sectors. The two regions have features that make them suitable for comparative analysis within a case study framework. They highlight extremes (i.e. socioeconomic conditions). The same sampling technique will be used to select ten (10) SME respondents from each sampled district to constitute the sampled size of eighty (80) SMEs for the field survey. In each SME 3 staff will be targeted (two top management and one middle level staff). Purposive sampling will then be employed to select 10 key informants for a detailed interview to augment the survey data collected. Under, the quantitative design, a structured closed-ended questionnaire will be used.

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Developing and Validating a Big Data Capability Model: A Dynamic Capabilities Approach

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RESEARCH BACKGROUND

The amount of data in the world is exploding. Enterprises are flooded with ever-growing data of all types, easily amassing terabytes, even petabytes, of data (Boyd and Crawford, 2012). According to IBM, every day 2.5 quintillion (2.5 × 10¹⁸) bytes of data is created, so much that 90 percent of the data in the world today has been created in the last two years (IBM, 2011). This data comes from everywhere: climate sensors, social media, digital pictures and online videos, online purchases, mobile data, chips embedded in gadgets, corporate IS and GPS signals, to name just a few. These very large amounts of data which comes in structured, semi-structured and unstructured forms along with the intrinsic value that can be extrapolated from them using analytics, algorithms, and other techniques is called “big data” (Kwon et al., 2014). Big data provokes excitement across various fields such as science, government, and industries like media and telecommunications, health care engineering, banking and finance where organizations are facing a massive quantity of data and new technologies to store, process, and analyse data.

Analysing such big data is becoming a keystone of competitive advantage, new waves of productivity growth, agility, innovation and an answer to questions that were previously considered beyond reach of businesses and government (Zhang and Yue, 2013). Characterized by volume, variety, velocity, and value (Chen et al., 2012), industry practitioners believe that big data is the next ‘blue ocean’ in nurturing business opportunities. There is a growing academic and practitioner literature by on the opportunities to create value through big data-driven decision making (Aral and Walker, 2011; Rousseau, 2012). According to Boyd and Crawford (2012), the era of Big Data is underway and significant questions are emerging.

Kwon et al. (2014) indicate that unlike technology firms (e.g., Google, IBM, and Apple) who are at the forefront of big data and thus highly bullish about its business potentials. Many companies are still un-decisive in adopting big data. This may be due to a lack of relevant understanding and experience which points to the need for more research to comprehend issues pertaining to big data adoption including big data capabilities which are need along the adoption path (Kwon et al., 2014).

Big data is seen as a disruptive technology which is affecting several markets in several industries (Needham, 2013; Sathi, 2012). This makes big data possess dynamic capabilities (Wang and Ahmed, 2007). Dynamic capabilities is defined as “the firm’s ability to
integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al. 1997 p.516). Grounded in the theoretical lens of dynamic capabilities this research intends to propose a model to measure the big data capability construct and develop a reliable and valid instrument to operationalize it so as to assist organizations along the big data adoption path.

RESEARCH PROBLEM

Big Data is seen as the next frontier for innovation, productivity and competition (Manyika et al., 2011). It has been adopted by some large organisations worldwide. Organisations such as Facebook, Amazon and Google have come to rely on Big Data as part of their primary marketing schemes as well as a means of servicing their customers better (Ohlhorst, 2012). Amazon has leveraged its Big Data well to create an extremely accurate representation of what products a customer should buy. For Facebook, Big Data comes into play for critical features such as friend suggestions, targeted ads, and other member-focused offerings. Google aims to use Big Data to its fullest extent, to judge search results, predict internet traffic usage, and service customers with Google’s own applications. In 2012, President Obama used big data to beat MIT Romney by targeted marketing of messages to the 13 million people who supported him in 2008 Presidential elections through emails, Facebook, Twitter and other social media platforms (O’Hara, 2013). In addition banks using telecommunications network data along with bank data are able to detect and combat fraud and design better banking products for customers (Chen et al., 2012).

All banks, large and small, are swelling with data. This data growth does not only come from traditional relational data (structured data) stored in product and customer servicing systems, but in voice call logs, emails, website click streams, texting and social media (unstructured data). Data today is produced faster than most banks can exploit it. Many banks believe that big data successes are the sole province of the big banks which have the scale to undertake such challenges (Rosensweig et al., 2014). According to the Wall Street Journal, the reality is that all banks, large and small, have it within their capacity to wrest from big data the key insights that will improve their profitability and competitive advantage (Rosensweig et al., 2014). This statement is also true for Ghanaian banks. According to Kwon et al. (2014) many organisations including banks have begun carefully examining the possibility of utilizing big data and are actively considering its adoption. However external conditions of an organisations environment are expected to sway much of a company’s decision to adopt big data (Davenport et al., 2012). It is in this light that Kwon et al. (2014) calls for the need for more research to understand issues such as key facilitators and capabilities pertaining to the adoption of big data.

Although the importance of Big Data has been strongly suggested through practitioner reports (Gartner, 2013; Oracle, 2013) and emerging academic articles (Aral and Walker, 2011; Boyd and Crawford, 2012), the capabilities that business and other organizations such as banks need to build in order to adopt and implement Big Data and the extent to which they have progressed along the Big Data path has not been reported in the IS
literature. In particular, there is no IS literature that has modelled a Big Data capability construct and developed a valid and reliable instrument to measure this construct. To address this research gap the study draws on the dynamic capabilities theory to propose a model to measure the Big Data capability construct and develop a reliable and valid instrument to operationalize it. This study can therefore be considered as a preliminary attempt to advance the Big Data research through theorization, model construction and measurement development. The study makes an original contribution to the IS literature in an area that is attracting increasing governmental and managerial attention yet lacking in IS research.

**RESEARCH PURPOSE**

This study seeks to conceptualize how businesses can develop capabilities to leverage Big data for business value. It draws on the dynamic capabilities theory to propose a model to measure the Big Data capability construct and develop a reliable and valid instrument to operationalize it.

**RESEARCH OBJECTIVES**

The objectives of this study are;
1. To determine and examine the dynamic capabilities that businesses and other organizations need to build in order to adopt and implement big data.
2. To design a model to measure the big data capability construct based on the capabilities identified.
3. To develop a reliable and valid measuring instrument for measuring the big data capability construct modelled.

**RESEARCH QUESTIONS**

Based on the objectives of the research, the research questions to look at are;
1. What are the big data dynamic capabilities needed by an organisation seeking to adopt and implement big data?
2. What is the best fit model for a big data capability construct based on the capabilities identified?
3. What reliable and valid measuring instrument can be used to measure the modelled big data capability construct.

**PROPOSED METHODOLOGY**

In order to develop the big data capability model and ensure the accuracy and validity of its measuring instrument, the study will follow structured frameworks and procedures outlined in previous research (Molla et al., 2009; Boudreau et al., 2001). The first part of the research will involve defining the domain constructs of Big Data capability using the
dynamic capabilities theory. It will also involve the operationalization of the constructs by generating measuring items. The second part of the research will involve the collection of data based on a sample size and analysed to test the validity and reliability of the developed model and instrument.

The first part of the research which consist of the development of the big data capability construct model will employ an interpretive approach to give an in-depth understanding of the big data phenomenon, including contextual issues that can be gained (Yin, 2003). Furthermore, the research will be exploratory (Yin, 2003) in that it seeks to provide an understanding of the phenomenon and to generate ideas and theories. It will begin with a thorough desk research and extensive review of existing practitioner Big Data white papers, consultant reports and academic literature. In addition, a qualitative research design will be used to assess the big data capabilities from a dynamic capabilities perspective among 14 of the 28 licensed banks operating in Ghana. The 14 banks will be selected based on random sampling. A case study method will be used as a qualitative inquiry for this part of the research (Yin, 2003). Case study explores a case through in-depth data collection. The study will employ the use of interviews as a data collection tool to give a greater understanding to the Big Data phenomenon being studied. The interviews will be exploratory in nature consisting of open-ended questions that focus dynamic capabilities of Big Data in the banks. Participants for the interview will consist of a purposive sample of 3 senior managers, 5 Information Technology (IT) staff, 5 marketing and research staff and 5 customer service staff in each bank. The interviews were will be supplemented with evidence from documents, archival records and observations. The documents and archival records will include those publicly available and provided by the participants.

Evidence gathered for the first part of the research will be analysed using Miles and Huberman data analysis approach (Miles and Huberman, 1994) where by the dynamic capabilities theory will be used to guide the coding process. A big data capability construct model and its associated measuring instrument will be thoroughly designed and reviewed based on the results obtained from the coded qualitative content analysis. The measuring instrument will consist of several measuring items which will be tested for their validity and reliability in the second part of the research.

The second part of the research which consist of the collection of data to analyse and test the validity and reliability of the developed model and instrument will be based on quantitative studies or research. Quantitative research is fundamentally about collecting numerical data to explain a particular phenomenon (Neuman, 2005). In this case the big data capability construct model. The sample size for the collection of data will consist of the remaining 14 banks out of the 28 licensed banks operating in Ghana that were not involved in the qualitative study. This is to ensure that one group of 14 banks become a control group for the other 14 banks. In quantitative research there are several methods for collecting data (Neuman, 2005). A survey method will be used for collect data from the 14 banks involved in the second part of the research. Respondents for the survey will consist of a purposive sample of 3 senior managers, 5 Information Technology (IT) staff, 5 marketing and research staff and 5 customer service staff in each bank. For the testing and validation
of the model a confirmatory factor analysis will be used to assess the model and the measuring instruments involved in the research. The confirmatory factor analysis will determine whether the measures of the big data capability construct are consistent with the understanding of the nature of the big data capability construct from the model (Kline, 2011). Based on the results of the confirmatory analysis the final big data capability model will be produced along with its associated measuring instrument.

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Online Relationship Marketing in Ghana: Evidence from The Banking Sector

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RESEARCH BACKGROUND

It has become increasingly important for firms to build relationships with their customers and other key stakeholders in the industries within which they operate. This can be attributed, in part, to the advent of new forms of technology, and their ability to alter the nature and the manner in which relationships are formed and enhanced between firms and stakeholders (Colgate, Buchanan-Oliver & Elmsly, 2005). Relationship marketing is an organisational process that involves the creation and maintenance of long term relations with a firm’s existing customers and stakeholders, and terminating some of these relationships where necessary in a manner that will be of benefit to all the parties involved (Grönroos, 1996; Harker, 1999). Firms stand a chance of leveraging new and emerging technologies like emails (Schiffman, Sherman & Long, 2003), electronic customer relationship management (Hasouneh & Alqeed, 2010), internet (Thao & Swierczek, 2008), self-service technology (Ahmad, 2005), and mobiles to enhance existing relationships or create new channels of interaction (Colgate, Buchanan-Oliver, & Elmsly, 2005). In the banking industry, the use of these new forms of interaction in extending banking relationships is becoming an increasing phenomenon. For instance, a number of US banks have a presence on social media platforms like facebook and youtube (Cohen, 2009).

This phenomenon is not far from Africa. In Nigeria, GT Bank and Zenith Bank have a presence on facebook; while indigenous Ghanaian banks like Fidelity Bank also have a presence on facebook and twitter (Fidelity Bank Ghana, 2012). Beyond social media, these banks also extend their relationships with consumers through internet and mobile banking services.

Consequently, relationship marketing is facing a myriad of opportunities and, perhaps, threats with the advent of these technologies. According to Mulligan & Gordon (2002) technology has the ability to strengthen the relationships between firms and their customers through enhanced customer service levels and increased geographical reach of customers. However, they also established a number of inherent threats that technology might pose to the firm, including disintermediation, security risks, and the difficulty of integrating the technological systems with that of their existing organizational systems (Mani, Choo & Mubarak, 2014). As a result, firms, especially banks, need to inquire as to how they can leverage these new and emerging technologies for relationship marketing.
RESEARCH PROBLEM

Extant research on relationship marketing has examined a number of themes including the relationship marketing evolution (Zineldin & Philipson, 2007; Rao & Perry, 2002), relationship marketing definitions and conceptual models (Dalziel, Harris, & Laing, 2011; Grönroos, 2004; Harker, 1999), relationship marketing and emerging technologies (Johns & Perrott, 2008; Durkin, 2007), relationship marketing implementation (Whyatt & Koschek, 2010; Ulaga & Eggert, 2006), as well as antecedents, practices and integration in relationship marketing (Narteh, Agbemabiese, Kodua & Braimah, 2013; Ndubisi, 2007; Payne, Ballantyne, & Christopher, 2005).

Even though anecdotal and web investigation indicate that firms are leveraging emerging technologies to build relationships with customers in practice, limited empirical research exists on the subject (Johns, 2012; Mukherjee & Nath, 2007). There is thus a lack of knowledge on the conceptual link between new technologies and relationship marketing (Johns & Perrott, 2008; Durkin & Howcroft, 2003). For example, it has been argued that there is growing uncertainty as to what are the relationship marketing best practices with regard to online platforms - what should be the constituents of relationship marketing practices when engaging the customer through new and emerging technologies like the internet (Durkin & Howcroft, 2003). Others also purport that technology holds both promise and unintended consequences; hence there is the need for more investigation when it comes to relationship marketing (Johns & Perrott, 2008).

Of the models used in the above studies (Dalziel et al., 2011; Grönroos, 2004; Harker, 1999), none of them highlighted the role of technology (internet) as a relationship marketing medium. More so, current relationship marketing studies on Ghana (Narteh et al., 2013; Amoako, 2012; Mensah, Copuroglu, & Fening, 2012), have been quite silent on issues concerning the internet and other emerging technologies. A study, which therefore incorporate the internet and its related technologies like email, websites and social media as media for the delivery of relationship marketing will provide firms and marketing practitioners’ with direction on the constituents of relationship marketing practices and strategies online. As a result, the research gaps identified above concern the need for more studies on relationship marketing and new and emerging technologies (research issue gap) and the need for a conceptual model which explains the constituents of relationship marketing practices and strategies online (research model gaps).

RESEARCH PURPOSE

This study seeks to develop a theoretical and practice-oriented understanding of the constituents of online relationship marketing practices of banks in Ghana.

THEORETICAL FIELDS

The research will be carried out through the theoretical lens of the commitment-trust theory (Morgan & Hunt, 1994) and process virtualisation theory (Overby, 2008). Commitment-trust theory tends to be the dominant theory used by relationship marketing researchers in
examining the constituents and outcomes of ‘physical’ relationship marketing practices. However, some authors such as Mukherjee and Nath (2007) contend that the theory can be applied to online relationship marketing practices, subject to some modifications; such as adding in factors like online security and privacy. Furthermore, process virtualisation theory, with its origins in technology research, provides constructs to assess the amenability of ‘physical’ relationship marketing processes in virtual environments. Thus, there is the need to explore further what the two theories can contribute to the research.

In this respect, the main contribution of this study can be envisaged as follows: first, the study goes beyond current research on relationship marketing by conceptualising the constituents of online relationship marketing practices in Ghana. This is relevant as it responds to the paucity of literature on relationship marketing and technology in sub-Saharan Africa. Second, the study also extends the process virtualisation theory by integrating it with a relatively dominant relationship marketing theory, commitment-trust theory, to develop a theoretical and practice-oriented conceptual model of the constituents of online relationship marketing practices. The process virtualisation theory, being an emerging theory, will therefore gain further empirical examination through this study.

RESEARCH OBJECTIVES

To achieve the above purpose, the study outlines the following related objectives:

1. To conceptualise the process of online technology enabled relationships by firms.
2. To explore the use of online applications in the relationship marketing practices of banks in Ghana.
3. To explore the constituents of the online relationship marketing practices of banks in Ghana.

RESEARCH QUESTIONS

1. How do we conceptualise online technology enabled relationships by firms?
2. Which online applications are used in online relationship marketing practices of banks in Ghana?
3. What are the constituents of online relationship marketing practices of banks in Ghana?

PROPOSED METHODOLOGY

The study will be conducted from a critical realism research paradigm. Critical realism gives way for the complex unearthing of the structures of social reality, in order to explain social phenomena (Elster, 1998: 45). It enables researchers to “get beneath the surface to understand and explain why things are as they are, to hypothesise the structures and mechanisms that shape observable events” (Mingers, 2004: 100).

Thus, this research goes beyond the conception that relationship marketing practices work “online”, to the critical examination of the action of actors like banks and their consumers,
and how emerging technologies create the medium for the conduct of online relationship marketing practices in a manner that enhances the relationships between banks and their consumers.

To unearth the structures and mechanisms of online relationship marketing, this research adopts a mixed-methods approach. Critical realism is supportive of methodological pluralism as it acknowledges that the variety of objects of knowledge exists and each of these objects requires different research methods (Mingers, 2004). This is consistent with the argument that mixed-methods is suited for research problems in which a second method is needed to enhance a primary method and the research purpose can be best addressed with multiple phases or projects (Creswell & Plano Clark, 2011). The study will begin with a quantitative approach in which a survey will be conducted in the Ghanaian banking industry involving the 28 commercial banks. A survey of 400 bank customers will also be conducted to assess their experiences in online relationship marketing. Based on the results of the survey, two banks will be purposively selected for a multiple case study research. The multiple case studies will be developed through detailed interviews with relationship managers and customers, as well as artefact examination of online applications used in relationship marketing (emails, websites and social media).

Data collected will be analysed using the appropriate quantitative and qualitative data analysis techniques. The appropriate quantitative techniques, may include Factor Analysis, T-tests, Multiple regressions, ANOVA and Structural Equation Modelling may be used to analyse the quantitative data (Hair, Black, Babin, & Anderson, 2010). In analysing the case study (qualitative data), the Miles & Huberman (1994) qualitative data analysis approach may be applied in addition to Easton's guidelines for critical realism case study (Easton, 2010). The Ghanaian banking sector has been selected because it has gained some mileage in the adoption and use of emerging technologies (see Amoako, 2012; Woldie, Hinson, Iddrisu, & Boateng, 2008; Boateng & Molla, 2006). Beyond Ghana, the use of social media by global financial institutions have also become of interest to researchers (see Bonsón & Flores, 2011). As such findings from this research will have an audience in contributing a perspective from Africa.

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Branding and Customer Loyalty in the Ghanaian Hospitality Industry: The Role of Innovation

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RESEARCH BACKGROUND

The hospitality industry is one of the four industries that enhanced their contributions to GDP in 2013 (Ghana Statistical Service, 2013). Despite its remarkable contribution to economic development across the world, the full potential of its contribution to economic growth is yet to be realised (WTTC, 2013). Ahmad and Hashim (2011) identify branding and innovation as some of the internal management tools for maximising the potential and contribution of the hospitality industry to economic growth.

In order to maximise financial performance, firms in the hospitality industry ought to make market decisions that would impress and persuade existing and potential customers (Ahmad and Hashim, 2011). Meanwhile, management’s ability to take such strategic decisions depends on how innovation is used to improve and sustain appeal for products and services (Shaw et al. 2012) and how branding is used to communicate the appeal of these products and services (Brakus et al. 2009; Fran and Handelshögskolan, 2011). This argument is linked to the empirically-driven positive effects of branding and innovation on customer quality perceptions, customer satisfaction and customer loyalty (O’Neill et al. 2006).

Some researchers have suggested that brand and innovation management are strongly interrelated (Bayus et al. 2013); and that strong brands are actually supported by innovation, whilst brands remain an important path to and source of innovation. Preliminary research findings by the Journal of the Academy of Marketing Science (Bayus et al. 2013) indicate that complex interactions exist between branding and innovation, yet little integration between these two streams with each other has emerged. This has resulted in a call for papers to address existing gaps in the research of innovation and brand management (Bayus et al. 2013).

Extant literature has shown that innovation empowers branding in influencing customers’ service quality perceptions and customer retention (Malik et al. 2012). Similarly, it is argued that practices of innovation in an organisation would influence the impact of branding (Singh & Singh, 2009; Rønningen, 2010). A large body of branding researches has focused on customers’ service quality perceptions. However, empirical evidence points to the need to include some primary factors, concepts and measures in constructing branding research. Keller and Lehmann (2005) propose that branding research must embrace the technical element of brands. Yet, this was absent in the bulk of branding studies reviewed. Most articles which assessed the impact of branding are blind to how brands are developed from a technical standpoint. This situation, therefore, represents a
major gap in branding research since knowledge shared on brand design is restricted. O’Neill and Mattila (2004) also acknowledge the need to consider the socio-cultural factors that drive customers’ brand quality perceptions. Brands are targeted at customers and potential customers who are part of a socio-cultural environment (Safargaliev & Komarova, 2013).

Businesses are brands, a reason for which Saeed et al. (2013) posit that, every organisation must nurture itself as a brand. Nonetheless, literal brands should be nurtured according to the firm’s marketing process. Saeed et al. (2013) therefore argue that, branding research must be framed to incorporate elements of the marketing triangle model, namely external, internal and interactive marketing.

Most branding researches have been skewed in favour of assessing the impact of an aspect of branding such as brand image, brand equity and brand loyalty. For instance, a number of researchers examined the relationship between brand equity and customers’ purchase decisions (e.g. Sriram et al. 2007; Chimhundu, 2010). In essence, evidence as regards the impact of branding on firms is in parts. In this regard, Beverland et al. (2009) submitted that future branding studies must be geared towards assessing the impact of branding rather than an aspect of branding on organisations’ performance.

Candan et al. (2013) posit that brands are nurtured with the goal of creating and maximising value for consumers and the organisation. Meanwhile, sustainability of the desired impact of brands on the organisation is rooted in customer loyalty (Fouladivand et al. 2013). As a result, Fouladivand et al. (2013) suggest that branding research must be capable of providing evidence about the relationship between branding and customer loyalty. Nonetheless, the bulk of articles reviewed point to the fact that issues and evidence on this subject have been insufficiently covered by researchers. Thus, very few branding researches incorporate customer loyalty in the context of brands’ impact assessment.

Hussain et al. (2013) are of the view that innovation influences the impact of brands on the organisation. Practically, innovation is more likely to improve the value of brands, likewise customers’ quality perceptions about these brands. In this regard, it is worth inferring that branding research ought to touch on the relationship between branding and innovation and how this relationship translates into customer loyalty. To a limited extent, Gundry et al. (2014) provide some empirical evidence on this subject. However, the extent to which issues have been addressed on this subject is not considerable. In a nutshell, the body of branding researches available is largely deficient in empirical studies dedicated to examining the moderating role of innovation in the relationship between branding and customer loyalty. Comparatively, the distribution of branding researches and for that matter evidence provided by them is geographically skewed in favour of Europe and Asia. In terms of studies assessing the relationship among branding, innovation, and customer loyalty, extant literature reviewed did not unearth any evidence of studies conducted in an African context. This is a major gap in the body of branding studies available, especially in view of the argument that the impact of brands is culture-sensitive (Hirvonen et al. 2013).
This study therefore attempts to contribute to the limited body of empirical research by exploring the relationship between branding and customer loyalty within the context of the moderating role of innovation in firms in the Ghanaian Hospitality Industry. It is expected that findings would justify the collective relevance of branding and innovation to the maximisation of brand value, customer satisfaction and ultimately, customer loyalty in Ghana’s hospitality sector.

RESEARCH PROBLEM

Despite improved contribution to GDP in Ghana (GSS, 2013), the full potential of the hospitality industry is yet to be realised on a global scale (WTTC, 2013). Operational challenges have been identified as the basis for the hindrances (Shaw et al. 2012), especially those relating to service delivery and company image (Rumambi and Djati, n.d.). Due to financial limitations and lack of motivation, many hospitality facilities, for instance, treat rigorous branding and innovation practices as trade-offs for other trivial promotional activities (O’Neill and Mattila, 2004). This situation impedes maximum financial performance of firms in the hospitality industry because company image is a reflection of a firm’s branding approach and strategy (Shaw et al. 2012) and is necessary for sustainable customer patronage (O’Neill et al. 2006). Besides, innovation is a strategic process for countering the negative effects of competition in the hospitality industry (Ahmad and Hashim, 2011). Increasing competition has prevented some firms from achieving growth targets (Ahmad and Hashim, 2011). Additionally, firms in the hospitality industry expect profits without much financial commitment to customer satisfaction and desirable company image (O’Neill et al. 2006).

As a remedial strategy, management in the hospitality industry must be motivated to invest in building brands and innovation to augment the value of their brands, as well as customer patronage and satisfaction, ultimately leading to customer loyalty. This requires empirical evidence that points to the relevance of building brands and innovation to the delivery of value-driven and satisfactory services. This study shall therefore be carried out in view of the limited number of empirical studies on this subject in a Ghanaian context to meet the objectives in the following section.

RESEARCH OBJECTIVES

The research draws from gaps identified in literature reviewed so far which form the basis of the following objectives to be achieved within the context of the Ghanaian Hospitality Industry:

1.) Explore and analyse processes that contribute to building a brand;
2.) Assess the impact of branding on customer loyalty;
3.) Determine the types of innovation that would impact customer loyalty;
4.) Evaluate the moderating effect of innovation on the relationship between branding and customer loyalty.
METHODOLOGY

Various methodological approaches were adopted in the branding researches reviewed. Majority of branding/innovation researchers (Ghafoor, 2012; Hafeez et al. 2012) adopted the quantitative research technique, mostly with the goal of testing hypotheses. However, many of the quantitative studies were not related to hypotheses testing. Fewer gaps were detected in methodological approaches employed in qualitative research from the studies reviewed. However, it was observed that some qualitative studies did not come with stated antecedents that may be points of reference for future research work e.g. Abimbola & Vallaster (2007).

The above-stated gaps informed the selection of research methods. The populations will be made up of the management employees of hotels, restaurants and leisure centres in Ghana registered with the Registrar General’s Department and Ghana Tourist Board and operating for at least five years, as well as their patrons. The five-year benchmark is to ensure that data collected reflects ample experience and knowledge that form a basis for data integrity. Probability sampling methods, namely cluster, stratified and simple random sampling, shall be used in selecting respondents. Cluster sampling shall be used to select hotels, restaurants and leisure centres from the 10 regions of the country. As a result of potential differences in company characteristics in data, stratified sampling shall be used to categorise members of the sampling frame into homogeneous groups, namely “hotels”, “guest houses” and “pubs and leisure”. Simple random sampling shall be used to select respondents from each stratum. Based on extant literature reviewed, a mixed-method approach will be proposed to gather qualitative data for a more in-depth analysis, while at the same time quantitative methods will constitute a true reflection of the impact of branding on customer loyalty in the Ghanaian Hospitality Industry. Primary and secondary data shall be employed mainly on brand technical considerations, brand resource considerations, innovation and customer loyalty.

Statistical data analysis shall be done using SPSS and STATA. The Cronbach’s alpha shall be used to test for the reliability of the research instruments. Normality test shall also be carried out on continuous data using Shapiro-Wilk’s test based on the assumption that continuous data employed take the characteristic nature of a normal distribution. Interviews will be recorded, transcribed and analysed.

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