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Athens Journal of Business & Economics
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President's Message

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The current issue is the second of the seventh volume of the *Athens Journal of Business & Economics (AJBE), published by the Business & Law Division and the Economics Unit of ATINER.*

Gregory T. Papanikos
President
ATINER

Athens Institute for Education and Research
A World Association of Academics and Researchers

16thAnnual International Symposium on Economic Theory, Policy and Applications 28-30 June & 1 July 2021, Athens, Greece

The Economics Unit of ATINER, will hold its **15thAnnual International Symposium on Economic Theory, Policy and Applications, 29-30 June & 1-2 July 2021, Athens, Greece** sponsored by the Athens Journal of Business & Economics. The aim of the conference is to bring together academics and researchers of all areas of economics and other related disciplines. You may participate as panel organizer, presenter of one paper, chair a session or observer. Please submit a proposal using the form available (https://www.atiner.gr/2021/FORM-ECO.doc).

Academic Members Responsible for the Conference
- **Dr. Gregory T. Papanikos, President, ATINER & Honorary Professor, University of Stirling, UK.**
- **Dr. Chris Sakellariou, Head, Economics Unit & Associate Professor of Economics, Nanyang Technological University, Singapore.**

Important Dates
- Abstract Submission: **1 March 2020**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **1 June 2021**

Social and Educational Program
The Social Program Emphasizes the Educational Aspect of the Academic Meetings of Atiner.
- Greek Night Entertainment (This is the official dinner of the conference)
- Athens Sightseeing: Old and New-An Educational Urban Walk
- Social Dinner
- Mycenae Visit
- Exploration of the Aegean Islands
- Delphi Visit
- Ancient Corinth and Cape Sounion

Conference Fees

Conference fees vary from 400€ to 2000€
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Athens Institute for Education and Research
A World Association of Academics and Researchers

8th Annual International Conference on Business, Law & Economics
3-6 May 2021, Athens, Greece

The Business, Economics and Law Division (BLRD) of ATINER is organizing its **8th Annual International Conference on Business, Law & Economics, 3-6 May 2021, Athens, Greece,** sponsored by the Athens Journal of Business & Economics and the Athens Journal of Law. In the past, the six units of BLRD have organized more than 50 annual international conferences on accounting, finance, management, marketing, law and economics. This annual international conference offers an opportunity for cross disciplinary presentations on all aspects of business, law and economics. This annual international conference offers an opportunity for cross disciplinary presentations on all aspects of business, law and economics. Please submit an abstract (email only) to: atiner@atiner.gr, using the abstract submission form (https://www.atiner.gr/2021/FORM-BLE.doc)

Important Dates
- Abstract Submission: **22 March 2021**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **5 April 2021**

Academic Member Responsible for the Conference
- **Dr. Gregory T. Papanikos**, President, ATINER.
- **Dr. Michael P. Malloy**, Director, Business, Economics and Law Division, ATINER & Distinguished Professor & Scholar, University of the Pacific, USA.
- **Dr. David A. Frenkel**, LL.D., Head, Law Research Unit, ATINER & Emeritus Professor, Law Area, Guilford Glazer Faculty of Business and Management, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

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The Impact of Service Employees and Servicescape on Customers' Perception of Quality Improvement Efforts

By Nha Nguyen[*] & Gaston LeBlanc[±]

The present study contributes to the understanding of the influence of service employees and the tangible components of the service production and delivery system on perceptions of quality improvement efforts in a service organization. A hierarchical multiple regression with interaction analysis was performed on data collected from a convenience sample of 435 respondents in a higher education institution to assess the main effect of service employees and servicescape, as well as their interactive effect, on customers' perception of the institution's quality improvement efforts. The results show a significant effect of service employees, servicescape as well as the interaction between service employees and servicescape in their influence on customers' perception of quality improvement efforts. The results also reveal that the servicescape intervenes as a moderator variable in the relationship between service employees and quality improvement efforts. Service organizations should therefore focus on the crucial role of service employees during the service encounter and recognize the importance of the servicescape, in view of increasing customers' favourable perceptions towards the service organisation's capability to provide better quality in order to satisfy their needs. The study has limited generalization given the convenience sample and the great variety of service industries. It would be helpful to realize similar studies in other service settings and to explore the exact nature of the interaction between service employees and servicescape.

Keywords: *Service employees, servicescape, quality improvement efforts*

Introduction

For all business organizations concerned with meeting customers' needs and expectations, quality improvement remains one of its strategic objectives (Buzzel and Weirsema 1981, Jiju 2015, Kettunen 2008, Shin et al. 2016). To achieve this objective and in the hope of remaining highly competitive in the marketplace, numerous organizations have launched quality improvement efforts (Paltayian et al. 2012). In the literature, a distinction between quality improvement and quality improvement efforts is noted. While quality improvement is an outcome often based on customers' perceptions of that outcome (Parasuraman et al. 1988), quality improvement efforts are considered an ensemble of activities made by the organisation and is related to quality management processes (Jha et al. 1996). In this study, we focus on the latter concept in the context of services.

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A review of the literature reveals that most of the research has focused on quality improvement, but very little on quality improvement efforts. Most studies on quality improvement have examined both its causes and consequences. This stream of research was conducted from an internal perspective; their scope was thus defined within an organization's boundaries. For example, several scholars have looked into the factors supporting quality improvement, such as working methods (Maiga and Jacobs 2006, Wright 2013), technologies (Hareton et al. 2007) and organizational learning (Savolainen and Haikonen 2007). Meanwhile, other authors have examined the impact of quality improvement on organizational performance and operational efficiency (Xiaosong et al. 2011) or financial performance (Chatzoglou et al. 2015, Heavey et al. 2014). Concerning quality improvement efforts, it is likely that it can influence the organiszation's external environment, in particular customers' attitudes and behaviours, such as customer satisfaction (Nabavi et al. 2014, Shin et al. 2016) and customer loyalty (Prentice 2013, Santouridis and Trivellas 2010).

In the context of service organizations, service employees and servicescape are considered as two crucial elements that determine the success of the service production and delivery system (Berry 2000, Bitner 1992). Moeller (2010: 363) argues that because of the intangible nature of the service offering "the customer is affected by the tranformation process in general and also by its intangility". Given this intangility, in our view, the customer is confronted with the absence of quantifiable and measurable attibutes in their evaluation process and will tend to use tangible elements associated with the transformation process, namely service employees and servicescape (Zeithaml et al. 2013). In previous studies, the individual and interactive effects of service employees and servicescape on customers' perception of quality improvement efforts have not been extensively addressed (Nilsson and Ballantyne 2014).

Due to strong competition in the higher education sector, universities and colleges alike often establish their positioning strategy based, among other things, on the distinctiveness of faculty members (service employees) and their physical facilities (servicescape). These elements help to demonstrate their ability to fulfill their mission, to retain current students and in the recruitment of new candidates. This strategy based on the organization's distinctiveness in the marketplace is a well-known practice (Busse and Wallenburg 2011, den Hertog et al. 2010). In this study, in a higher education service setting, we investigate the contribution of servicescape in enhancing the effect of service employees on students' perception of quality improvement efforts. Since service employees and servicescape form an integral part of the service encounter, they should act upon the customer's perception in a complementary manner (Lovelock and Wirtz 2011, Zeithaml et al. 2013) and, from our perspective, lead to perceptions of quality and excellence. To that end, Khan and Matlay (2009: 771), in a higher educational setting, propose that "to deliver excellent services to customers requires focused and effective organisational and institutional processes".

To our knowledge, the exact nature of the interdependence between service employees and servicescape is still unspecified in the literature. Nonetheless, there is an evolving stream of research that recognizes the significant role of service

employees and the tangible nature of the service engagement platform in the co-creation of value (Leclercq et al. 2016, Prahalad and Ramaswamy 2004). Similarly, the foundational premises of the service dominant logic recognizes the importance of employee skills and knowledge, the customer's participation in the service production process, as well as the interactional elements that produce a service in the co-creation of value (Vargo and Lusch 2008, Lusch and Vargo 2014).

In adhering to the service dominant logic of marketing, this study aims to contribute to a better understanding of the impact of service employees and servicescape on customers's perception of quality improvement efforts, as well as their interactive effects. From a managerial perspective, it aims to assist in the formulation of policies and strategies through the judicious use of human resources and physical environment during the service encounter. To that end, the study consists of four parts. Firstly, an overview of the nature of quality improvement efforts is provided, followed by service employees and servicescape. Secondly, the investigation methods are explained. Thirdly, the results are presented and discussed. Finally, the managerial implications concerning the reinforcement of customers' perception of service quality improvement efforts are discussed.

Literature Review

Service Quality Improvement Efforts

The concept of service quality has been the concern of numerous studies during the last several decades, from its conceptualization (Grönroos 1984, Parasuraman et al. 1985), its measurement (Bolton and Drew 1991, Cronin and Taylor 1992, Parasuraman et al. 1988), along with its antecedents and consequences (Anderson et al. 1994, Ganguli and Roy 2011, Giovanis et al. 2015, Martin 2016, Prentice 2013, Rauyruen and Miller 2007, Rust et al. 1995). Several definitions of service quality are found in the service management and marketing literature. Service quality is defined as "a perceived judgment, resulting from an evaluation process where customers compare their expectations with the service they perceive to have received" (Grönroos 1984: 38) or as "the degree of discrepancy between customers' normative expectations of the service and their perceptions of the service performance" (Parasuraman et al. 1988: 17) or as the consumer's overall impression with regard to its superiority (Bitner and Hubbert 1994). Overall, service quality is seen as a gap between expectations and outcomes.

A review of the literature reveals that several authors have examined the individual influence of service employees (Dean and Rainnie 2009, Wu et al. 2015) servicescape (Reimer and Kueln 2005, Rosenbaum and Massiah 2011) on customers' perception of quality. Nevertheless, there is very little empirical evidence on the impact of service employees, servicescape and their interactive effects on customers' perception of the efforts made by an organization to improve

quality.

Quality improvement efforts is an important aspect of quality management. Some research on quality improvement has focused on the attributes of the product or service (Nilsson-Witell et al. 2005). During total quality management, quality improvement efforts must also be based on other elements, such as the environment, the employees and the process that directly affect the quality of the product or service (Oprime et al. 2012, Slatten 2010).

Within a service organization, quality improvement efforts are a formal approach to the analysis of the performance of the service production and delivery system, whose objective is to assist management with key decisions aimed at improving quality. These resulting efforts must be translated into concrete results for the benefit of customers. Due to the intangible nature of a service, its tangible elements play an important role on the efforts made to improve quality (Moeller 2010, Rosenbaum and Massiah 2011, Zeithaml et al. 2013). These elements can be grouped into two components of the service production and delivery system: service employees (Dean and Rainnie 2009, Elmadag et al. 2008, Sharabi 2013), responsible for the delivery of service, and servicescape (Hooper et al. 2013, Kok et al. 2015, Nilsson and Ballantyne 2014), the physical environment where the sevice is performed.

From a relationship marketing perspective, it is therefore crucial for the service organization to send a clear message to the marketplace that quality improvement efforts are made on an ongoing basis, in order to reassure consumers of its desire to meet or exceed their expectations. From this perspective, a better knowledge of the consumer's perception of these efforts plays a pivotal role in quality improvement (Chaplin and O'Rourke 2014).

Service Employees

A service is the outcome of the interaction between the customer, employee and servicescape (Zeithaml et al. 2013). In the service encounter, "service employees play a predominant role, along with customers, and have to accomplish tasks planned and specified in a script describing the role of each participant during the course of operations" (Nguyen and LeBlanc 2002: 245). The important role of service employees during the service encounter has been acknowledged in the literature (Tombs and Rao Hill 2014). Indeed, the actions of service employees affect greatly customers' perception (Wu et al. 2015). In general, their role is twofold: gathering information and serving customers (Aldrich and Herker 1979). Because of their strategic position, service employees receive different kinds of information from customers, mostly related to the service offering and delivery procedures. These types of information may be helpful to management while they attempt to improve service quality. Therefore, the direct contact employees have with customers as well as their knowledge of the service production and delivery system make them an important source of information for the organization when developing service improvement programs. Moreover, as representatives of the organization they have a marketing role that influences relations with customers. Many service employees are considered part-time marketers, because they

"conduct marketing activities but do not belong to the marketing or sales department" (Gummesson 1991: 60). They are trained to meet the customer's expectations and to protect the organization's interests, elements that are also key to quality improvement efforts. According to the structure of the service offering, service employees can be divided into two groups: the main staff responsible for providing core service and support staff responsible for providing peripheral services.

The performance of service employees largely depends upon their ability to produce and deliver the service offering that satisfies the customers' needs and expectations (Zeithaml et al. 2013). For example, in a higher education setting, the expertise of faculty, their teaching ability and their willingness to help students in their learning process are key elements that lead to student satisfaction and educational quality. A service organization wishing to undertake quality improvement efforts must focus on enhancing their competence (Delcourt et al. 2013) and benevolence (Lee et al. 2004), two major determinants of trust put into practice during the service encounter, or even their physical appearance (Söderlund and Rosengren 2008, Tombs and Rao Hill 2014). By doing this, the organization seeks to ensure that customers have positive perceptions towards its efforts to improve quality and, ultimately, customer loyalty (Vlachos et al. 2013). Hence, the first hypothesis:

H_1: The more positive the customer's perception of service employees, the greater is his/her perception of the organization's efforts to improve service quality.

Servicescape

The servicescape is the physical environment where a service is produced and consumed (Baker 1987, Bitner 1992). This environment is considered to be the packaging of services, and has three components: ambient conditions, spatial layout, and decor and orientation signals (Bitner 1992). Ambient conditions are the various elements such as colour, light, temperature, noise, odour and music, all of which might have the potential to affect the customers' five senses, which influence their perception as well as their response to the environment. For example, Lee et al. (2018), show that the use of gold-related colour bill folders and tabletops in a restaurant setting has a positive impact on the patron's tipping behaviour. Biswas et al. (2019: 47), for their part, reveal that low volume music/noise leads to an increase of healthy food choices in restaurants due to induced relaxation and that high-volume music/noise increases excitement levels, leading to unhealthy food choices. Spatial layout is the design and arrangement of buildings, equipment, and furniture according to the needs of the service delivery process. Decor and orientation signals are visual symbols used to create an appropriate atmosphere and direct customers during the service encounter. In the context of higher education, the comfort and layout of classrooms and residences, the ambient conditions in the library as well as the equipment and technology used by student are examples of elements of the servicescape. Overall, researchers have

underlined its influential role in the service production and delivery system and its potential to affect the customer's behavior towards the organization (Daunt and Greer 2015, Rosenbaum and Massiah 2011).

From the customer's perspective, reactions to the servicescape can be categorized according to three levels: cognitive, physiological and emotional (Bitner 1992, Tombs and McColl-Kennedy 2003). At the cognitive level, the customer finds in the servicescape various non-verbal cues, which communicate the nature of the service offering and the value of the service provider's reputation. The physiological reaction, for its part, is a result of the ambient conditions present in the setting. It may cause comfort or discomfort during the service encounter, which encourages the customer to pursue or interrupt service consumption, and consequently may have an influence on his attitudes and behaviours towards the service provider (Donovan and Rossiter 1982). Finally, the servicescape may elicit an emotional reaction that can also affect attitudes and behaviour (Mattila and Wirtz 2001, Mehrabian and Russell 1974).

A service organization wishing to implement quality improvement efforts associated with the servicescape in order to improve quality must therefore focus on the elements that promise to ensure favourable perceptions of customers toward the organization, such as the design, the layout and the technology used during the service encounter (Hooper et al. 2013, Psomas et al. 2011). Therefore, the second hypothesis:

> H_2: The more positive the customer's perception of the servicescape, the greater is his/her perception of the organization's efforts to improve service quality.

Interactive Effect of Service Employees-Servicescape on Quality Improvement Efforts

A service is the result of the social interaction between employees and customers that takes place in a physical setting. Servicescape can influence both the employees' performance (Ali et al. 2015) and customers' attitudes and behaviours (Zeithaml et al. 2013). From an internal perspective of the organization, it is important to understand the nature of the interdependence between service employees and servicescape in order to improve quality.

Previous studies have separately examined the influence of service employees (Dean and Rainnie 2009, Wu et al., 2015) and servicescape (Hooper et al. 2013, Mattila and Wirtz 2001) on customers' perceptions of quality. In this study, these two components of the service production and delivery system are combined in assessing their effect on customers' perception of quality improvement efforts. The foundational premises of the service dominant logic of marketing proposed by Vargo and Lusch (2008) and Lusch and Vargo (2014), recognizes the important role of employee skills and knowledge, the customers participation in the service production process as well as the interactional elements that produce a service output in the co-creation of value. Dollinger et al. (2018: 219), in their work on the co-creation of value in higher education, report that the nature of the quality of

the interactions has traditionally investigated the student-faculty relations. The interaction between service employees and servicescape merits investigation since it has the potential to impact on customers' perception of quality improvement efforts. In recognizing this interactive effect, it is expected that the ability of employees to improve quality can be enhanced if they work in an environment that is well designed to meet their specific needs during the service encounter. This enhanced ability should have a positive impact on customers' perception of the organization's efforts to improve quality and, in turn, lead to loyalty. Accordingly, the third hypothesis is formulated:

> *H₃*: The customer's perception of servicescape will moderate the relationship between his/her perception of service employees and his/her perception of the organization's efforts to improve service quality.

The proposed links between service employees, servicescape and service quality improvement efforts are graphically presented in Figure 1.

Figure 1. *Relationship between Service Employees, Servicescape and Perception of Quality Improvement Efforts*
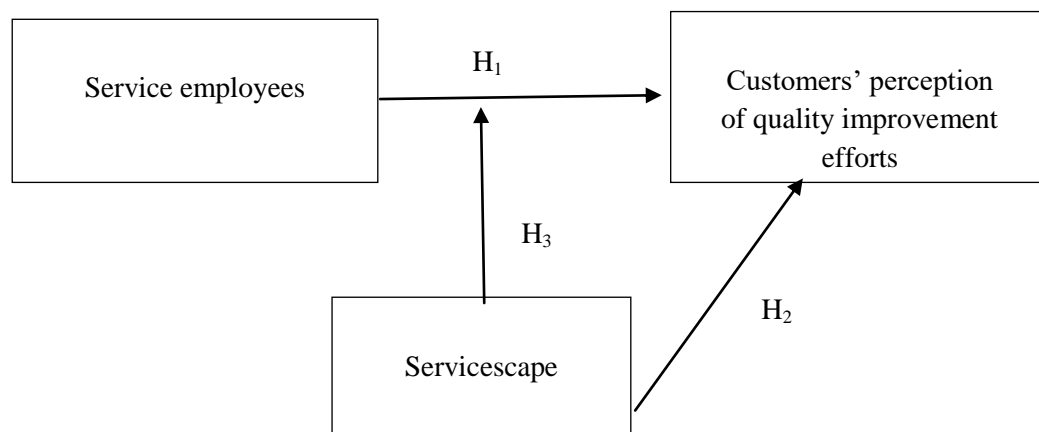
Method

Sample

Data for this study was collected in a university situated in eastern Canada. As this is an exploratory study, the sample used came from a single university in the region. Convenience sampling was used, based on the list of courses of the 3rd and 4th years of the undergraduate programs, and from the graduate programs of several faculties. Questionnaires were distributed during a two-week period in randomly chosen classes. The questionnaires included an explicative note and contact information. The final sample was composed of 435 respondents, 41% of which were male and 59% female, 87% undergraduate students and 13% graduate. Overall, 55% were enrolled in the social sciences and humanities programs while

45% were in sciences and engineering. In all, 82% were Canadian students and the other 18% international students.

Analysis Procedure

The assessment of the main influence of service employees and servicescape, and their interactive effect on the customer's perception of quality improvement efforts was conducted following the procedure proposed by Taylor (1997), based on hierarchical multiple regression with interaction. This procedure seeks to detect the presence of potential higher order terms and, if need be, to include them in the regression model. Taylor (1997: 137) has underlined that "failing to capture true higher order and/or interaction effects can lead to problems associated with interpreting regression coefficients, particularly as importance weights." In the context of the current research, the regression model relating two independent variables to a dependent variable takes the form as follows:

$$IE = \beta_0 + \beta_1 \, SE + \beta_2 \, SC + \beta_3 \, SE*SC + \text{POTENTIAL HIGHER ORDER TERMS} + \varepsilon \quad [1]$$

Where:

IE = Customer's perception of quality improvement efforts made by the service organization
SE = Customer's perception of the performance of service employees of the service organization
SC = Customer's perception of the servicescape of the service organization
SE*SC = Interaction between service employees and servicescape
HIGHER ORDER TERMS: A set of higher order terms up to cubic form as well as other interaction effects.

Measurement

A review of the literature reveals the existence of various scales developed specifically for certain characteristics of service employees such as competence and trust, but not for service employees as a whole. There are, for example, multi-item scales developed for B2B seller competence (Rosenzweig and Roth 2007), new service development competence (Menor and Roth 2007), enterprise resource planning competence (Stratman and Roth 2002) or network competence (Ritter et al. 2002). Concerning servicescape, a multi-item scale has recently been proposed for the educational sector (Goi and Kalidas 2015). However, this scale is applied to a specific higher education institution and has dimensions unrelated to servicescape as defined in the literature. Nonetheless, two items from this scale, parking and restaurant, were retained in this study. Let us remember that the purpose of this research is not to develop multi-items scales. In this context, to quantify these concepts as presented in equation [1] we used direct measures.

The selection of items to assess service employees and servicescape in the

present research was based on the meaning of each construct as recognized in the literature and the dimensions identified by a focus group carried out with students. The focus group was conducted with eight members, four men and four women, ranging in age from 20 to 32. The discussion, led by a researcher, lasted one hour and a half, and covered various issues surrounding educational services provided by the university with a focus on faculty members, other employees and physical facilities. The information generated corresponds largely to the definition of these constructs in the literature. One can observe the similarity between certain dimensions of the service quality measurement scale, SERVQUAL, (Parasuraman et al. 1988). This overlap is explained by the fact that service quality is a concept that incorporates the performance of employees and physical facilities. However, the purpose of this study is to measure perceptions of quality improvement efforts that, in turn, lead to the outcome.

First, five items were used for the measurement of service employees. Three items are for the group of employees having a leading role in the service production and delivery system: expertise of faculty members, their teaching ability and their willingness to supervise students. Two other items for other employees in their supporting role were included: staff responsiveness and willingness to help students. Second, eight items were chosen to describe various components of servicescape: comfort and layout of classrooms, equipment and technology used in classrooms, equipment and technology used in other services, comfort and layout in library, sports facilities, student residences, cafeteria and other food services, and parking space.

Finally, six items were used to describe the efforts made by the organization to improve quality: institution making efforts to offer better study programs, institution-taking actions to improve service quality, management being well informed about novelty in higher education, management promoting continuous renewal, work philosophy based on continuous renewal and management encouraging employees to adopt continuous renewal. Appendix I shows the 19 items used in this study.

Since the constructs examined in the present study are multidimensional, the advantage of these measures lies in the use of indexes formed from multiple indicators that are summed and averaged rather than a single-item measure (Taylor and Baker 1994). All the measures are presented in a statement on a bipolar seven-point agreement responses with anchors of strongly disagree (1) and strongly agree (7). The correlation matrix of these items, presented in Table 1, shows that Spearman's correlation coefficients between the measures within a specific concept (varying from 0.214 to 0.764) are generally greater than those between the measures from different concepts (varying from 0.107 to 0.467). In addition, Table 2 shows adequate values of Spearman's item-index correlation (between 0.485 and 0.886). The assessment of the discriminant validity of the two indexes SE (for service employees) and SC (for servicescape) used as independent variables in equation [1] was performed according to the procedure proposed by Fornell and Larcker (1981) by comparing the values of average variance extracted (AVE) of each index to their squared correlation coefficient. To do this, a confirmatory factor analysis (CFA) was performed on thirteen measures used for the two

indexes (five for SE and eight for SC). The CFA loadings are presented in Table 2. With loading coefficients of 0.688, 0.651, 0.610, 0.541 and 0.503 for SE, and 0.807, 0.771, 0.701, 0.671, 0.634, 0.615, 0.612 and 0.524 for SC, the AVE values of the indexes (0.686 for SE and 0.793 for SC) were both above their squared correlation coefficient (0.199). The results of the overall model were considered acceptable in accordance with the model's main statistics, except for the value χ^2/n = 3.88, which was slightly above the norm (i.e., 3.00), but statistically significant at p=0.000. Indicators, such as the "Normed Fit Index" (NFI = 0.930), the "Incremental Fit Index" (IFI = 0.920), and the "Comparative Fit Index" (CFI= 0.923), were also acceptable. Furthermore, the value of the indicator "root mean square error of approximation" (RMSEA) was equal to 0.078, which is below the limit of acceptability of 0.08 (Byrne, 2001). With acceptable Cronbach's alpha values of these indexes (between 0.767 and .919) and considering the exploratory nature of the present study (Nunnally 1978), these results constitute a demonstration, although partial and limited, of the validity and the reliability of the used measures.

Results and Discussion

Following the procedure suggested by Taylor (1997), the results of identifying the (linear or curvilinear) nature of the relationship between the dependent variable (quality improvement efforts) and two independent variables (service employees and servicescape) are reported in Table 3.

As can be observed, the quadratic term associated only with service employees is statistically significant. In light of these results, the form of equation [1] connecting service employees and servicescape with quality improvement efforts and subject to testing is expressed as follows:

$$IE = \beta_0 + \beta_1\,SE + \beta_2\,SC + \beta_3\,SE*SC + \beta_4\,SE^2 + \beta_5\,SE^2*SC + \varepsilon \qquad [2]$$

The next step of the analysis procedure consists of estimating various regression models derived from equation [2] and evaluating the change in the coefficient of determination (R^2) in a hierarchical manner conforming to the apparition order of the independent variables as specified. As the independent variables are closely related, the centered data have been used to attenuate the error caused by the potential problem of multicollinearity (Aiken and West 1991, Cronbach 1987). Table 4 presents the results of the hierarchical multiple regression analysis and the variance inflation factor (VIF) values estimated for various models.

Table 1. *Correlation Matrix of the Items Used in the Model*

Variables	SE1	SE2	SE3	SE4	SE5	SC1	SC2	SC3	SC4	SC5	SC6	SC7	SC8	IE1	IE2	IE3	IE4	IE5	IE6
SE2	0.628																		
SE3	0.497	0.463																	
SE4	0.487	0.403	0.501																
SE5	0.409	0.405	0.409	0.483															
SC1	0.296	0.312	0.322	0.375	0.324														
SC2	0.261	0.242	0.351	0.386	0.314	0.612													
SC3	0.210	0.254	0.284	0.347	0.315	0.497	0.471												
SC4	0.203	0.118	0.272	0.385	0.267	0.436	0.504	0.430											
SC5	0.260	0.149	0.318	0.367	0.194	0.416	0.490	0.352	0.465										
SC6	0.231	0.226	0.199	0.168	0.226	0.458	0.440	0.375	0.374	0.378									
SC7	0.193	0.272	0.250	0.189	0.179	0.422	0.380	0.347	0.361	0.317	0.395								
SC8	0.107	0.181	0.145	0.125	0.197	0.316	0.373	0.419	0.214	0.351	0.376	0.424							
IE1	0.465	0.445	0.467	0.440	0.361	0.327	0.225	0.396	0.300	0.271	0.305	0.351	0.258						
IE2	0.397	0.464	0.449	0.418	0.391	0.382	0.342	0.389	0.217	0.269	0.378	0.435	0.287	0.744					
IE3	0.312	0.436	0.431	0.366	0.365	0.287	0.269	0.323	0.140	0.225	0.334	0.411	0.304	0.600	0.705				
IE4	0.304	0.336	0.352	0.406	0.414	0.315	0.294	0.327	0.221	0.219	0.295	0.356	0.244	0.561	0.606	0.743			
IE5	0.386	0.452	0.410	0.412	0.392	0.319	0.318	0.400	0.181	0.231	0.266	0.427	0.276	0.608	0.685	0.764	0.739		
IE6	0.400	0.463	0.465	0.338	0.336	0.275	0.247	0.281	0.173	0.204	0.288	0.452	0.250	0.490	0.582	0.645	0.625	0.733	
MEAN	5.15	4.42	5.09	5.15	4.71	4.83	5.27	5.00	5.63	5.25	4.49	3.86	2.73	4.88	4.40	4.42	4.62	4.42	4.52
S.D.	1.34	1.53	1.20	1.24	1.57	1.47	1.35	1.71	1.31	1.34	1.30	1.70	1.81	1.28	1.37	1.38	1.20	1.27	1.36

Table 2. *Coefficients of Spearman Correlation Inter Index-Item, CFA Loadings and Cronbach's Alpha Coefficients*

Indices (Construct)	Items	Spearman correlation	CFA loadings	Cronbach's alpha
SE (Service employees)	SE1 (Expertise of faculty members)	0.734	0.688	0.774
	SE2 (Ability of teaching of faculty members)	0.745	0.651	
	SE3 (Student supervision by faculty members) 0.728		0.610	
	SE4 (Staff responsiveness)	0.685	0.541	
	SE5 (Staff willing to help)	0.682	0.503	
SC (Servicescape)	SC1 (Comfort and layout of classrooms)	0.694	0.807	0.767
	SC2 (Equipment and technology used in classrooms)	0.728	0.771	
	SC3 (Equipment and technology used in other services)	0.667	0.701	
	SC4 (Comfort and layout in library)	0.605	0.671	
	SC5 (Sports facilities)	0.571	0.634	
	SC6 (Student residences)	0.603	0.615	
	SC7 (Cafeteria and other food services)	0.592	0.612	
	SC8 (Parking space)	0.485	0.524	
IE (Quality improvement efforts)	IE1 (Institution making efforts to offer (Quality) better study programs)	0.788	0.750	0.919
	IE2 (Institution taking actions to improve service quality)	0.855	0.806	
	IE3 (Management being well-informed about novelty in higher education)	0.870	0.818	
	IE4 (Management promoting continuous renewal)	0.821	0.775	
	IE5 (Work philosophy based on continuous renewal)	0.886	0.845	
	IE6 (Management encouraging employees to adopt continuous renewal)	0.804	0.749	

Table 3. *Identification of the Nature of the Relationship between the Perception of Quality Improvement Efforts and each Independent Variable*

Model	R^2	p		
IE = 0.647 SE	0.418	0.000	$F(1, 431) = 309.93$	
IE = 0.667 SE + 0.074 SE^2	0.423	0.000	$F(2, 430) = 157.82$	Significant quadratic term (p = 0.050)
IE = 0.636 SE + 0.091 SE^2 + 0.047 SE^3	0.424	0.000	$F(3, 429) = 105.24$	Significant quadratic term (p = 0.048) No significant cubic term (p = 0.491)
IE = 0.578 SC	0.334	0.000	$F(1, 431) = 213.52$	
IE = 0.582 SC + 0.044 SC^2	0.336	0.000	$F(2, 430) = 107.43$	No significant quadratic term (p = 0.269)
IE = 0.482 SC + 0.063 SC^2 + 0.123 SC^3	0.340	0.000	$F(3, 429) = 72.88$	No significant quadratic (p = 0.125) and no significant cubic terms (p = 0.092)

Table 4. *Estimates of Various Regression Models from Equation [2]*

Estimated Model	Variable	Beta	t-value	p-value	R^2	VIF	Tolerance
1	SE	0.476	11.632	0.000	0.496	1.40	0.71
	SC	0.322	7.872	0.000		1.40	0.71
2	SE	0.490	11.997	0.000	0.506[a]	1.42	0.70
	SC	0.329	7.845	0.000		1.41	0.71
	SE*SC	0.101	2.930	0.004		1.01	0.98
3	SE	0.472	10.350	0.000	0.507[b]	1.77	0.56
	SC	0.296	6.169	0.000		1.95	0.51
	SE*SC	0.119	2.966	0.007		1.65	0.61
	SE^2	-0.012	-0.286	0.775		1.58	0.63
	SE^2*SC	0.049	0.924	0.356		2.39	0.42

[a] $\Delta R^2 = 0.01$, $F_{1, 431} = 8.68$, $p = 0.0034$
[b] ΔR^2 is not significant

These results reveal that the regression coefficients representing the main effect of service employees and servicescape on customer's perception of quality improvement efforts is statistically significant in the presence of the interaction term between service employees and servicescape (SE*SC). These results confirm the hypotheses H_1 and H_2. The effect of service employees on the perception of quality improvement efforts is more important than servicescape (beta of SE = 0.490 compared to beta of SC = 0.329 in model 2 in Table 4). This result suggests, therefore, the crucial role of employees in the process of improving service quality in higher education as mentioned in the literature (Sharabi 2013).

Regarding the coefficient associated with the term SE*SC, it is statistically significant and confirms the hypothesis H_3, but with small magnitude (beta of SE*SC = 0.101 in model 2 and beta of SE*SC = 0.119 in model 3 in Table 4). Because of the small magnitude and the exploratory nature of the study, this result should be interpreted with caution. Despite this remark, the significance of the interaction term found here is worth noting given the difficulty to detect statistically reliable interactions as suggested by numerous researchers in the field (Taylor and Baker, 1994). Consequently, we note that the presence of the interaction between service employees and servicescape contributes to a better explanation of the customer's perception of quality improvement efforts. Moreover, the results show that the effect of service employees increases when

servicescape is stronger (beta of SE = 0.476 comparing to beta of SE = 0.490 when beta of SC increases from 0.322 to 0.329 in the presence of SE*SC in models 1 and 2 in Table 4). Consequently, these results suggest the moderator role of servicescape in the relationship between service employees and quality improvement efforts. Since the coefficient of the term SE*SC is positive, this result can be interpreted as a congruence between perceptions of service employees and servicescape. Statistically, the positive value of the coefficient associated with the term SE*SC indicates that the interactive effect increases (decreases) when the perception of servicescape increases (decreases). This result demonstrates that service workers and servicescape are an integral part of the service production and delivery system (Zeithaml et al. 2013), and they must be jointly designed, developed and managed in quality improvement programs that are linked with organizational values and strategy (Jha et al. 1996). In the context of higher educational institutions, the inseparability between service employees and servicescape seems even more obvious because of the need to provide an environment conducive to exchanges between faculty members and students or learning itself.

Concerning superior order terms, the results in Table 4 show that their coefficients are not statistically significant. Therefore, these results allow us to conclude that the model without higher order terms is appropriate. The results presented in Table 4 also reveal that the change in the coefficient of determination (ΔR^2) is statistically significant in the presence of the interaction term (ΔR^2 is significant from model 1 to model 2 in Table 4).

Conclusion

Considering the results obtained in this study, a service organization should put its focus on service employees and servicescape in order to ensure favourable perception of customers towards the organization's efforts to improve quality.

Regarding service employees, the continuous improvement of their performance should be a guideline in human resources management and several actions could be considered, such as strengthening their competence and encouraging their benevolence towards customers during the service encounter. To strengthen the competence of service employees, first, management must develop an environment that facilitates individual learning (Oprime et al. 2012) with the purpose of encouraging the acquisition and sharing of information and knowledge related to the service production and delivery system. From this perspective, a training program against industry best-practice standards must support the upgrading of specific knowledge held by each service employee periodically in order to enhance the customer's perception of the service organization's efforts to improve quality.

In the context of higher education, it is imperative to invest in faculty members to develop and deliver high quality curriculum. For example, to maximize their contribution, the institution should provide them with the means to renew continuously their skills to ensure a creative and effective teaching for

students to acquire new knowledge to solve new problems (Sharabi 2013). The institution should establish a permanent structure for the development of skills to maintain or increase its capital of competence (Bouteiller 2009). On the one hand, this structure could focus on formal training practices for improving teaching skills or those associated with the optimal use of information technology and communication. On the other hand, this structure can also be directed towards informal training activities that promote meetings and discussion among faculty where the more experienced faculty would be asked to provide some guidance to new hires (Kelleher et al 2019). In the case of a higher education institution, promoting benevolent behaviour among faculty members and other employees for the well-being of students means that the university or college is taking action to ensure the success of the learning process. This in turn helps to reinforce the perception among students that the institution is making efforts to provide better educational services.

Concerning servicescape, because of its strong influence on the performance of service employees, it must be designed in response to two types of needs: operations needs, expressed by the maximisation of organizational efficiency, and marketing needs, to create an environment that influences customers' attitudes and beliefs toward the service organization (Hooper et al. 2013). In reference to operations needs, the spatial layout of the environment must aid in the accomplishment of both the employee's and the customer's tasks during the service encounter. In a higher education setting, its improvement must be guided by a judicious choice of various elements such as comfort and layout of classrooms and library, equipment and technology used in classrooms and other services in order to provide better educational services. Indeed, in this context, the servicescape has the potential to influence students' expectations and perceptions of the value proposition of their institution (Nilsson and Ballantyne 2014). From our perspective, it also promises to contribute to the creation of a unique distinctiveness in the positioning strategy of higher education institutions that are faced with strong competition.

Regarding the interactive effect of service employees and servicescape on perceptions of quality improvement efforts, in our view, this interactive process is key to the transformation process and delivery of quality educational services. Therefore, the educational institution must build up its quality improvement program based on the continuous renewal of knowledge aimed at strengthening the competence of faculty and a servicescape designed to maximize organizational efficiency and distinctiveness. The focus on these key elements promises to lead to favorable perceptions of the efforts made by the institution to continuously improve the quality of its offer.

Limitations and Further Research

The limits of the present study should not be ignored. Firstly, the exploratory nature of this study does not allow for the generalization of the findings to all types of service settings because of the great variety in service industries, especially since the data were collected from a convenient sample. Secondly, the efficacy of

the direct measures used in the evaluation of service employees, servicescape and quality improvement efforts must be considered (Peterson and Wilson 1992). The selection of these measures was based on the meaning of each of the three constructs, in the absence of measurement scales. Thirdly, the hierarchical multiple regression with interaction method used here is not necessarily superior to other techniques to investigate potential higher-order and/or interactive effects (Jaccard et al. 1990, Taylor 1997). For example, structural equation modelling with latent variables is a prominent alternative technique. However, this method, more complex, is not able to examine the subtle distinction between closely linked constructs (Iacobucci et al. 1994). Finally, the weak variation of the coefficient of determination between estimated model 1 and 2 in Table 4 should invite us to interpret the results with caution. Concerning future research, it would be helpful to realize similar studies in other service settings. Furthermore, it would be interesting to proceed with other studies to determine the exact nature of the interaction between service employees and servicescape. The work being presently done on the co-creation of value could be the starting point that leads to a better understanding of the interactive process in a «collective consumption context», (Kelleher et al. 2019).

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Appendix I

Measures of Service Employees, Servicescape and Perception of Quality Improvement Efforts

Service Employees

SE1   Expertise of faculty members
SE2   Teaching ability of faculty members
SE3   Willingness of faculty members to supervise students
SE4   Staff responsiveness
SE5   Willingness of staff to help students

Servicescape

SC1   Comfort and layout of classrooms
SC2   Equipment and technology used in classrooms
SC3   Equipment and technology used in other services
SC4   Comfort and layout of library
SC5   Equipment and technology used in library
SC6   Comfort and layout of student residence
SC7   Equipment and technology used in student residence
SC8   Availability of parking space

Perception of Quality Improvement Efforts

IE1   Institution making efforts to improve study programs
IE2   Institution taking actions to improve service quality
IE3   Management being well-informed about novelty in higher education
IE4   Management promoting continuous renewal
IE5   Work philosophy focused on continuous renewal
IE6   Management encouraging employees to adopt continuous renewal

An Explanation of a Gender Earnings Gap in the Veterinary Profession

By David Smith[*], Demos Vardiabasis[+], Samuel Seaman[±] & Yury Adamov[°]

Analysis of a unique data set of U.S. veterinary firms and veterinarians provides evidence of significant differences in earnings between self-employed males and females. After controlling for important concomitant variables, including training and experience, self-employed female veterinarians generally own smaller clinics and have lower earnings than their male counterparts. This study considers which demographic/economic factors may be associated with observed gender differences in earnings. The gender gap for average earnings is about 44 percent; however, when controlling for certain characteristics, the gap narrows to as little as 23 percent, depending on the model specification. Firm size was found to be the strongest contributing factor in explaining the gender gap in earnings, and so, possible explanations for differences in firm size have also been discussed. Whilst the analysis is not conclusive, there is evidence that self-employed females may face customer discrimination, which may constrain the growth and size of female-owned firms. (JEL D21)

Keywords: *Gender differences, salaries, self-employment, veterinarians*

Introduction

After a long period of decline following World War II, the population of self-employed veterinarians in the United States experienced a growth spurt from 1975 to 1990. During this period, the percentage of self-employed among nonfarm workers increased from 7.4 to 9.7 percent (Devine 1994a).[1] Females led the increase in nonfarm self-employment during this period, as the female self-employment rate increased from 4.1 percent in 1975 to 6.7 percent in 1990. This represents almost one-eighth of the total increase in female nonfarm employment during this period. Despite these gains, available data sources report that self-employed females earn significantly less than self-employed males, as well as less than both males and females in the wage-salary sector. According to Devine, in 1990 self-employed females earned less than half the wages of their male counterparts, even among full-time full-year workers. Although there has been

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[1]Bregger (1996) shows that self-employment rates remained relatively stable from 1990-94, providing evidence that growth spurt ended in 1990.

some research exploring the recent rise in self-employment among females,[2] little work has been done to examine the low relative earnings position of self-employed females.

Other researchers, notably Rosa et al. (1996), along with Du Rietz and Henrekson (2000), have documented that female-owned firms tend to be smaller than male-owned firms, both in terms of employees and sales. The positive correlation between firm size and earnings in the wage-salary sector is well established (e.g., Brown and Medoff 1989, Even and MacPherson 1994). However, this relationship has not been examined within the context of self-employment.

This paper studies the impact of firm size on the earnings of the self-employed, and the extent to which gender differences in firm size may contribute to observed gender differences in earnings. The US Bureau of Census (1996) reports that in 1992, female-owned firms earned on average 43 percent less revenue than male-owned firms. Thus, a portion of the earnings gap could be explained by gender differences in this characteristic. This finding would immediately motivate the next question: Why are female-owned firms smaller than male-owned firms? This paper explores potential answers to this question, examining whether a discriminatory process or gender differences in preferences explains this observed phenomenon.

This paper uses a unique new data set on veterinarians and veterinary firms. This data set has some particular advantages for studying gender differences in self-employment earnings. First, veterinarians receive virtually identical education and training. Therefore, differences in earnings and self-employment behavior are not likely to be derived from differences in human capital. Second, veterinarians have relatively high rates of self-employment giving a large number of observations to utilize. Last, the data used here contains valuable measures of productivity, specifically measures of patients seen per hour and hours worked per week, in addition to detailed firm-level data. This will allow for a careful analysis of the factors that impact earnings in self-employment. Since the data set is specific to one occupation, its findings should not be generalized to the entire population of working men and women; however, the findings may be suggestive of the mechanisms that determine earnings for other populations of self-employed workers.

Background and Data

The data come from annual wage surveys conducted in 1994 and 1995 by Medical Economics Research Group, at the direction of Veterinary Economics. Veterinary Economics is a practitioner management journal sent monthly, free of charge, to all private practice veterinarians who request it. Among veterinary publications, Veterinary Economics' circulation rate is relatively high, as their readership includes more than two-thirds of all veterinarians in the United States.

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[2]See Aronson (1991), Blau (1987), and Devine (1994b).

Stratified random samples[3] of 4,319 veterinarians in 1994, and 4,322 in 1995, were mailed surveys with a total of 3,187 usable surveys returned (37 percent usable return rate). The sample is limited to full-time, private practice veterinarians who have at least one year of experience.[4] A comparison with 1990 census data provides evidence that the sample is representative of the general population of veterinarians.[5]

The self-employed are defined as those who are sole-owners of their firms, incorporated or unincorporated. Individuals in partnerships are not treated as self-employed. It may be reasonable to classify partners as "self-employed," since the median partnership size in the sample is 2. However, in order to maintain a more theoretically satisfying definition of self-employment, classification of the self-employed is limited to sole-owners of firms. Using this definition, approximately one-half of the survey respondents are self-employed. All veterinarians self-report their earnings as the answer to the following question: "Which of the following best represents your personal 1993 (or 1994) compensation from the practice before taxes were withheld?"[6]

Table 1 reports summary statistics for the sample of self-employed veterinarians. Note from this table that males earn on average $72,441 per year, while females earn on average $43,874 per year. Differences in hours worked per week are not significant, but male self-employed veterinarians have, on average, 7.5 more years of experience than the sample of female veterinarians. Thus, differences in experience could account for a significant portion of the gender earnings gap. Also available in the data is a measure of patients seen per hour, which will serve to control for differences in productivity. Table 1 also reports a variable called average fee. This represents a measure of the average charge per

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[3]Some smaller veterinarian specialties were over-sampled. Summary statistics are weighted by specialty to reflect the "true population" of veterinarians, which is Veterinary Economics' subscriber list.

[4]145 observations were dropped from the 94 data, which appeared as likely duplicates in the 95 survey. In addition, 4 observations that appeared as subject to coding errors were dropped. A data appendix, available from the author upon request, provides more details and copies of all surveys.

[5]An Appendix A, which details this comparison, is available upon request.

[6]Using responses to this question as a measure of earnings for the self-employed may pose a problem, particularly since there are tax avoidance incentives unique to the self-employment sector, which may lead owners to underreport their earnings. A more theoretically satisfying measure of earnings for the self-employed may be firm profits, a measure of which may be obtained from data available on firm revenues and expenses. However, there are potential problems with using such a measure with these data, specifically an increased potential for measurement error and small sample problems. A measure of firm profits, which is constructed from revenue and expense variables, may be subject to a higher degree of measurement error than a measure of earnings. And, it is a smaller sample of veterinarians that reports measures of revenues and expenses. In addition, an incentive to underreport earnings may still reflect itself in a measure of gross profits. Given these concerns, self-reported earnings are used as the preferred measure of earnings in self-employment. In separate regressions, all equations are reestimated using gross profits as the measure of earnings, with qualitatively similar results.

client visit. Veterinarians typically keep track of this measure since it is thought to be a general indicator of clinic productivity (Bowman and Douglas 1996).[7]

Table 1. *Summary Statistics for Self-Employed Veterinarians*

	Males	**Females**	**Male to Female Ratio**
Data at the Individual Level			
Annual Earnings[a]	72,441	43,874	1.65
Experience[a]	20.1	12.6	1.60
Age[a]	46.3	39.3	1.18
Hours worked/wk[a]	53.2	54.5	.98
Patients per hour	1.51	1.24	1.22
Average Fee	65.54	64.92	1.01
Data at the Firm Level			
Clinic Specialty:			
Small Animal	0.60	0.76	0.79
Mixed	0.26	0.16	1.63
Equine	0.04	0.05	0.80
Large Animal	0.09	0.03	3.0
Other vets employed	1.0	0.8	1.25
Non-vet employees	3.5	3.0	1.17
Total clients	2,463	1,897	1.30
Gross Revenue	300,885	199,062	1.51
Gross Expenses	219,793	150,725	1.46
Gross Profits	81,091	48,337	1.68
Sample Size[b]	1,302	220	5.92

Notes: Table is weighted to correct for over-sample of some specialties. [a]Data are reported as categorical variables. Means are obtained by using the midpoint of the reported range. [b]Smaller samples for some variables.

Respondents report various statistics at the firm level. The data report that most self-employed veterinarians are located in small animal clinics, females more so than males. Also revealed in Table 1 is the fact that the firms studied here are relatively small. Male sole-owners employ on average 1.0 other veterinarians, while the sample mean of this variable for females is 0.8. In addition, male owners employ on average 3.5 other (non-veterinarian) workers compared to 3.0 workers for their female counterparts. As another indication that men own larger firms than women, male owners report an average of 2,463 total clients with a corresponding figure of 1,897 for females.

Survey respondents also report measures of firm gross revenues and gross expenses, and the means of these variables are also reported in Table 1.[8] Male

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[7]In the veterinary literature, this is referred to as the ACT (Average Client Transaction charge). Clinics with higher ACTs are generally thought to be more profitable, since each client is spending, on average, more money on each visit to the veterinarian.

[8]Firm owners are asked the following questions: "Which of the following best represents the practice's 1993 (or 1994) total gross revenue?" and "What were your total 1993 (or 1994)

sole-owners report an average of $300,885 per year in gross revenue, approximately $100,000 greater than the corresponding figure reported for female sole-owners. Mean average expenses are also greater for males than females, reported as $219,793 and $150,725, respectively. A crude measure of "gross profits" is constructed by subtracting mean gross expenses from gross revenues. Mean gross profits for male-owned firms are $81,901, while the corresponding figure for female-owned firms is $48,337.

These statistics lend support to the theory that gender differences in firm size may account for a significant portion of the gender gap in earnings. From Table 1, the gender gap in mean earnings is 39 percent with a corresponding gap in gross revenue of 34 percent. In addition, the gender difference in the measure of gross profits is 40 percent. Assuming owners compensate themselves out of gross profits, this coincides well to the gender gap in mean earnings.

Empirical Framework

A standard earnings decomposition (Oaxaca 1973) is used to analyze the impact of firm size on earnings in a more rigorous framework. First, separate earnings equations are estimated for self-employed females and males:

$$\ln \overline{E}_f = \sum B_f \cdot \overline{X}_f \tag{1}$$

$$\ln \overline{E}_m = \sum B_m \cdot \overline{X}_m \tag{2}$$

The natural logarithm of Earnings, E, is used as the dependent variable. The X variables include controls for experience, hours worked per week, patients seen per hour, clinic specialty, region, metropolitan statistical area (msa), and year of survey dummies. In addition, three variables will be used to control for firm size: number of veterinarians, total clients, and total revenue.

If $\sum B_m \cdot \overline{X}_f$ is added to both equations (1) and (2), and then equation (1) is subtracted from equation (2), the following decomposition is obtained:

$$\ln \overline{E}_m - \ln \overline{E}_f = \sum B_m (\overline{X}_m - \overline{X}_f) + \sum \overline{X}_f (B_m - B_f) \tag{3}$$

The first term on the right-hand side of equation (3) evaluates the difference in mean values of the X's using male prices or coefficients. This is generally referred to as the "explained portion" of the earnings gap. The second term on the right-hand side is the conventional measure of wage discrimination with $\beta_m > \beta_f$ indicating a higher price received by a male worker relative to a female worker for the same characteristic. Since there will always exist unobserved differences that

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practice expenses, excluding all owner compensation?" Not included in the means reported in Table 1 are respondents who did not report *both* revenues and expenses. In addition, owners who reported total expenses as less than 25 percent of total revenue were assumed as reporting with error, and their responses were not included in the reported figures.

cannot be controlled for, it is preferable to refer to this term as the "unexplained portion" of the earnings gap rather than a direct measure of wage discrimination.

An alternative representation of the difference in ln earnings may be expressed as follows:

$$\ln \overline{E}_m - \ln \overline{E}_f = \sum B_f (\overline{X}_m - \overline{X}_f) + \sum \overline{X}_m (B_m - B_f) \qquad (4)$$

This utilizes female coefficients to evaluate gender differences in mean characteristics. Equation (3) implies that in the absence of discrimination the male earnings structure would prevail, while equation (4) implies that the female earnings structure would exist in a nondiscriminatory environment. The two assumptions do not yield the same result and, thus, estimates of both equations (3) and (4) will be reported.

Prior to a discussion of results, two econometric notes should be made. First, the earnings data are not reported as continuous variables, but into 14 unequal intervals.[9] With data reported in intervals as the dependent variable, the appropriate estimation technique is an extension of the tobit model due to Stewart (1983). Second, it should be noted that there is no control for sample selection bias in the estimates. It is possible that veterinarians who select into the self-employment sector may differ in unobservable ways from veterinarians in the partnership and wage-salary sectors. Unfortunately, the available data do not allow for a convincing control for sample selection bias, since there is no variable that is thought to impact self-employment choice that does not also impact earnings. Since the analysis is focused on earnings differences within the self-employment sector, selection may only pose a problem if there are gender differences in selection behavior (e.g., females negatively selecting into the self-employment sector, with males positively selecting into the sector). In light of the potential sample selection problem, the ability to control for productivity will be advantageous. If gender differences in ability appear in self-employment, they may be controlled for with the available productivity variables, patients seen per hour and hours worked per week.

Results

The gender difference in mean ln annual earnings in the sample is 0.581, representing an unadjusted earnings gap of 44 percent. A decomposition of this earnings difference, prior to controlling for differences in firm size, is reported in Table 2. The coefficients on the experience variables are positive and jointly statistically significant for both females and males. As expected, gender differences in experience explain a considerable portion of the gender gap in earnings. Measured with male coefficients, the set of experience variables explains

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[9]There are 14 intervals with a median range of $10,000. Top-coding is not a problem, for exact earnings are reported when they fall in the highest category (over $200,000).

0.072, or 12 percent, of the difference in mean ln earnings. Evaluation with female coefficients accounts for 0.140, or 24 percent, of the earnings difference.

Table 2. *Earnings Decomposition for Self-Employed Veterinarians*

Variable	Female Coefficient (std error)		Male Coefficient (std error)		Explained Portion of the Wage Gap Evaluated with Male Coefficients	Explained Portion of the Wage Gap Evaluated with Female Coefficients
Experience					[0.072]	[0.140]
1 to 2 years	-1.152*	(0.495)	-0.193	(0.291)	0.005	0.031
6 to 10 years	0.394*	(0.182)	0.140	(0.093)	-0.029	-0.082
11 to 20 years	0.412*	0(.178)	0.350**	(0.083)	-0.021	-0.024
21 to 30 years	0.629*	(0.285)	0.374**	(0.086)	0.080	0.135
31 to 40 years	0.724	(0.538)	0.313**	(0.094)	0.035	0.080
over 40 years	e		0.056	(0.133)	0.002	0.000
Hours per week[b]					[0.020]	[0.020]
under 25 hours	e		-0.593**	(0.202)	0.010	0.000
25 - 30 hours	-0.118	(0.537)	-0.266	(0.141)	-0.003	-0.001
41 - 50 hours	0.500**	(0.184)	0.276**	(0.071)	0.0004	0.001
51 - 60 hours	0.565**	(0.181)	0.377**	(0.069)	0.020	0.031
61 - 70 hours	0.631**	(0.183)	0.552**	(0.074)	-0.010	-0.011
71 - 80 hours	0.438	(0.224)	0.488**	(0.087)	-0.003	-0.003
over 80 hours	0.484	(0.318)	0.578**	(0.101)	0.004	0.004
Patients per hour	0.189**	(0.071)	0.157**	(0.019)	0.038	0.046
Constant	9.568**	(0.295)	10.410**	(0.158)	-	-
Clinic Specialty[c]	yes		yes		[0.005]	[0.002]
Location and Year[d]	yes		yes		[-0.047]	[-0.046]
Sample Size	185		1094			
Log-likelihood	-386.0		-2540.3			
Total explained					[0.089]	[0.163]
Total unexplained					[0.494]	[0.416]

Notes: *Estimation technique is maximum likelihood. Numbers in brackets refer to the portion of the ln earnings gap explained by groups of variables. *Statistically significant at the .05 level; ** at the 0.01 level. [a]Excluded category is 3 to 5 years. [b]Excluded category is 31-40. [c]Categories are small animal, mixed, equine, and large animal. [d]Controls for msa status, region, and the survey year. [e]No data.*

Coefficient estimates on the productivity variables, hours worked per week and patients per hour, are reported next. Point estimates on the hours worked per

week variables are positive and jointly statistically significant, for both females and males. Since this sample includes only full-time veterinarians, gender differences in hours worked per week are not large. Differences in hours worked per week explain only 0.020 of the earnings gap when evaluated with male or female coefficients. The female coefficient on the patients per hour variable is 0.189 and statistically significant, indicating a 21 percent increase in earnings for seeing one additional patient per hour. Similarly for males, the coefficient estimate is 0.157, suggesting an increase in earnings of 17 percent for seeing one additional patient per hour. Since self-employed females see fewer patients per hour, on average, than males, differences in this characteristic account for 0.038 or 0.046 of the earnings gap, when evaluated with male and female coefficients respectively. Thus, differences in this productivity variable account for approximately seven percent of the total earnings gap.

Differences in location, and a control for survey year, actually serve to widen the earnings gap by 0.047 when evaluated with male coefficients, and a similar amount when using female coefficients. Added together, differences in observed characteristics explain 0.089, or 11 percent, of the gap in earnings when evaluated with male coefficients. When evaluated with female coefficients, differences in observed characteristics explain 0.163, or 28 percent, of the earnings gap. This leaves an unexplained earnings gap of 0.494 or 0.416 depending on the specification of the earnings decomposition. Thus, prior to controlling for differences in firm size, the unexplained earnings gap is 39 or 34 percent, depending on the specification. Notably, a large portion of the gender earnings gap remains unexplained, even after controlling for various productivity-related characteristics.

The earnings decomposition reported in Table 3 adds controls for three different measures for firm size: number of veterinarians, ln total clients, and ln total revenue. A priori, it is questionable whether these variables, particularly the revenue variable, should be controlled for. Firm size may not be exogenous to earnings. For example, it may be that customer discrimination causes females to have fewer clients than males. Consequently, female firms would be smaller, leading to lower relative earnings on the part of females.

Despite the danger of "over-controlling," and with the caveat that potential endogeneity is introduced into the model, the size variables are added to the decomposition reported in Table 3. Most notably, both male and female coefficients on the ln total revenue variable are positive and highly statistically significant. The coefficient for females is 0.682 suggesting that a ten percent increase in firm size, as measured by total sales, would increase earnings by 6.8 percent, other factors held constant. Similarly, the corresponding estimate for males is 0.597. The impact of the other size variables, number of veterinarians and total clients, is swamped by the inclusion of the total revenue variable. These coefficients are estimated as close to zero, and in all but one case, statistically insignificant. Most of the other coefficients retain their expected sign from the decomposition reported in Table 2, although the statistical significance of each coefficient is reduced after adding a control for total revenue. This is not surprising

given the correlation that these variables should be expected to have with a measure of total sales.

Table 3. *Earnings Decomposition for Self-Employed Veterinarians, Controlling for Firm Size*

Variable	Female Coefficient (std error)		Male Coefficient (std error)		Explained Portion of the Wage Gap Evaluated with Male Coefficients	Explained Portion of the Wage Gap Evaluated with Female Coefficients
Experience[a]					[0.048]	[0.114]
1 to 2 years	-0.778	(0.419)	-0.062	(0.231)	0.002	0.021
6 to 10 years	0.222	(0.151)	0.032	(0.077)	-0.007	-0.046
11 to 20 years	0.200	(0.145)	0.140*	(0.070)	-0.008	-0.012
21 to 30 years	0.465*	(0.229)	0.163*	(0.072)	0.035	0.110
31 to 40 years	0.460	(0.432)	0.209**	(0.079)	0.023	0.051
over 40 years	e		0.082	(0.115)	0.003	0.000
Hours per week[b]					[0.008]	[0.007]
under 25 hours	e		-0.405*	(0.183)	0.007	0.000
25 - 30 hours	-0.027	(0.434)	-0.110	(0.118)	-0.001	-0.0003
41 - 50 hours	0.263	(0.167)	0.081	(0.059)	0.0001	0.0004
51 - 60 hours	0.242	(0.162)	0.102	(0.058)	0.006	0.013
61 - 70 hours	0.246	(0.182)	0.189**	(0.063)	-0.003	-0.004
71 - 80 hours	0.146	(0.199)	0.083	(0.074)	-0.001	-0.001
over 80 hours	-0.156	(0.292)	0.058	(0.085)	0.0004	-0.001
Patients per hour	0.080	(0.059)	0.067**	(0.016)	0.016	0.019
Size Variables					[0.212]	[0.245]
Veterinarians	-0.029	(0.061)	-0.030*	(0.012)	-0.003	-0.002
Ln Total Clients	-0.027	(0.073)	-0.034	(0.020)	-0.006	-0.005
Ln Total Revenue	0.682**	(0.092)	0.597**	(0.026)	0.221	0.253
Constant	2.443*	(0.983)	3.805**	(0.312)	-	-
Clinic Specialty[c]	yes		yes		[-0.003]	[-0.016]
Location and Year[d]	yes		yes		[-0.043]	[-0.030]
Sample Size	165		996			
Log-likelihood	-306.5		-2077.9			
Total explained					[0.238]	[0.339]
Total unexplained					[0.356]	[0.255]

Notes: *Estimation technique is maximum likelihood. Numbers in brackets refer to the portion of the ln earnings gap explained by groups of variables. *Statistically significant at the .05 level; ** at the .01 level. [a]Excluded category is 3 to 5 years. [b]Excluded category is 31-40. [c]Categories are small animal, mixed, equine, and large animal. [d]Controls for msa status, region, and the survey year. [e]No data.*

The contribution of the firm size variables accounts for 0.212, or 36 percent, of gender gap in earnings when evaluated with male coefficients, and 0.245, or 41 percent, of the gap when evaluated with female coefficients. Including the contributions made by differences in other observed characteristics, a total of

0.238 or 0.339, representing 40 or 57 percent of the gender gap in earnings, may be accounted for. This leaves an unexplained earnings difference of 0.356 or 0.255, depending on the specification of the earnings decomposition. Thus, the earnings gap between self-employed male and female veterinarians, adjusted for differences in firm size and other observable characteristics, is 30 or 23 percent depending on the specification.

A relatively substantial earnings gap remains unexplained even after controlling for differences in firm size. Note however, if total revenue is reported with error, the presence of measurement error will downward bias the estimation of both male and female coefficients on the total revenue variable. Such a bias would reduce estimations of the explained portion of the earnings gap $\beta_m(\overline{X}_m - \overline{X}_f)$ or $\beta_f(\overline{X}_m - \overline{X}_f)$. It is well known that individuals often report measures of earnings with error. It is reasonable to expect that some of the same factors that cause individuals to misreport earnings could cause owners to misreport measures of total revenue. Thus, if measurement error is present, differences in firm size could potentially explain a greater portion of the earnings gap than reported in Table 3.

Potential Determinants of Firm Size

Since differences in firm size by gender of ownership explain a significant portion of the gender gap in earnings, it is important to consider the underlying factors related to gender differences in firm size. Three potential factors that may form the basis for these differences are discussed. Since the analysis focuses on factors that are not available in the data, specifically preferences and constraints, this study can only provide clues to the underlying factors.

Preferences

Females may have preferences for smaller firms. On average, females are more likely than males to have interruptions in their lifetime pattern of labor force participation, mainly due to family-related reasons (Polachek 1981). Thus, female owners may choose to operate on a smaller scale anticipating periods when they will not be working full-time. This seems plausible assuming a smaller firm may be more manageable in a period of part-time employment. This would be consistent with the findings of a recent study by Boden (1999). Using data from the Contingent Work Survey of the February 1995 CPS, the author presents direct evidence that females are more likely than men to cite flexibility and family-related reasons for becoming self-employed.[10] Further support for this theory is offered by Rosa et al. (1996) in a study of British small businesses. The authors'

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[10]Approximately 39 percent of the women in Boden's sample cite flexibility of schedule, child-care problems, or other family/personal obligations as primary reasons why they chose to become self-employed. This compares to a corresponding figure of 14 percent for men.

findings suggest that men have significantly stronger preferences for growing their businesses than women.

If females demonstrate preferences for smaller firms, they will employ fewer inputs relative to males. Two important inputs for veterinary clinics are reported in the data under consideration: Non-veterinarian labor along with capital, proxied by a measure of rent. In order to test whether there are gender differences in the employment of these resources, the following two equations are estimated:

$$\ln(K) = \beta_0 + \beta_1 F + \beta_{j+1} X + e \; ; \qquad j = 1\ldots.p. \tag{5}$$

where
ln(K) = ln (Annual rent)
F = Dummy variable for female
X = p controls including experience, clinic specialty, number of veterinarians, along with region, msa, and year of survey dummies.

$$\ln(L) = \beta_0 + \beta_1 F + \beta_{j+1} X + e \; ; \qquad j = 1\ldots.p. \tag{6}$$

where
ln(L) = ln (Number of non-veterinarian employees)
F = Dummy variable for female
X = p controls including experience, clinic specialty, number of veterinarians, along with region and msa dummies

Estimation of equation (5) reports the coefficient on the female dummy as -0.389 and statistically significant at the 0.01 level. Assuming rent a good proxy for capital, this suggests that female veterinarians employ 32 percent less capital than their male counterparts, holding other factors constant. Also notable is the coefficient estimate on the number of veterinarians. It is reported as positive and statistically significant, indicating an increase in rent paid of 15 percent for each additional veterinarian employed. This result implies complementarity between veterinary labor and capital in the production of veterinary services.

Estimation of equation (6) reports the coefficient on the female dummy as negative and statistically significant at the 0.01 level. The point estimate is -0.195, suggesting that female owners employ 18 percent less non-veterinarian labor than male owners, other factors held constant. Notably, the coefficient on the number of veterinarians variable is 0.38 and highly statistically significant. This suggests a 35 percent increase in non-veterinarian employees for each additional veterinarian employed. This result implies complementarity between veterinary labor and non-veterinarian labor in the production of veterinary services.

These results are consistent with the theory that females prefer smaller firms and utilize lower levels of resources in the production of veterinary services. However, lower levels of resource utilization could also reflect factors that constrain the growth of female-owned firms.

Credit Market Constraints

Female owners may be constrained in their ability to borrow funds and purchase capital.[11] This would be consistent with the result from the estimation of equation (5): females employing less capital than males, other factors held constant. If true, females would employ fewer complementary resources, such as non-veterinarian labor, which is the result reported from the estimation of equation (6). Also, the relative magnitudes of the coefficient estimate on the female dummies in equations (5) and (6) lend some support for this theory. Point estimates for gender differences in capital employed (32 percent) are greater than gender differences in non-veterinarian labor employed (18 percent).[12] A constraint in the ability to acquire capital could induce some substitution toward other factors of production, such as non-veterinarian labor.

Although there is evidence of discrimination in credit markets on the basis of race,[13] available empirical evidence with regards to gender, though limited, sheds doubt on the existence of gender discrimination in credit markets. Elliehausen and Lawrence (1990), in a study of loans by Texas finance companies, provide evidence that lenders do not discriminate on the basis of gender. And, in a more comprehensive study of small firms, the US Census Bureau (1997) asked 40,000 business owners in 1995 the following question: "Did difficulty in obtaining credit prevent your business's ability to expand in the last 5 years?" Only 12.8 percent of female owners answered in the affirmative compared to 11.5 percent of males, a statistically insignificant difference.

Customer Discrimination

Customers may discriminate against female veterinarians constraining the size and growth of female-owned firms. Customer discrimination could present itself in two ways: female sellers charging lower prices on average than males sellers (to attract customers who prefer male sellers); or, female sellers charging the same prices as male sellers but, as a result, having fewer customers.[14] In order to test for differences in prices, the following equation is estimated for each specialty:

$$\ln(P) = \beta_0 + \beta_1 F + \beta_{j+1} X + e ; \qquad j = 1\dots.p. \qquad (7)$$

where
ln(P) = ln average fee
F = Dummy variable for female
X = p controls including experience, patients per hour, along with region, msa, and year of survey dummies.

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[11]See Coate and Tennyson (1992) for a model that offers an example of discrimination in credit markets for self-employed females.

[12]It should be noted that this difference is not statistically significant.

[13]For example, see Bates (1991).

[14]For a detailed model of customer discrimination in self-employment, see Borjas and Bronars (1989).

β_1 estimated as less than zero would be evidence consistent with the existence of customer discrimination. Note the regression includes as an independent variable patients per hour, which effectively controls for differences in time spent with each client.

Equation (7) is estimated separately for veterinarians in all 4 specialties: small animal, mixed, equine, and large animal. Within each specialty, the coefficient on female is not statistically different from zero, suggesting that fees do not vary by gender.[15] A separate regression pooling all specialties, and including a dummy variable for each specialty, was estimated with the same main result.

Customer discrimination could still be present if female sellers charge the same prices as male sellers but, as a result, have fewer customers. Manifested in this manner, customer discrimination would reflect itself in fewer patients per hour for female veterinarians. In order to study this more carefully, the following equation is estimated:

$$\ln(P) = \beta_0 + \beta_1 F + \beta_{j+1} X + e \,; j = 1.....p. \tag{8}$$

where
$\ln(P)$ = Ln patients per hour
F = Dummy variable for female
X = p controls including experience, clinic specialty, ln fee, number of veterinarians, along with region, msa, and year of survey dummies

Estimation of equation (8) reports the coefficient on female as negative and statistically significant at the 0.01 level. The point estimate, -0.203, suggests that females see 18 percent fewer patients per hour, other factors held constant. The coefficient on ln fee is estimated as negative (-0.159) and statistically significant. This finding should be expected: if a veterinarian charges a higher average fee, it may indicate that he or she is providing more services to each client and, thus, spending more time with each customer.

The same equation is estimated with wage-salary veterinarians, with a very different result: other factors held constant, female veterinarians in the wage-salary sector see 13 percent *more* patients per hour than male veterinarians, a statistically significant difference. Finding the opposite result among the self-employed is evidence consistent with existence of customer discrimination against females in the self-employment sector.

Table 3 reports that the gender difference in patients per hour explains six to seven percent of the earnings gap among the self-employed, depending on the specification of the earnings decomposition. This may indicate the direct impact of customer discrimination on the earnings of the self-employed. However, customer discrimination may also have an indirect impact working primarily through differences in size or revenue. For example, customer discrimination may not only impact the number of patients that a female sole-owner sees, but the number of patients for all other employed veterinarians at her clinic. This potential indirect

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[15]In addition to reporting average fee, survey respondents report fees across an array of medical services. The large majority of the means of these fees do not differ significantly by gender.

impact of customer discrimination may not be reflected in a reduced form earnings equation. Thus, customer discrimination remains a plausible contributor for explaining gender differences in firm size.

Conclusion

In this paper, detailed firm-level data is used to study earnings differences between male and female self-employed veterinarians. The unadjusted gender earnings gap is 44 percent. Using an earnings decomposition, this study controls for differences in firm size represented by measures of employment, total client base, and sales. By controlling for firm size, along with other observable characteristics, this study is able to explain 40 to 57 percent of gender gap in earnings, depending on the specification of the earnings decomposition. Gender differences in firm size represents, the largest contributing factor in explaining the gender gap in earnings.

Potential determinants of firm size were discussed. Results suggest female self-employed veterinarians employ fewer inputs than male veterinarians, other factors held constant. Lower levels of resource utilization may reflect the preferences of self-employed females. Alternatively, female sole-owners may face constraints: they may be constrained in acquiring capital in the credit market, or they may be constrained in revenue production by customer discrimination. Due to lack of data, these results could only offer clues as to the underlying factors, but results suggest customer discrimination remains a potential explanation for gender differences in firm size. In addition, consistent with the findings of other researchers, gender differences in preferences also serves as a likely contributor to the smaller size of female-owned firms.

Even after controlling for differences in firm size, the adjusted gender gap in earnings is reported as 23-30 percent, depending on the specification of the earnings decomposition. Possible explanations for the remaining gender gap include gender differences in entrepreneurial ability, gender differences in profit reinvestment behavior, as well as potential measurement error in the total revenue variable.[16] Regardless, the present analysis indicates that a significant portion of the gender gap in earnings may be explained by differences in firm size. Considerations of the impact of firm size should be incorporated in future studies on gender differences in self-employment outcomes.

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[16]The data cast some doubt on the first two explanations: crude measures of gross profit margins can be constructed from the total revenue and expense variables reported in Table 1. Gender differences in this statistic, figured as 27 percent for males, and 24 percent for females, are not significant. In addition, summary statistics from Table 1 suggest that males and females compensate themselves out of gross profits at a similar rate (an average of 89 percent for males, and 91 percent for females).

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Ethical Leadership, Employees Commitment and Organizational Effectiveness: A Study of Non-Faculty Members

*By Abayomi Olarewaju Adeoye**

The expansion, growth and maintaining competitiveness is a function of good and effective leadership in place coupled with the commitment on the part of both the employees' and the firm itself that will determine the organization effectiveness. The thrust of this article is to scrutinize the impact of ethical leadership and employees' commitment on organizational effectiveness in an academic set-up by focusing on non-faculty members. The research design adopted was descriptive survey and 200 questionnaires were administered out of which 181 (90.5%) were found usable for the study. Three hypotheses were tested and the result revealed that there is a relationship between ethical leadership and organizational effectiveness. It was found out that ethical leadership influences employees' commitment and attitude to work. It was equally established that there is significant relationship between ethical leadership, employees' commitment and organizational effectiveness. It is concluded that ethical leadership is a propeller that will drive employees' commitment and enhance organizational effectiveness in a university environment. The study therefore recommended amidst others that university management should attempt to embrace ethical leadership as an indicator which will help in improving the quality of service and increase employees' sense of commitment. Ethical leadership should be given a paramount consideration in the institution in other to improve employees' commitment in order to achieve organizational effectiveness. (JEL L29, J5, I2)

Introduction

There is threat to global business growth despite the fact that economies are growing, becoming more difficult and complex, and it is more demanding than before. Leaders who are supposed to be managers within firms are expected to be consistently responsible in ensuring that employees are committed in the right way to ensure organizational effectiveness (Mentari, 2015; Obicci, 2015). Leadership was viewed as the procedure to influence both leaders and followership to accomplish the goals and objectives of an organization through changes (Caldwell, Hayes & Long, 2010; Lussier & Achua, 2004:5). In the 21st century, there is an assets that occupies a big portion in organizational perspective and this asset is the most valued thing to any organization. These are the employees or what is referred

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to as human capital (Khuong & Nhu, 2015; Scullion, Collings & Gunnigle, 2007). Employees that are loyal, dedicated and committed have the tendency to record greater performance and put-in significant part of their time to enhance organizational outcome (Khuong & Nhu, 2013).

Employees' commitment describes the degree of loyalty of a worker to the organization which incorporate leads to the employee's intention and willingness to work or engaged in the organizational activities in order to accomplish the goals and aspirations of the organization (Bateman & Strasser, 1984; Sharma & Bajpai, 2010). Employee's organizational commitment is viewed as employee's affiliation and integration with organization as well as emotional attachment to ensure the achievement of the organizational objectives and the extent the employee desires to stay with the organization by giving thought to the realization of the objectives of the organization (Buchanan, 1974; Marthis & Jackson, 2000; Ahmad, Iqbal, Javed & Hamad, 2014). Employees' organizational commitment is also described as "the relative strength of an individual's identification with and involvements in a particular organization" (Mowday, Porter & Steers, 1982:27, Steyrer, Schiffinger & Lang, 2008). In the views of Kim and Brymer (2011), employees commitment means "employees" advanced stages of exertion and connection to basic levels of active and economic routine of the organizational. O'Reilly and Chatman (1986) cited in Caldwell (1990) defined organizational commitment as the basis of an individual or employee's attachment to the organization psychologically while Kelman (1958) opined that commitment to an organizational is a function of three different foundation of attachment namely compliance, identification and internalization. From the extant literature, organizational effectiveness has been alluded as a way of infusing the importance of culture through inspiring and exploiting the relevance of its resources which the life pattern of each organization in achieving effectiveness is entrenched and through the norms that has influenced every participant in the organization (Schein, 2010). In order for organizational effectiveness to be attained, organizational managers and leaders are strongly motivated to adopt the trait aspect of their employees to ascertain their commitment to their jobs (Meyer, Stanley, Herscovitch & Topolnytsky, 2002).

Literature Review

Ethical leadership plays a cultural effect on social relationship which create a friendly environment for employees to work with full motivation for quality production, Khuong and Nhu (2015) also agreed, in their investigation that properties of ethical management and organizational values on employee's affability assist organizational pledge in travel sector. Similar study was carried out by Obicci (2015) who explored the possessions of ethical leadership scheduled with employee performance in the civic segment in Uganda, results of the study disclose that employee commitment is importantly inclined by ethical leadership. Leadership is a dynamic reserved for making and nourishing organization, publics and humanities. It includes founding a pure image, distribution of the vision with assistants so that they can donate their own share in realizing organizational aims

and purposes. Ethical problem is a global phenomenon and it is a vital issue in corporate organizations; and corporate front-runners must take active measures in ensuring ideal ethical leadership practices. Ethical leadership remain professed by way of consuming a wide ethical alertness and distress for wholly patrons which comprises of employees.

Ethical Leadership

Leadership is of paramount importance when it comes to the study of employee commitment and organizational effectiveness, however leadership has been widely defined as the process of influencing a team of individuals to accomplish the organizational objectives and common goals through change (Northouse, 2007, Caldwell et al, 2010; Kaiser, Hogan & Craig, 2008; Bello, 2012). Merger of leadership and ethical leadership stands as one of the crucial demands for any organization to remain competitive, hence it is clearly defined by Brown, Travino plus Harrison (2005:120) as the "demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication reinforcement and decision makings". It is advised that ethical leadership behaviours plays a vital role in pushing and enhancing employee attitude and behaviours which has a linkage to the commitment level, job satisfaction, motivation and turnover intentions of employees (Brown et al, 2005; Walumbwa, Mayer, Wang, Workman & Christensen, 2011; Heirbach, Mignonac, Vanden Berghe & Negrini, 2009; Menlari, 2015; Kim & Brymer, 2011; Khuong & Nhu, 2015). However, Freeman and Stewart (2006) concur that ethical leader possess the "right values" and "strong character" that gives a sense of direction to groups within the organization and withstand temptations.

Khuong and Nhu (2015) in their study alluded that ethical leadership is significantly related to effective trust, negatively related to abusive supervision and no similarity demographically between leader and followers. It is however, concluded that ethical leaders were truthful, trustworthiness, fair in making decisions, respect, integrity, honesty, equity, justice, compassionate and good at disseminating information with their subordinates (Bello, 2012; Khuong & Nhu, 2015).

H_1: There exist a positive link between ethical leadership and organizational effectiveness.

Employee's Commitment

Literature has availed that employee's commitment also stands for organizational commitment connecting workers dedication and support to the organization (Khuong & Nhu, 2015; Bateman & Strasser, 1984). This has been identified as one of the cogent factors in employee's encouragement and outcome within the organization (Tolentino, 2013; Ismail & David, 2014). Commitment is viewed as integrating oneself into the goals, objectives and core ideals of the

organization, readiness to apply energy, and effort for the sake of the organization with an innate opinion of his organizational membership within the organization which also means it is the focus and belief of an employee or individual attachment to a particular task or his job (Ramay and Ramay 2012, Ismail and David 2014, Tolentino 2013, Mowday et al. 1979). It has also been contended that commitment denotes the aspiration of an employee to share the beliefs and aims of the organization besides working towards attainment and achievement of organizational success amidst rivals (Becker et al. 1996, Sharma and Bajpai, 2010, Pandy et al. 2019).

Research on commitment was dominated by the model of commitment developed by Meyer and Allen (1991) as cited by (Meyer et al. 2002, Khuong and Nhu, 2015). Three major components of organizational commitment were stressed by Meyer and Allen (1991) and these three constructs is made up of affective level, continuity level and normative levels which are more discussed as components, dimensions or factors of organizational commitment (Ismail and David 2014, Khuong and Nhu 2015, Meyer and Allen 1991). The three dimensions of organizational commitment were expatiated upon as follows. First, the affective level points to workers emotional attachment to, affiliation to and engagement in the organization. Second, the continuity level means commitment anchored on the costs of employees having an intent of leaving the organization. Lastly, the normative level refers to employees having the feelings of obligationary support to stay with the organization. This is supported by the work of Cheah, Chong, Yeo and Pee (2016).

H_{ii}: There exist a significant influence between ethical leadership and employee commitment.

Organizational Effectiveness

The extant literature in recent times placed more concentration on the determinants of organizational effectiveness such as culture, product development and innovation (Liu et al. 2010, Lucas et al. 2013, Büschgens et al. 2013, Scineider et al. 2013, Slater et al. 2014). Mahadeen et al. (2016) found a positive impact of internal control system on organisational effectiveness. Heilman and Philips (2011) alluded that organizational effectiveness is an important apparatus to validate progress made in mission fulfilment and goal accomplishment. They opined that in order to achieve better organizational effectiveness, management should give priority to communication, interaction, leadership, direction, adaptability and positive cum conducive environment. Bartuševičienė and Šalcalylė (2013) submitted that organizational effectiveness is adopted to determine the performance of an organization which correlated to the attainment of organizational mission, goals and vision.

H_{iii}: There is a correlational relationship between ethical leadership, employee's commitment and organizational effectiveness.

Research Method

Investigation study design was adopted in this study. Primary and secondary data were used to gather information for inference. The target population covers Non-Academic Staff of Lagos State University. The motivation for choosing non-academic staff is because they constitute the administrative cadre of the University which determines the effectiveness of the university as an organization. Purposive sampling technique (non-probabilistic sampling technique) was used to choose the section from the populace. Out of the total population, 200 respondents remained chosen for the model size through the use of simple random sampling technique. A structured four Likert scale questionnaire (self-developed) was design to elicit information from the respondents. Content validity was adopted to ascertain the strength of the instrument designed for this study while the Cronbach's alpha of 0.76 showed the reliability of the questionnaire. Out of the 200 questionnaires administered 181 were found valid and used for the analysis. The revision used descriptive and inferential statistics to test the hypotheses.

Results and Discussion

Table 1. *Descriptive Statistics of Respondents' Demographic Information*

Alternatives	Frequency	Percentage (%)
Gender		
Male	118	65.20%
Female	63	34.80%
Age		
21 – 30 years	16	8.80%
31 – 40 years	48	26.50%
41 – 50 years	83	45.90%
Above 50 years	34	17.80%
Highest Qualification		
OND/NCE	31	17.10%
HND/BSC/ (Ed.)	92	50.80%
M.Ed./M.Sc./MA	47	26%
PhD	11	6.10%
Length of Service		
Less than 5yrs	46	25.40%
5-10yrs	111	61.30%
11-15yrs	17	9.40%
Above 15yrs	7	3.90%

Source: field survey, 2019

Table 2. *Analysis of Responses*

S/N	*Ethical Leadership*	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)
1	Do listen to what employees have to say.	124(68.6%)	50(27.6%)	7(3.9%)	-
2	Discipline employees who violate ethical standard.	78(43.1%)	83(45.9%)	19(10.5%)	1(0.6%)
3	Has the best interest of employee in mind	89(49.2%)	71(39.2%)	21(11.6%)	-
4	Site an example of how to do things the right way in terms of ethics.	80(44.2%)	84(46.4%)	16(8.8%)	1(0.6%)
5	Discuss business ethics or values with employees	92(50.8%)	70(38.7%)	18(9.9%	1(0.6%)
	Employee Commitment				
6	I would be very glad to apply the rest of my profession in this organization.	85(47%)	75(41.4%)	19(10.5%)	2(1.1%)
7	I do not feel like slice of my family at this organization.	16(8.8%)	3(1.7%)	75(41.4%)	87(48.1%)
8	I do not sense warmly devoted to this organization.	11(6.1%)	5(2.8%)	80(44.2%)	85(47%)
9	Right now, staying with my job at this organization is a matter of necessity as much as I need	91(50.3%)	67(37%)	18(9.9%)	5(2.8%)
10	I would not leave my organization right now because of my sense of obligation to it.	96(53%)	51(28.2%)	29(16%)	5(2.8%)
	Organizational Effectiveness				
11	Management has a reasonable assurance that the structure will support planned goals and ideas.	93(51.4%)	74(40.9%)	13(7.2%)	1(0.6%)
12	My organization is fruitful in realizing its objectives.	94(51.9%)	65(35.9%)	14(7.7%)	8(4.4%)
13	My organization ensures its staff adherence to laws, regulations and contract.	96(53%)	63(34.8%)	18(9.9%)	4(2.2%)
14	Management directives and decisions rely on a timely financial and managerial reporting system.	99(54.7%)	60(33.1%)	15(8.3%)	5(2.8%)
15	My organization is gifted of drawing the desirable resources to yield its product/ amenities.	89(49.2%)	45(24.9%)	31(17.1%)	16(8.8%)

Source: The Researcher, (2019).

Table 1 revealed that 118 (65.2 %) are male while 63 (34.8%) are female. This implies that there are more male than female respondents. 16(8.8%) are between 21-30 years, 48 (26.5%) are between 31-40 years, 83 (45.9%) are between 41-50 years and 34 (17.8%) are 50 years and above which revealed that majority of the respondents are between 41-50 years.

31 (17.1%) of the respondents had Ordinary National Diploma/National Certificate of Education (OND/NCE) as their educational qualification, 92 (50.8%) had Higher National Diploma/Bachelor of Science/Bachelor Of Education (HND/BSC/(ED)) as their educational qualification, 47 (26%) had Masters of Education/Masters of Science/Masters of Art (M.ED/M.SC/MA) as their educational qualification and 11 (6.1%) had PhD as their educational qualification which revealed that majority of the respondents had HND/BSC/(ED) as their highest educational qualification. 46 (25.4%) of the respondents spent less than five years in service, 111 (61.3%) are between 5-10 years in service, 17 (9.4%) are between 11-15 years in service and the remaining 7 (3.9%) had spent above 15 years in service which revealed that majority of the respondents had spent between 5-10 years in service.

Table 2 shows that high percentage of the respondents agreed to the statements on ethical leadership, employee commitment and organizational effectiveness.

Test of Hypotheses

Hypothesis One: There exist a positive link between ethical leadership and organizational effectiveness.

The result above (Table 3) indicate the bond between ethical leadership and organizational effectiveness (r = 0.910, p-value < 0.000). This relationship is significant because the generated p-value (0.000) is less than the close of significant (0.050) used for the revision.

Table 3. *Ethical Leadership and Organizational Effectiveness*

Correlations		Ethical Leadership	Organizational Effectiveness
Ethical Leadership	Pearson Correlation	1	.910[**]
	Sig. (2-tailed)		.000
	N	181	181
Organizational Effectiveness	Pearson Correlation	.910[**]	1
	Sig. (2-tailed)	.000	
	N	181	181
**. Correlation is significant at the 0.01 level (2-tailed).			

This result cannot reject the hypothesis that there exists a significant positive link between ethical leadership and organizational effectiveness among non-Academic staff of Lagos State University.

It is evident from the results that ethical leadership has a significant link with organizational effectiveness. This reveals that a leader with good ethical leadership skills will boost organizational effectiveness.

Hypothesis Two: There exist a significant influence between ethical leadership and employee commitment.

The model summary shows that ethical leadership influences employee commitment (Table 4). The coefficient of determination ($R^2 = 0.762$) shows that 76.2% of the achievement noted in employee commitment is contributed by ethical leadership. This outcome is statistically significant because the p-value of the result (0.000) is less than 0.05 level of significance used for the study. This indicates that ethical leadership significantly influences employee commitment. The model signifies that a unit changes in ethical leadership rises employee commitment by the amount of 1.047. Therefore, the null hypothesis was accepted while alternative hypothesis was rejected.

Table 4. *Ethical Leadership and Employee Commitment*

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig.
1	.873[a]	.762	.760	.29630	.000[b]
a. Predictors: (Constant), ETHICAL LEADERSHIP					

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.173	.190		-.914	.362
	ETHICAL LEADERSHIP	1.047	.044	.873	23.912	.000
a. Dependent Variable: EMPLOYEECOMMITMENT						

Hypothesis Three: There is a correlational relationship between ethical leadership, employee commitment and organizational effectiveness.

The result in Table 5 reveals the relationship between ethical leadership, employee commitment and organizational effectiveness (r = 0.873, p-value < 0.000 and r = 0.910, p-value < 0.000), (,r = 0.873, p-value < 0.000 and r = 0.946, p-value < 0.000) and (r = 0.910, p-value < 0.000 and 0.946, p-value < 0.000) respectively. This relationship is significant because the generated p-value (0.000) is less than the level of significant (0.050) used for the study. This result denotes that there exists a significant correlational relationship between ethical leadership, employee commitment and organizational effectiveness among non-Academic staff of Lagos State University.

The relationship between ethical leadership, employee commitment and organizational effectiveness is significant at a high percentage. However, the relationship between employee commitment and organizational effectiveness has the highest percentage. It can be deduced that with good ethical leadership employee will be more committed ad this will enhance organizational effectiveness.

Table 5. *Ethical Leadership, Employee Commitment and Organizational Effectiveness*

Correlations		Ethical Leadership	Employee Commitment	Organizational Effectiveness
Ethical Leadership	Pearson Correlation	1	.873**	.910**
	Sig. (2-tailed)		.000	.000
	N	181	181	181
Employee Commitment	Pearson Correlation	.873**	1	.946**
	Sig. (2-tailed)	.000		.000
	N	181	181	181
Organizational Effectiveness	Pearson Correlation	.910**	.946**	1
	Sig. (2-tailed)	.000	.000	
	N	181	181	181
**. Correlation is significant at the 0.01 level (2-tailed).				

Form the results generated above, it is revealed that majority of the respondents agreed to the statements on ethical leadership, employee commitment and organizational effectiveness. The findings revealed that there is a positive and significant relationship among the three variables under study.

Conclusion and Recommendations

The study examines the relationship between ethical leadership, employee commitment and organizational effectiveness. Leadership stands as an energetic source aimed at forming and satisfying organization, societies and cultures. Ethical issue remains a global phenomenon that needs to be addressed. Ethical leaders exist, partakes in a wide-range of ethical responsiveness. In addition, it is an apprehension for all stakeholders including employees. Thus, leaders' obligation is to generate an ethically welcoming labour environment for all employees, interconnect ethical subjects, aid as role reproductions and in addition set instrument domicile for the advancement of accountable employees.

The results revealed in the study that there exist a positive and significant relationship between the three variables which is in tandem with the findings of (Bello 2012, Buschgens et al. 2013, Pandey et al. 2019). It is therefore anticipated that leaders who demonstrate ethical conduct would be expected to reflect the wants of employees and luxury for them justly. Without a doubt, each employee needs exertion for an actually and answerable employer and as such, leaders have to discharge their requirements on ethical issues and rise up to these expectations. It can be concluded that appropriate ethical leadership contributes to employee commitment as well as boosting organizational effectiveness. It was therefore recommended that:

- Leaders ought to be qualified as modification agents, also act as a role replica, to generate an optimistic inspiration for their employees to additional boost their pledge to recital and remain with the organization.
- University management should attempt to accept equivalent conduct as ethical leadership pointer by way of helps for quality and increase employees' intelligence of obligation.
- Ethical leadership should be paramount in the institution so as to enhance employee commitment as well as organizational effectiveness.

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Effect of Audit Quality on Earnings Management in Insurance Companies in Nigeria

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The main objective of the study is to determine the effect of audit quality on earnings management in insurance companies in Nigeria with special consideration on accruals and performance measures of earning manipulations using insurance companies in Nigeria. Preliminary analyses were conducted, such as descriptive statistics and correlation matrix. In analyzing the data, the study adopted panel multiple regression to identify the possible effects of audit quality on earnings management of financial institutions in Nigeria We interpreted fixed effect analysis after using Hausman test. The result shows that audit quality had a significant effect on earnings management. We conclude that longer stay of auditors in financial institutions increases accrual and performance manipulation. However, financial institutions audited by the Big 4 auditing firms are associated with less accrual and performance earnings manipulation while financial institutions that have executive and non-executive directors as members of audit committee have greater accrual and performance earnings manipulations. Higher number of financial experts in audit committee increases accrual manipulation while higher number of experts with accounting background in audit committee reduces performance manipulating. Finally, increase in auditors' fee leads to choices of using accounting methods to manipulate both accrual and performance earnings. Therefore, the study recommends that, financial institutions should have maximum number of years for auditors to stay. They should focus more on increasing the number of experts with accounting background in audit committees. Accounting bodies should regulate auditors' fee in line with the size of the financial institution. (JEL M42)

Keywords: *Audit Fees, Audit Committee Independence, Audit Firm Size, Audit Quality, Earnings Management, Financial Literacy of Audit Committee Members, Length of Audit Tenure.*

Introduction

Earnings management has remained a widely researched area in accounting for the last two decades; this is because it is assumed as the most important ethical issue facing the accounting profession. Several years after the collapse of Enron Corporation, the organization has continued to fascinate those interested in earnings management. Although Enron corporation is the most popular case of accounting disclosure failure in the world. According to Teoh, et al. (1998), we

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would expect financial institutions to manage earnings prior to public offering and when in financial distress. When there are some doubts about the reliability of a company's qualitative financial disclosure, we may turn our attention to the auditor's report. In theory, the auditing process is supposed to serve as a monitoring device that reduces management incentives to manipulate reported earnings, as well as to detect earnings manipulation and misstatements Amat, et al. (2014). Audit is a key contributor to financial stability and in other to re-establish trust and market confidence. The auditor is entrusted by law with the responsibility of conducting statutory audits and fulfilling an important role in offering an opinion on whether the financial statements are truly and fairly stated.

Many studies have been conducted on audit quality and earnings management because earnings manipulated has long been of interest to analysts, legislators, researchers, and other investment professionals such as Aliyu et al. (2015) in Nigeria; Gulzar and Zongjun (2011) in China, Dechow et al. (1996) in Pennyslyvia; Barbadillo and Aguilar (2009) in Spain and so on. Nigeria as a developing country has had its fair share of dishonest accounting disclosures such as the case of Cadbury Nigeria Plc in 2006; Afribank Nigeria Plc in 2006, Intercontinental Bank Plc in 2009; Enterprise bank in 2014 and others. The financial sector, which is a very sensitive part of the economy, has become the most exposed sector using discretion in preparing and reporting accounting information to external users, despite all regulatory measures and auditing processes. This has become major concern to stakeholders in Nigeria, giving rise to some questions like; (1) Why would a financial institution with healthy financial statement suddenly become sick after series of unqualified opinion by reputable auditing firm? (2) Does it mean that audit quality has lost one of its secondary aim to detect earnings manipulation? (3) Does auditing processes negatively or positively influence firms' operational practices? These have become issues that needs urgent attention.

Based on the above questions, the main objective of the study is to determine the effect of audit quality on earnings management. While specific objectives are to determine the effect of audit tenure, audit firm size, audit committee independence, financial literacy of audit committee members and audit fees on earnings management with special consideration to modified jones discretionary accrual and performance matching models. Studies such as, Aliyu et al. (2015); Adeniyi and Mieseigha (2013), Adeyemi et al. (2012), Nuraddeen and Hasnah (2015) and Olabisi et al. (2017) in Nigeria only looked at accruals assessment of earnings management without considering the relationship between accruals and performance of earnings manipulation in insurance companies. In this light, the following research null hypothesis were developed:

- ➢ $H0_1$ audit tenure does not have any significant effect on earnings management;
- ➢ $H0_2$ audit firm size does not have any significant effect on earnings management;
- ➢ $H0_3$ audit committee independence does not have any significant effect on earnings management;

➢ H0₄ financial literacy of audit committee members does not have any significant effect on earnings management and

➢ H0₅ audit fees does not have any significant effect earnings management

The paper covers insurance companies in Nigeria from the period of 2012-2017 using their annual reports from Nigeria stock exchange. The remaining sections of the paper are organized as follows. Section 2 briefly reviews empirical literature on audit quality and earnings management. It discusses the effect of the independent variables on the dependent variable. The research design is described in Section 3, while Section 4 presents and discusses the empirical findings. Section 5 provides a summary of the results, conclusion and recommendations.

Review of Related Literature

Earnings Management

Roychowdhury (2006), defined earnings management as departure from normal operational practices, motivated by manager's desire to mislead some stakeholders into believing that, certain financial reporting goals have been met in the normal course of operations while Aziatul et al. (2015) defined it as the use of discretion in preparing and reporting accounting information to external users by managers. Leuz et al. (2003), sees it as the alteration in firms reported economic performance by managers either to mislead some stakeholders or to influence contractual outcome with them. Sankar and Subramanyam (2001), is of the opinion that, earnings management means 'taking advantage of the flexibility in the choice of accounting methods to indicate the management decision-making on future cash flows, while Hepworth (1953), defined it as smoothing the amplitude of periodic net income fluctuations. Schipper (1989) stated that, earnings management means 'disclosure management' in the sense of a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain.

Jiraporn et al. (2008), sees earnings management as distortions in financial reports, which occurs when there is a misalignment of incentives between managers and shareholders. This could drive the managers to exercise the flexibility of accruals accounting to adjust earnings opportunistically. While Yaping (2005) stated that, the employment of earnings management requires the manager's judgment to change the accounting estimation and policies, this right given to managers to use their judgment and discretion in accounting gives the managers the power to choose which allowable accounting method, policies and estimate encourages earnings manipulation because they are covered within the accounting law. Finally Healy and Wahlen (1999), are of the opinion that, earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports, either to mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that, depend on reported accounting numbers.

Audit Quality

DeAngelo (1981), defined audit quality as "the joint probability that, an auditor will both discover and report a breach in the client's accounting system. The discovery of a misstatement measures quality in terms of auditor's knowledge and ability, while reporting the misstatement depends on the auditor's incentives to disclose." This definition is appropriate for external financial statement audits; it can be expanded to include other types of auditors (e.g., internal auditors) and audits (e.g., compliance and operational audits). Seyyed et al. (2012) provides further explanation that, audit quality could be a function of the auditor's ability to detect material misstatements and reporting the errors. Together with other similar definitions, they all emphasized on two of the most important aspects of audit quality, namely auditor ability or auditor effort, and auditor independence. Zehri and Shabou (2011) asserted that, high quality auditors are more likely to discover questionable accounting practices by clients and report material irregularities and misstatements compared with low quality auditors.

According to Watkins, et al. (2004), financial reporting credibility is partially reflected in the confidence of users in audited financial reports. This is also noted by Levitt (2000), that the perception of audit quality helps role in maintaining confidence in the integrity of financial report. The higher the perceived audit quality, the more credible the financial statements.

Theoretical Framework

The study was anchored on the stakeholder's theory of corporate governance developed by Edward Freeman in the 1980s and signaling theory developed by Akerlof (1970) The stakeholder's theory argues that, a company should be managed in the interest of its entire stakeholder. The interest of the stakeholder include, the interest of the shareholders and other direct and indirect stakeholders such as, suppliers and creditors who have direct interest in the organization and supplies to the company on credit, based on their performance and investors who eventually invest their money in the company based on the audited report of the independent auditors and the host community (Freeman, 1984; Jones and Wicks, 1999; Donaldson and Preston, 1995, Ahmalu et al. 2017). While the signaling theory states that, corporate trustee has obligation to report relevant information to the corporate capital owners, which give help to the operation of business. In the process of reporting, corresponding information is to pass the corporate relevant signal to the capital market. The information can make the operator affect the flow of resources in capital market in a certain extent to improve the enterprise's interests. According, to Kirmani and Rao (2000), for an information to have influence, it should reduce information asymmetry among those involve in the contract and it should be able to describe the information while Erdem and Swait (1998) is of the opinion that a signal should be transparent to both the provider and the user and must be credible to be give adverse effect to the provider of wrong. Therefore, the auditors has a responsibility to protect the interest of the various

stakeholders by ensuring that, the published financial statement is free of the director's influence and any material misstatement.

Empirical Review

Effect of Length of Audit Tenure on Earnings Management

There are two opposing views on the effects of auditor tenure on audit quality. One states that, as the auditor–client relationship lengthens, the auditor develops a close relationship with the client and become more likely to act in favor of management, thus reducing audit quality. This view supports mandatory audit partner rotation. The other view is that, as auditor tenure lengthens, auditors increase their understanding of their clients' business and develop their expertise during the audit, resulting in higher audit quality. The literature on auditor tenure has generally concluded that, long auditor tenure does not impair audit quality. Most of the researches on audit tenure used issuing going concern opinion and bankruptcy as a measure for audit quality.

Chinwe and Chinwuba (2012), on auditors' independence, auditors' tenure and audit firm size in Nigeria concludes that auditor's tenure does not compromise the independence of the auditors and recommended that, the length of audit tenure should not exceed 5 years. Mgbame et al. (2012), on audit partner tenure and audit quality in Nigeria also concluded a significant negative relationship between auditor tenure and audit quality. Nuraddeen and Hasnah (2015) examined the impact of audit committee and audit quality on preventing earnings management in the pre- and post- Nigerian corporate governance code 2011. They concluded that, there is a significant negative relationship between auditor's tenure and discretionary accruals in the pre- and post-code 2011. Also, Ahmed Ebrahim (2011) on auditing quality, auditor tenure, client importance, and earnings management concluded that auditor's tenure is negatively related to the magnitude of discretionary accruals indicating that, auditors become more familiar with clients operations and financial reporting environment, with the time and this enables them to detect and prevent any opportunistic usage of accruals. Adeniyi and Mieseigha (2013) on audit tenure: an assessment of its effects on audit quality in Nigeria concludes a negative relationship between auditor tenure and audit quality, while recommending the financial reporting council and other regulatory bodies in line with best practices to look critically into the issue of auditor tenure and its impact on audit quality in Nigeria.

However, Myers et al. (2003), on exploring term of the auditor-client relationship and the quality of earnings on US companies concludes that earnings management decrease with longer auditor tenure. As longer audit tenure enables auditors to place constraints on extreme management decisions in presenting financial statements. Geiger and Raghunandan (2002), measured audit quality as whether the auditor had issued a going-concern qualification in the prior year for US clients that declared bankruptcy. They concluded that, long association between a client and an audit firm might impair their independence. Ghosh and Mood (2005), investigated auditor tenure and perceptions of audit quality. They also found a positive association between audit tenure and earnings management

and concluded that, long-served auditors may surrender their independence to keep close relationship with their clients Weerapong et al. (2013), on earnings management and audit quality in southeast Asia reported that long audit tenure impair audit. Cheong, et al. (2015) on audit quality, earnings management, and financial performance of Malaysian public listed companies concluded that audit tenure is insignificantly related to earnings management. While, Walker, et al. (2001) on mandatory auditor's rotation: arguments and current evidence concludes that risk increases early in audit client relationship and then extends over long-term periods, as the failure rate in long-term engagements is low. They further states that auditor rotation might not necessarily improve audit quality. This finding is against the finding of Johnson, Khurana and Reynolds (2002), who concluded that, longer audit tenure weakens audit quality. Davis, et al. (2000), on auditor tenure, auditor independence and earnings management concludes positive effect of auditor tenure on absolute discretionary accruals. Studies such as Carey & Simnett (2006), supports placing limits on audit partner tenure. Others, such as Chen et al. (2008), and Chi et al. (2009) suggested that longer tenure actually improves audit quality and reduce earnings management. Possibly because it leads to greater knowledge of a client's business.

Effects of Audit Firm Size on Earnings Management

Becker et al. (1998) supports positive relationship between audit firm size and audit quality in the effect of audit quality on earnings management. As Inaam and Fatma (2012) on audit quality and earnings management in Tunisia found an association between audit quality and earnings management. They reported negative and significant relationship between Big 4 auditors and the earnings management while concluding that firms audited by the big 4 audit companies have less discretionary accrual. Zuo and Guan (2014), on association of audit firm size and industry specialization on earnings management in China concludes that audit firm size is significantly negatively related to earnings management, especially for firms with income-increasing abnormal accruals. They supported the use of the big audit firms. Furthermore, Weerapong et al. (2013) on earnings management and audit quality in Southeast Asia concluded that companies audited by a big firm have less discretionary accruals than those audited by a non-big firm. Finally Krishnan and Schauer (2000), worked on the differentiation of quality among auditors, they concluded that, compliance increases with big six audit firms than non-big six.

However, Alpaslan (2013) on big four auditors, audit quality and earnings management from Turkish stock market concluded that no significant difference between the discretionary accruals of firms audited by big four and non-big four auditors. They reported that no difference in audit quality between big four and non-big four audit firms for restriction of earnings management in Turkey. Jeong and Rho (2004), examine whether big auditors provide higher quality audits than non-Big auditors in Korea, where the institutional setting does not motivate auditors to provide quality audits. They concluded that, there is no difference in audit quality between Big and non-Big auditors in Korea.

While Naz et al. (2011), on the impact of firm size and capital structure on earnings management in Pakistan reports that size of firm is positively related to earning management which implies that the bigger the audit firm the higher the level of earnings management. Kim et al. (2003) on firm size and earnings management in Hawaii and argued that, size has a positive effect on earnings management.

Effect of Audit Committee Independence on Earnings Management

Klein (2002), in audit committee board of director's characteristics and earnings management found a negative relationship between audit committee independence and abnormal accrual. He concluded that if audit committee is fully independent, effective earnings management will be curtailed. Sun and Liu (2013) on examining auditor industry specialization, board governance, and earnings management in US found a negative and significant relationship between audit committee independence and earnings management meaning that an independent audit committee reduces management chances of manipulating reported earnings. However, Onalo et al. (2013) in corporate governance and earnings quality focus on some critical but specific features of audit committee including the existence of board or shareholders audit committees, independent non-executive or shareholder audit committee chairman, its frequency of meetings and size. Their result also showed that audit committee independence is negatively related to earnings management. Furthermore, Abdul and Ali (2006) on board, audit committee culture and earnings management in Malaysia concludes insignificant negative relationship between audit committee independence and earnings management while reporting less earnings manipulation where audit committee is independent. Park and Shin (2003) in board composition and earnings management in Canada report significant negative relationship between the audit committee independence and earning management meaning that less earnings management where audit committee independence is high.

However, Fodio et al. (2013), in their study on corporate governance mechanisms and reported earnings quality in Nigeria insurance companies found a positive association between earnings management and audit committee independence. They concluded that, if an executive director is a member of the audit committee, it is likely that, there will be financial statement fraud. Dechow et al. (1996), in causes and consequences of earnings manipulation in US security and exchange commission from 1982-1992. They concluded that, firms with owner of the company, as CEO and member of audit committee are more likely to have financial statement fraud and earnings overstatement. Gulzar and Zongjun in corporate governance characteristics and earnings management of Shanghai and Shenzhen stock exchange found no association between the level of discretionary accruals, earnings management measure, and the presence of an audit committee in a firm. Molik et al. (2013) on earnings management during the Global Financial Crisis in Australian concludes that firms engaged in higher level of income-decreasing earnings management during the Global Financial Crisis, with the exception of audit committee independence, audit quality, in general, did not have an impact in mitigating this behavior.

Effect of Financial Literacy of Audit Committee Members on Earnings Management

Carcello et al. (2006) on audit committee financial expertise, competing corporate governance mechanisms, and earnings management in New York concludes that the presence of at least one audit committee member with financial expertise is associated with a lower possibility of destructive earnings management. Dhaliwal et al. (2007), in Audit committee financial expertise, corporate governance and accruals quality, investigated three types of financial experts (accounting, finance, and supervisory), in the audit committee in US stock exchange, and found a positive relation between accruals quality and accounting experts. This implies that audit committee with financial expertise increases the chances of earnings management using accruals while Patrick et al. (2013) in audit committee financial expertise and earnings management found that audit committee financial expertise is negatively related to earnings management. They concludes that audit committees with both financial expertise and high relative status are more effective at deterring earnings management. Marra et al. (2011) on board monitoring and earnings management pre and post-IFRS found that the financial expertise of audit committee members has a negative relationship with earnings management, meaning it's required a high degree of financial sophistication for audit committee member to improve audit committee's effectiveness in monitoring discretionary accruals. According to Song and Windram (2000), in the effectiveness of audit committee in UK they concluded that, a high degree of financial literacy is necessary for an audit committee to perform its duty of financial control and reporting.

Effect of Audit Fees on Earnings Management

Gul et al. (2003), examined discretionary accounting accruals, manager's incentives, and audit fees in Australian firms. They concluded that, audit fees could increase in the level of unsigned discretionary accruals because of discretionary accruals proxy for managerial opportunism, audit fees provide managers with a means of managing reported earnings to their advantage. Using audit fees as proxy for auditor's independence, Olabisi et al. (2017) in audit quality and earnings management among Nigerian listed deposit money banks between 2005-2014 with a sample size of 15 banks they concluded that auditor independence has a significant positive effect on earnings management as managers deliver honorable fees and engage auditors in non-audit services to increase familiarity and reduce objectivity in the audit process thereby creating room for earnings management.

Healy (1985) on effect of bonus schemes on accounting decision of U.S. industrial corporations concluded that audit fees affects earnings management because accruals are associated with high-risk accounts such as accounts receivable and inventories. While Simon, et al. (2014), on audit partners' economic incentives and accruals-based earnings management reported absolute significant negative discretionary accruals. Meaning that discretionary are higher when the extent of fee-based compensation, measured as the association between partner compensation and generated audit fees is higher. Frankel et al. (2002), on audit

fees for non-audit services and earnings quality concluded that audit fees are negatively associated with earnings management while non-audit fees are positively associated with small earnings surprises and the magnitude of discretionary accruals, they also reported negative association between non-audit fees and share values on the date the fees were disclosed. Okolie et al. (2013) on audit quality and accrual–based earnings management concluded positive significant association between audit fee and the level of discretionary accruals. This empirically validates the findings of Frankel et al. (2002) that higher fees may result in the impairment of auditor independence and hence create greater opportunities for accrual manipulations. Carol et al. (2006) in prominent audit clients and the relation between discretionary accruals and non-audit service fees concluded that higher proportions of non-audit fees are associated with higher income-increasing accruals. Meaning that higher fees paid to auditors are associated with higher levels of income-decreasing discretionary accruals that leads to more negative discretionary accruals.

Amin et al. (2014) on effect of real earnings management on audit fees found that real earnings management positively influences audit fees through increase in production costs as well as decrease in discretionary expenditures. Furthermore, Nam, Le Hoai (2014) on earnings management and audit fee responses in New Zealand found positive relationship between the absolute level of discretionary accruals in the current year and the level of audit fees paid by an audit client in the next ensuing year. Meaning that auditors might have more incentives to compromise their independence in exchange for a more rewarding level of fees from their client firms. While Steven and Mussie (2016) on the relationship between audit fees and earnings quality reported that bank that pay relatively higher audit fees have lower earnings quality in terms of discretionary accruals also, Caitlin et al. (2014), Non-Audit Services and Earnings Management: Is Auditor Independence Impaired? The study provided additional evidence on the extent to which the purchase of non-audit services from the incumbent auditor is associated with earnings management using ordinary least square regression, time series of audit fees paid and abnormal accrual as proxy for audit fees and earnings management in Australian firms.

They concluded that, audit fees is positively associated with abnormal accruals. Abbott et al. (2006), examined earnings management, litigation risk, and asymmetric audit fee in US, They found a positive relation between income-increasing earnings management risk and audit fees. They are of the opinion that, negative discretionary accruals, is associated with lower audit fees while positive discretionary accruals, is associated with higher audit fees. They concluded that, discretionary accruals has a positive effect on audit in the magnitude of income increase accrual, and a negative effect on the magnitude of income decreasing accrual, as a result of asymmetric litigation risk on the auditor.

In summary, Dhaliwal et al. (2007) concluded that there is no effect between financial expertise of audit committee members on earnings management in US using accrual quality model that captures the intentional and unintentional accrual estimation errors by management without considering modified jones and performance matching model. Gul et al. (2003) and Healy (1985) are of the view

that audit fee increases earning management using jones discretionary accrual while excluding performance matching of earning management. Park and Shin (2003) find out that audit committee independence does not reduce abnormal accrual using modified jones discretionary accrual without taking cognizance of performance matching model in Canada. Studies in Nigeria such as Nuraddeen and Hasnah (2015), Fodio et al. (2013) and others captures discretionary and non-discretionary accruals using modified jones model. We brought in performance matching model of earning manipulation to draw comparison between the model efficiency and to control organizational performance.

Methodology

Research Design

The study was based on ex facto design, using secondary data obtained from financial information comprising of insurance companies in Nigerian stock Exchange from 2012 - 2017 because of the sectors' importance to the economy and the high risk associated with it. We create an unbalanced panel because some institutions are consistent in uploading their published report while some are not consistent.

Model Specification and Measurement of Variables

In specifying our linear regression model for the effects on earnings management, our major variables are audit tenure (AUDTE), audit firm size (AUDFS), audit committee independence (AUCID), financial literacy of audit committee members (FLACM), audit fees (AUDFE) and also included in the model are cross-section (insurance sector) and years (2012 – 2015). We used modified jones model for earnings management (discretionary accrual as used by Olabisi et al. (2017), Dechow et al. (1996); Guay et al. (1996) and performance matching model as used by Kothari, et al. (2005) and Aulia et al. (2013). The panel multiple regression with an error term (µi) is expressed in the following equation:

$$EM_{it} = \alpha_{it} + \beta_1 AUDTE_{it} + \beta_2 AUDFS_{it} + \beta_3 AUCID_{it} + \beta_4 FLAGM_{it} + \beta_5 AUDFE_{it} + \mu_{it} \quad (1)$$

We also used the following models to test our dependent variable.

Model 1: Audit Quality vs. Discretionary Accrual (First Dependent Variable)

To ascertain earnings management, the model uses a two-stage approach to apportion total accrual into discretionary and non-discretionary accrual. The first stage helps to control non-discretionary accrual as a result of depreciation charged and changes in economic activity while the second stage helps to determine discretionary accrual by deducting changes in debtors from changes in revenue. Therefore, it assumes that all changes in receivables in the event period might be

as a result of earnings management and therefore takes cognizance of accounts receivables. Thus, to estimate these variables, the following formula as used by Francis et al. (2005) adapted by Fodio et al. (2013) Okolie et al. (2013) in Nigeria applies

$$DAC_{it} = \{TA_{it}\} - [(\beta_o\ (1/A_{t-1})_{it} + \beta_i\ (\Delta REV_t - \Delta REC_t)_{it} + \beta_{ii}\ (PPE_t]_{it} \tag{2}$$

TA_{it} = total accruals of insurance is calculated as the difference between profit or loss before taxation, and operating cash flows for year t; $1/A_{t-1}$ = assets at the beginning of the year, Δ REC = the change in receivables from year t-1 to t Δ REV = changes in gross earnings from t-1 to t. The panel regression with an error term (μi) for model 1 is expressed in equation (1)

$$DAC_{it} = f(AUDTE + AUDFS + AUCID + FLACM + AUDFE) \tag{3}$$
$$DAC_{it} = \alpha i + \beta^1 AUDTE_{it} + \beta^2 AUDFS_{it} + \beta^3 AUCID_{it} + \beta^4 FLAGM_{it} + \beta^5 AUDFE_{it} + \mu i \tag{4}$$

Audit Quality vs. Performance Matching (Second Dependent Variable)

We used performance matching model to test our second dependent variable, developed by Kothari et al. (2005). The performance matching model draw comparison between the model efficiency in contrast with the regression-based approach specifically the original and the modified Jones model. The major aim of this model is to address the issue of relationship between performance and accrual in the modified jones model, it utilizes residuals from the annual cross-sectional industry regression because it comprises return on assets, which is used to control organizational performance and a constant, which provides a greater degree of control in terms of heteroskedasticity, The model is seen as:

$$TA_{it} = \beta^0 + \beta^1 \left(\frac{1}{A_{it}} - 1\right) + \beta^2 (\Delta REV_t - \Delta REC_t) + \beta^3 PPE_{it} + \beta^4 ROA_{it} + \epsilon_i$$
$$PM_{it} = f(AUDTE + AUDFS + AUCID + FLACM + AUDFE) \tag{5}$$
$$PM_{it} = \alpha_{it} + \beta_1 AUDTE_{it} + \beta_2 AUDFS_{it} + \beta_3 AUCID_{it} + \beta_4 FLAGM_{it} + \beta_5 AUDFE_{it} + \mu_{it} \tag{6}$$

where
ROA_{it} = return on assets
Independent variables
AUDTE= length of audit tenure following Adeniyi & Meiseigha (2013), who measure number of years spent as firms auditor if greater than 3 we assign 1 if otherwise we assign 0. The apriori sign is $\beta_1 < 0$.
AUDFS=Audit firm size as measured by Krishnan and Schauer (2000), as we assign 1 if financial statement is audited by any of the Big 4 and 0 if otherwise. The apriori sign is $\beta_2 > 0$.
AUCID= Audit committee independence following Onalo et al. (2013), we assign 1 if an independent non-executive is the chairman of the committee and 0 if otherwise. The apriori sign is $\beta_3 < 0$.

FLACM= Financial literacy of audit committee members as measured by Song and Windram (2000), assign 1 if a financial expert is a member of the audit committee and 0 if otherwise. The apriori sign is $\beta_4 > 0$.

AUDFE= Audit fees measured by Cheong et al. (2015) as Natural log of audit fees paid to an audit firm in a year. The apriori sign is $\beta_5 < 0$.

Data Presentation and Analysis

To ensure adequate observation for statistical testing, we adopted a panel data analysis to identify the possible effects on earnings management. We conducted descriptive statistics and correlation matrix. Pooled and panel regression with fixed and random effect panel data regression and the Hausman test were also conducted to select between fixed and random effect models.

Data Description and Analysis

Table 1, shows the mean (average) for each of the variable, the minimum and maximum values and their standard deviation (degree of dispersion) and Jarque-Bera (JB) statistics (normality test). The results provided some insight into the nature of the selected insurance companies that was used in the study. Firstly, Audit fees, proxy as fees paid to the auditors for the audit assignment, stood at a maximum of N680m and a minimum of N14m. Secondly, the financial literacy of audit committee members stood at the average of 0.78 and the maximum of 1.00 while its minimum is 1.00 meaning that all insurance firms have financial literate members' insider audit committee. Finally, the Jarque Bera (JB) that test the normality or existence of outliers shows that, the values are normally distributed at 1% level of significance. Therefore, the overall descriptive statistics revealed that, there are no sample selection bias or outlier in the data that, would impair the generalization from this study.

Table 1. *Descriptive Statistics*

Descriptive Statistics							
	AUDTE	**AUDFS**	**AUCID**	**FLACM**	**AUDFE**	**MODIFIED JONES**	**PERFORM**
Mean	0.31	0.63	0.68	0.78	172630	25771676	-1.11
Minimum	0.00	1.00	1.00	1.00	14000	-2.90	-618002.0
Maximum	1.00	1.00	1.00	1.00	680000	7.70	3.23
Std. Dev.	0.46	0.48	0.46	0.41	874431	1.18	4.65
Jarque-Bera	27.94	25.68	27.52	46.82	15423	3250.08	5205.60
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Observations	151	151	151	151	151	151	151

Source: Author (2019).

Correlation Analysis

In examining the relationship among the variables, we employed the correlation coefficients (correlation matrix) and the result is presented in Table 2.

Table 2. *Correlation Matrix*

	AUDTE	AUDFS	AUCID	FLACM	AUDFE
AUDTE	1.00				
AUDFS	-0.10	1.00			
AUCID	0.06	0.10	1.00		
FLACM	0.01	0.12	0.19	1.00	
AUDFE	0.13	0.07	0.10	-0.04	1.00

Source: Author (2019).

Table 3 *Variance Inflation Factors*

Variable	VIF	1/VIF
AUDFS	1.07	0.936657
AUDFE	1.06	0.942352
FLACM	1.06	0.947567
AUDTE	1.05	0.955732
AUCID	1.04	0.963659
Mean VIF	**1.05**	

Source: Author (2019).

In Table 2, we focus on the correlation between the five independent variables. The result shows that audit tenure (AUDTE) was weakly negatively related to audit firm size (-0.10), it implies that audit firm size does not determine the number of years the auditor spent with each audit client. In the case of audit committee independence (AUCID AUDTE=0.06, AUDFS=0.10), we observed audit committee independence was positive and weakly related to audit tenure at 0.06 and audit firm size at 0.10, meaning that audit tenure is determined by the presence of independent audit committee and audit firm size. Thirdly, this (FLACM AUDTE=-0.01 AUDFS 0.12 and AUCID 0.19) indicates financial literacy of audit committee member is weakly positively related to audit tenure at 0.01 and strongly positively related to audit firm size and audit committee independence at 0.12 and 0.19 respectively. In table 3 we Checked for multicolinearity with the use of the variance inflation factor, we notice that no two explanatory variables were perfectly correlated, as the VIF mean was 1.05, which is much lower than the threshold of 10. This means that there is the absence of multicolinearity problem in our model. Multicollinearity between the explanatory variables may result wrong signs or implausible magnitudes, in the estimated model coefficients, and the bias of the standard errors of the coefficients.

Regression Results

However, to examine the impact between the dependent variables earnings management and audit quality and to also test our formulated hypotheses, we used a panel data regression analysis since the data had both time series (2012 to 2015) and cross-sectional properties (insurance companies). The panel data regression results are presented and discussed below (Table 4).

In testing for the cause-effect between the dependent and independent variables in earnings management (modified jones), we reported pooled and panel analysis. The study adopted pooled and panel data regression models (fixed effect and panel data estimation techniques). The difference in these models are based on

the assumptions made about the explanatory variables and cross sectional error term. Since the results would be more appealing statistically in the context of differences in our sampled companies.

In table 3, we presented an OLS pooled regression and three panel data estimation techniques (ordinary least square, fixed effect and random effect). The three results revealed difference in their coefficients magnitude, signs and number of significant variables. This clearly shows that, pooled OLS regression does not reflect the heterogeneity in the sampled financial institutions. This effect is reflected in the two panel data regression results. In selecting from the two panel data models, the Hausman test was conducted and the result shows that, we should accept H0 (adopt fixed effect model and reject random effect model). This means that, we will adopt, interpret and draw conclusion as well as recommendation from the fixed effect panel data regression results.

Table 4 *Panel Regression Result Modified Jones Model*

	Aprior Sign	ModiJonesModel (OLS Pooled)	ModiJonesModel (Fixed Effect	ModiJonesModel (Random Effect)
C		-3.6	-0.9	-1.52
		(-1.4)	(-0.0)	(-0.56)
		[0.1]*	[0.9]*	[0.5]*
AUDTE	-	-1.6	-1.98	-1.15
		(-0.7)	(0.14)	(-0.0)
		[0.04]**	[0.08]*	[0.09]*
AUDFS	+	4.5	-4512	1.86
		(2.2)	(0.0)	(0.0)
		[0.1]*	[0.09]*	[0.4]*
AUCID	+	-2.2	9035	-2.71
		(-1.0)	(0.0)	(-0.1)
		[0.2]*	[0.01]***	[0.08]*
FLACM	+	3.6	637	7.32
		(1.5)	(0.0)	(0.4)
		[0.1]*	[0.9]*	[0.6]*
AUDFE	-	268.92	140	32.5
		(0.2)	(0.1)	(0.0)
		[0.8]*	[0.0]***	[0.9]*
R-Squared		0.06	0.77	0.0
Adj-R-Squared		0.02	0.68	-0.2
F-Statistic		1.89(0.0)***	8.66 (0.0)***	0.17(0.9)*
Hausman Test				3.93(0.02)
J Statistic				
N(n)		151(38)	151(38)	151(35)

Source: Author 2019.

Note: (1) Parentheses ( ) are t-statistic while bracket [ ] are p-values

(2) *** 1%, ** 5% and * 10% level of significance

Following the above, in Table 4, the R-squared and adjusted R-squared values were (0.77) and (0.68).This implies that all independent variables jointly explain about 77% of the systematic variations in earnings management (modified jones) of our sampled financial institutions over the four-year period (2012-2015). The above average R-squared value is realistic as it clearly shows earnings

management and its interaction with audit quality (modified jones). The F-statistics (8.66) and its p-value (0.0) show that, the earnings management (modified jones) fixed effect regression model is generally significant and well specified. The F-statistic also shows that, the overall earnings management (modified jones) fixed effect regression model is significant at 1% levels.

In addition to the above, the specific finding from each explanatory variable from fixed effect regression model is provided as follows:

➤ Length of audit tenure: Based on the coefficient of 1.98 and p-value 0.08, it appears to have a positive influence on our sampled listed financial institutions, earning management (Modified Jones) and was statistically significant at 10% since it p-value was greater than 0.05. This result therefore, suggest that, we should reject hypothesis one (H0$_1$), which states that, length of audit tenure does not significantly affects earnings management This means that higher length of audit tenure of financial institutions will result to an increase in earnings management . This result does not conform to apriori expectation and it is similar to the findings of Ahmed Ebrahim (2011) Geiger and Raghunandan (2002), who concluded a positive effect that, audit tenure affects earnings management and long audit tenure impair auditor's independence. Ghosh and Mood (2005), who found a positive effect of audit tenure and earnings management and concluded that, long-served auditors may surrender their independence to keep close relationship with their clients. However, in disagreement with Adeniyi and Mieseigha (2013), Mgbame et al. (2012); Olabisi et al. (2017), Okolie et al. (2013) in Nigeria who concludes negative relationship between auditor tenure and audit quality, and in agreement with Chinwe and Chinwuba (2012).

➤ Audit firm size: Based on the coefficient of -4512 and p-value 0.9, it appears to have a negative effect on our sampled financial institutions. It was also statistically insignificant since it p-value was greater than 10%. This result therefore, suggests that, we should accept hypothesis two (H0$_2$), which states that, audit firm size affects earning management. This means that, earnings management is not determined by the size of audit firm. This finding does not conform to apriori expectation. This finding, like similar studies of Nuraddeen and Hasnah (2015); Fodio et al. (2013); Okolie et al. (2013) in Nigeria. Inaam et al. (2012), Zuo and Guan (2014) who concluded a negative effect of audit firm size on earnings management.

➤ Audit committee independence: Based on the coefficient of 9035 and p-value 0.01, it appears to have a positive influence on our sampled listed financial institutions, earnings management (Modified Jones), and was statistically significant at 1% since it p-value was 0.01. This suggests that we should reject hypothesis three (H0$_3$), which states that audit committee independence does not significantly affects earnings management. It means that increase in audit committee independence of financial institutions increases earnings management. The finding also conforms to apriori expectation with similar findings Fodio et al. (2013) and Olabisi et

al. (2017) in Nigeria; Dechow (1996) who concluded that, if an executive director is a member of the audit committee it's likely to increase earning management therefore if a non-executive director is the chairman of the audit committee earnings management will increase.

➢ <u>Financial literacy of audit committee members</u>: Based on the coefficient of 637 and p-value 0.9, it appears to have a positive influence on our sampled listed financial institutions, financial literacy of audit committee member was also statistically insignificant since it p-value is greater than 10%. This result suggested we should accept hypothesis four (H0$_4$), which states that, there is no significant effect of financial literacy of committee members on earnings management. This means that increase in financial literacy of audit committee members will increase earnings management. The finding also conforms to apriori expectation and similar findings like that, of Carcello et al. (2006), who concluded that, one audit committee member with financial expertise is associated with a lower possibility of destructive earnings management. Patrick et al (2013), found audit committee financial expertise is positively related to earnings management while, Dhaliwal et al (2007), found a positive relation between accruals quality and accounting expert.

➢ <u>Audit fees</u>: Based on the coefficient of 140 and p-value 0.0, it appears to have a positive influence on our sampled listed financial institutions, audit fees was statistically significant at 1% since it p-value is less than 5%. This result suggests that we should reject hypothesis five (H0$_5$), which states that, audit fees does not significantly affects earnings management. This means that, fees paid to the auditors by financial institutions goes long way in affecting the opinion given by the auditor by thereby increasing earnings manipulation. This does not conform to apriori expectation. It similar findings like that of Nam, Le Hoai (2014) that concluded positive relationship between the absolute level of discretionary accruals in the current year and the level of audit fees paid by an audit client in the next ensuing year. Gul, et al. (2003), who concluded that, audit fees could increase the level of unsigned discretionary accruals. Healy (1985) concluded that, audit fees affects earnings management positively because accruals are associated with high-risk accounts such as accounts receivable and inventories. Caitlin et al. (2014), concluded that, audit fees is positively associated with abnormal accruals. Abbott et al. (2006), concluded that discretionary accruals has a positive effect on audit in the magnitude of income increases accrual and a negative effect on the magnitude of income decreasing accrual as a result of asymmetric litigation risk on the auditor. The result is in disagreement with Okolie et al. (2013) in Nigeria.

Table 5. *Panel Regression Result Performance Model*

	Aprior Sign	ModiJonesModel (OLS Pooled)	ModiJonesModel (Fixed Effect)	ModiJonesModel (Random Effect)
C		-1.79	-1.79	-2.8
		(0.45)	(-0.15)	(-2.5)
		[0.6]*	[0.8]*	[0.7]*
AUDTE	-	-3.81	2.32	1.18
		(-0.45)	(-0.36)	(0.19)
		[0.6]*	[0.7]*	[0.8]*
AUDFS	+	-3.98	-229	-9608
		(-0.45)	(-0.01)	(-0.0)
		[0.6]*	[0.9]*	[0.9]*
AUCID	-	1.62	689	4.77
		(1.91)	(0.08)	(0.64)
		[0.0]***	[0.1]*	[0.5]*
FLACM	+	-4.34	-568	-1.51
		(0..4)	(0.06)	(0.18)
		[0.6]*	0.9]*	[0.8]*
AUDFE	-	-236	60.50	-44.89
		(-0.5)	0.09	-0.08
		[0.5]*	[0.0]***	[0.9]*
R-Squared		0.02	0.67	0.00
Adj-R-Squared		-0.001	0.54	-0.03
F-Statistic		0.79(0.5)*	5.36 (0.00)***	0.09(0.9)*
Hausman Test				3.19(0.06)*
J Statistic				
N(n)		151(38)	151(38)	208(26)

Source: Author 2019 Note: (1) Parentheses ( ) are t-statistic while bracket [ ] are p-values (2) ***
1%, ** 5% and * 10% level of significance.

In table 5, we presented an OLS pooled regression and two panel data
estimation techniques (fixed effect and panel data estimator). The three results
revealed difference in their coefficients magnitude, signs and number of
significant variables. This clearly shows that, pooled OLS regression does not
reflect the heterogeneity in the sampled companies. This effect is reflected in the
two panel data regression results. In selecting from the two panel data models, the
Hausman test was conducted and the result shows that, we should accept H0
(adopt fixed effect model and reject random effect model). This means that, we
adopt and interpret fixed effect panel data regression results. The R-squared and
adjusted R-squared values were (0.67) and (0.54). This indicates that, all
independent variables jointly explain about 67% of the systematic variations in
earnings management of our sampled companies. The above average R-squared
value is realistic as it clearly shows earnings management and its interaction with
audit quality. The F-statistics (5.36) and its p-value (0.0) show that, the earning
management fixed effect regression model is generally significant and well
specified. The F-statistic also shows that, the overall earnings management fixed
effect regression model is significant at 1% levels.

In addition to the above, the specific finding from each explanatory variable
from fixed effect regression model is provided as follows:

- Length of audit firm tenure: Based on the coefficient of 2.32 and p-value 0.07, it appears to have a positive influence on our sampled listed financial institutions, earning management (performance matching model) and was statistically significant at 10% since it p-value was less than 0.10. This result suggests that we should reject hypothesis one ($H0_1$), which states that length of audit tenure does not significantly affects earnings management. It means that increase in the length of audit tenure on financial institutions increases earnings management. This result was in agreement with Ahmed Ebrahim (2011) and Geiger and Raghunandan (2002), Chinwe and Chinwuba (2012), Mgbame et al. (2012) in Nigeria, while in disagreement with Adeniyi and Mieseigha (2013), Olabisi et al. (2017), Okolie et al. (2013) in Nigeria.

- Audit firm size: Based on the coefficient of -229 and p-value 0.9, it appears to have a negative effect on our sampled financial institutions. It was statistically insignificant since it p-value was greater than 10%. This result suggests that we should accept hypothesis two ($H0_2$), which states that audit firm size does not significantly affects earning management. Meaning that increase in the use of the big 4 audit firms will reduce earnings management. We accept the findings of Weerapong et al. (2013) on earnings management and audit quality in Southeast Asia that concludes, companies audited by a big firm have less discretionary accruals than those audited by a non-big firms. It is in agreement with Fodio et al. (2013); Okolie et al. (2013); Nuraddeen and Hasnah (2015) in Nigeria. Inaam et al. (2012), Zuo and Guan (2014).

- Audit committee independence: Based on the coefficient of 689 and p-value 0.01, it appears to have a positive influence on our sampled listed financial institutions, earnings management (performance matching) and was statistically significant at 1% since it p-value was 0.01. This result suggests that we should reject hypothesis one ($H0_3$), which states that audit committee independence does not significantly affects earnings management. It means that increase in audit committee independence will increase earnings management. It is in agreement with Fodio et al. (2013) and Olabisi et al. (2017) in Nigeria; Dechow (1996)

- Financial literacy of audit committee members: Based on the coefficient of -568 and p-value 0.9 appears to have a negative influence on our sampled listed financial institutions, financial literacy of audit committee member was also statistically insignificant , since it p-value is greater than 10%. This result suggests that we should accept hypothesis four ($H0_4$), which states that financial literacy of committee members does not significantly affects earnings management. Meaning that increase on members of audit committee that have accounting background will reduce earnings management. It is in disagreement with Carcello et al. (2006); Patrick et al. (2013); Dhaliwal et al. (2007).

- Audit fees: Based on the coefficient of 60.58 and p-value 0.0, it appears to have a positive influence on our sampled listed financial institutions, audit fees was also statistically significant at 1% since it p-value is less than 5%.

This result suggests that we should reject hypothesis five (H0$_5$), which states that audit fees does not significantly affects earnings management. This means that increase in audit fees will increase earnings management. The result is in disagreement with Okolie et al. (2013) in Nigeria. It is in agreement with Nam, Le Hoai (2014); Gul et al. (2003); Healy (1985); Caitlin et al. (2014); Abbott et al. (2006).

Conclusion and Recommendation

The result indicates a significant positive effect of audit quality on earnings management. We concluded that the longer the auditor's stay in financial institutions leads to increase in client familiarity, which creates room for accrual and performance earning management. Financial institutions audited by big four auditing firms reduces accrual and performance earnings manipulation. Financial institutions that are having executive and non-executive directors as members of audit committee leads to increase in accrual and performance earnings manipulations. However, higher number of financial experts in audit committee leads to accrual manipulation of earnings while higher number of experts with accounting background in audit committee leads to reduction in performance manipulating of earnings. As the auditors' fee goes up, it influences the auditing firms by making financial institutions manipulate earnings by taking advantage of the flexibility in the choice of accounting methods of both accrual and performance earnings manipulation. Therefore, the study recommends that, financial institutions should have maximum number of years for auditors' stay. They should focus more on increasing the number of experts with accounting background in audit committee. Accounting bodies should regulate auditors' fee in line with the size of the financial institution.

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Appendix 1. *Descriptive Statistics*

Descriptive Statistics							
	AUDTE	**AUDFS**	**AUCID**	**FLACM**	**AUDFE**	**MJONEMODEL**	**PERF MODEL**
Mean	0.311258	0.629139	0.682119	0.781457	172630.0	25771676	-1.11E+08
Median	0.000000	1.000000	1.000000	1.000000	14000.00	-2.90E+09	-618002.0
Maximum	1.000000	1.000000	1.000000	1.000000	6800000.	7.70E+10	3.23E+10
Minimum	0.000000	0.000000	0.000000	0.000000	12.00000	-3.65E+09	-2.60E+10
Std. Dev.	0.464549	0.484643	0.467202	0.414633	874431.8	1.18E+10	4.65E+09
Skewness	0.815285	-0.534698	-0.782210	-1.362138	6.945741	4.518157	0.574200
Kurtosis	1.664689	1.285902	1.611853	2.855419	50.52290	23.85459	31.74129
Jarque-Bera	27.94640	25.68095	27.52204	46.82622	15423.39	3250.081	5205.603
Probability	0.000001	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000
Sum	47.00000	95.00000	103.0000	118.0000	26067136	3.89E+09	-1.67E+10
Sum Sq. Dev.	32.37086	35.23179	32.74172	25.78808	1.15E+14	2.08E+22	3.24E+21
Observations	151	151	151	151	151	151	151

Appendix 2. *Regression Result of Modified Jones Model*
Dependent Variable: MODIFIEDJONEMODEL
Method: Panel Least Squares
Date: 05/30/17   Time: 21:55
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.64E+09	2.54E+09	-1.430655	0.1547
AUDTE	-1.61E+09	2.07E+09	-0.775789	0.4391
AUDFS	4.51E+09	2.01E+09	2.245478	0.0263
AUCID	-2.28E+09	2.11E+09	-1.084353	0.2800
FINLITAUDCOMMEM	3.63E+09	2.35E+09	1.548502	0.1237
AUDFEE	268.9848	1104.442	0.243548	0.8079

R-squared	0.061266	Mean dependent var	25771676
Adjusted R-squared	0.028896	S.D. dependent var	1.18E+10
S.E. of regression	1.16E+10	Akaike info criterion	49.22834
Sum squared resid	1.96E+22	Schwarz criterion	49.34823
Log likelihood	-3710.739	Hannan-Quinn criter.	49.27704
F-statistic	1.892672	Durbin-Watson stat	0.517926
Prob(F-statistic)	0.099084		

Dependent Variable: MODIFIEDJONEMODEL
Method: Panel Least Squares
Date: 05/30/17   Time: 21:58
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-98454474	2.44E+09	-0.040288	0.9679
AUDTE	1.98E+08	1.34E+09	0.147417	0.0883
AUDFS	-45120308	2.75E+09	-0.016411	0.9869
AUCID	90358262	1.70E+09	0.053081	0.9578
FINLITAUDCOMMEM	6366501.	1.82E+09	0.003492	0.9972
AUDFEE	140.9744	1354.131	0.104107	0.9173

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.771224	Mean dependent var	25771676
Adjusted R-squared	0.682256	S.D. dependent var	1.18E+10
S.E. of regression	6.65E+09	Akaike info criterion	48.30661
Sum squared resid	4.77E+21	Schwarz criterion	49.16584
Log likelihood	-3604.149	Hannan-Quinn criter.	48.65567
F-statistic	8.668534	Durbin-Watson stat	2.226689
Prob(F-statistic)	0.000000		

Dependent Variable: MODIFIEDJONEMODEL
Method: Panel EGLS (Cross-section random effects)
Date: 05/30/17   Time: 21:59
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.52E+09	2.69E+09	-0.567314	0.5714
AUDTE	-1.15E+08	1.32E+09	-0.087237	0.9306
AUDFS	1.86E+09	2.23E+09	0.835444	0.4048
AUCID	-2.72E+08	1.62E+09	-0.168015	0.8668
FINLITAUDCOMMEM	7.32E+08	1.75E+09	0.419563	0.6754
AUDFEE	32.56235	1152.270	0.028259	0.9775

Effects Specification

		S.D.	Rho
Cross-section random		9.94E+09	0.6912
Idiosyncratic random		6.65E+09	0.3088

Weighted Statistics

R-squared	0.006140	Mean dependent var	5703869.
Adjusted R-squared	-0.028131	S.D. dependent var	6.53E+09
S.E. of regression	6.62E+09	Sum squared resid	6.35E+21
F-statistic	0.179155	Durbin-Watson stat	1.496535
Prob(F-statistic)	0.970061		

Unweighted Statistics

R-squared	0.031061	Mean dependent var	25771676
Sum squared resid	2.02E+22	Durbin-Watson stat	0.462091

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.936582	5	0.02586

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
AUDTE	198119831.807685	-115045762.057605	67019689357062400	0.2264
AUDFS	-45120307.800260	1864596236.019051	2577643510246010000	0.2343
AUCID	90358262.195768	-272291505.091962	271212665053457410	0.4862
FINLITAUDCOMMEM	6366500.835658	732468137.524512	277054267378825220	0.1677
AUDFEE	140.974352	32.562351	505945.237296	0.8789

Cross-section random effects test equation:
Dependent Variable: MODIFIEDJONEMODEL
Method: Panel Least Squares
Date: 05/30/17   Time: 22:01
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-98454474	2.44E+09	-0.040288	0.9679
AUDTE	1.98E+08	1.34E+09	0.147417	0.8831
AUDFS	-45120308	2.75E+09	-0.016411	0.9869
AUCID	90358262	1.70E+09	0.053081	0.9578
FINLITAUDCOMMEM	6366501.	1.82E+09	0.003492	0.9972
AUDFEE	140.9744	1354.131	0.104107	0.9173

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.771224	Mean dependent var	25771676
Adjusted R-squared	0.682256	S.D. dependent var	1.18E+10
S.E. of regression	6.65E+09	Akaike info criterion	48.30661
Sum squared resid	4.77E+21	Schwarz criterion	49.16584
Log likelihood	-3604.149	Hannan-Quinn criter.	48.65567
F-statistic	8.668534	Durbin-Watson stat	2.226689
Prob(F-statistic)	0.000000		

Appendix 3. *Regression Result of Performance Model*
Dependent Variable: PERFORMANCEMODEL
Method: Panel Least Squares
Date: 05/30/17   Time: 22:56
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.67E+08	1.02E+09	-0.457759	0.6478
AUDTE	-3.81E+08	8.32E+08	-0.457297	0.6481
AUDFS	-3.98E+08	8.06E+08	-0.493805	0.6222
AUCID	1.62E+09	8.45E+08	1.917619	0.0571
FINLITAUDCOMMEM	-4.34E+08	9.41E+08	-0.461317	0.6453
AUDFEE	-236.0322	443.1628	-0.532608	0.5951

R-squared	0.026654	Mean dependent var		-1.11E+08
Adjusted R-squared	-0.006910	S.D. dependent var		4.65E+09
S.E. of regression	4.66E+09	Akaike info criterion		47.40202
Sum squared resid	3.15E+21	Schwarz criterion		47.52191
Log likelihood	-3572.852	Hannan-Quinn criter.		47.45072
F-statistic	0.794133	Durbin-Watson stat		0.901585
Prob(F-statistic)	0.555545			

Dependent Variable: PERFORMANCEMODEL
Method: Panel Least Squares
Date: 05/30/17   Time: 22:59
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.79E+08	1.15E+09	-0.155764	0.8765
AUDTE	2.32E+08	6.30E+08	0.368453	0.7133
AUDFS	-22999120	1.29E+09	-0.017838	0.9858
AUCID	64897246	7.98E+08	0.081297	0.9354
FINLITAUDCOMMEM	-56984856	8.55E+08	-0.066642	0.9470
AUDFEE	60.50103	635.0213	0.095274	0.9243

Effects Specification				
Cross-section fixed (dummy variables)				

R-squared	0.675997	Mean dependent var		-1.11E+08
Adjusted R-squared	0.549996	S.D. dependent var		4.65E+09
S.E. of regression	3.12E+09	Akaike info criterion		46.79210
Sum squared resid	1.05E+21	Schwarz criterion		47.65132
Log likelihood	-3489.803	Hannan-Quinn criter.		47.14116
F-statistic	5.365007	Durbin-Watson stat		2.289311
Prob(F-statistic)	0.000000			

Dependent Variable: PERFORMANCEMODEL
Method: Panel EGLS (Cross-section random effects)
Date: 05/30/17   Time: 23:01
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.86E+08	1.12E+09	-0.254763	0.7993
AUDTE	1.18E+08	6.13E+08	0.192579	0.8476
AUDFS	-96086526	9.61E+08	-0.099964	0.9205
AUCID	4.77E+08	7.41E+08	0.643585	0.5209
FINLITAUDCOMMEM	-1.51E+08	8.01E+08	-0.188236	0.8510
AUDFEE	-44.89707	503.7203	-0.089131	0.9291

Effects Specification		
	S.D.	Rho
Cross-section random	3.61E+09	0.5735
Idiosyncratic random	3.12E+09	0.4265

Weighted Statistics			
R-squared	0.003363	Mean dependent var	-43743017
Adjusted R-squared	-0.031004	S.D. dependent var	3.05E+09
S.E. of regression	3.09E+09	Sum squared resid	1.39E+21
F-statistic	0.097848	Durbin-Watson stat	1.636798
Prob(F-statistic)	0.992361		

Unweighted Statistics			
R-squared	0.011628	Mean dependent var	-1.11E+08
Sum squared resid	3.20E+21	Durbin-Watson stat	0.850264

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.198182	5	0.0695

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
AUDTE	232215408.621981	118018006.367111	21647493775869056	0.4377
AUDFS	-22999119.903301	-96086525.830437	738390526353929130	0.9322
AUCID	64897245.921276	476956815.892685	88027052262781950	0.1649
FINLITAUDCOMMEM	-56984855.747965	-150720226.510407	90059349787132550	0.7548
AUDFEE	60.501035	-44.897069	149517.906547	0.7852

Cross-section random effects test equation:
Dependent Variable: PERFORMANCEMODEL
Method: Panel Least Squares
Date: 05/30/17   Time: 23:05
Sample: 2012 2015
Periods included: 4
Cross-sections included: 38
Total panel (unbalanced) observations: 151

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.79E+08	1.15E+09	-0.155764	0.8765
AUDTE	2.32E+08	6.30E+08	0.368453	0.7133
AUDFS	-22999120	1.29E+09	-0.017838	0.9858
AUCID	64897246	7.98E+08	0.081297	0.9354
FINLITAUDCOMMEM	-56984856	8.55E+08	-0.066642	0.9470
AUDFEE	60.50103	635.0213	0.095274	0.9243

Effects Specification				

Cross-section fixed (dummy variables)

				-
R-squared	0.675997	Mean dependent var		1.11E+08
Adjusted R-squared	0.549996	S.D. dependent var		4.65E+09
S.E. of regression	3.12E+09	Akaike info criterion		46.79210
Sum squared resid	1.05E+21	Schwarz criterion		47.65132
Log likelihood	-3489.803	Hannan-Quinn criter.		47.14116
F-statistic	5.365007	Durbin-Watson stat		2.289311
Prob(F-statistic)	0.000000			

Revisiting Young Customers' Bank Selection and Loyalty Decisions in Ghana

By Hadi Ibrahim[*], Ibn Kailan Abdul-Hamid[†] & Muhammed Abdulai[‡]

This study examines first-year students' (who mostly are opening/operating bank accounts for the first time on their own) bank selection and loyalty decisions. An extensive literature review was done to develop study instruments. An exploratory analysis of 320 usable questionnaires was done. The study found in order of importance that: bank service/convenience, service quality/bank image, staff attitude/recommendations, core service/communication and customer service were factors influencing their bank selection decisions in Ghana. Also, friendly operations/regulations, relationship management, service quality/ financial benefits, client satisfaction and bank image were identified in order of importance to be responsible for their loyalty to banks in Ghana. This study reiterates to bank management that factors including quality of service, bank image, recommendation (word of mouth), employee competence, bank knowledge, customer satisfaction, price of transactions, relationship marketing and bank regulation should be at the core of their strategy development and implementation. The study is original with insightful updates and new perspectives on young adults' bank selection and loyalty dimensions. This study is the first attempt to systematically combine bank selection and loyalty factors in a single comprehensive survey in Ghana. (JEL G21)

Keywords: *bank, customers, Ghana, loyalty, selection*

Introduction

The level of interconnectivity and interdependence in the world today precipitated by globalisation is unprecedented. The effects of this on financial services marketing, especially banks, is the sophisticated young customers who are well-informed and turn to be fickle/fluid because they take cues and clues from any part of the globe. There is also the proliferation of service-oriented firms, especially financial service's sector firms who are into the provision of full banking services (Maudos, 2017, Cummins Rubio-Misas and Vencappa, 2017). For instance, in Africa, the emergence of 'mobile money' is a clear point of reference where mobile telecommunication companies are going into money transfers and safekeeping of monies in mobile phones wallets with interest earnings to customers. MTN Mobile Money in Ghana, a market leader in this new drive, recorded about GH₵ 23 billion in mobile money transactions value in 2016 with 8.5 million subscribers (Capitalgroupghana.com 2017).

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Currently, subscribers to this service can receive remittance or international money transfer abroad directly via these platforms without any home bank involvement. It came as no big surprise when within a span of two years, three indigenous banks in Ghana were declared by the central bank (Bank of Ghana) as distress and insolvent (Graphic Online 2017). Subsequently, in an endeavour to ensure resilient and robust banking sector, a total of 16 banks suffered revocation of licenses and compelled mergers by Bank of Ghana (Ghanaweb 2019). More so, 386 microfinance and microcredit firms experienced similar revocation of permits by the central bank (Myjoyonline 2019). In the Nordic countries, current trends of new small entities taking to new strategies of using the internet as the main distribution, marketing and communication channels in offering a full competitive range of banking services other than extensive physical branch networks is a distinct reality (Nordic Competition Authorities 2006).

The preceding demonstrates that the steep competition characterising the banking sector is not only internal but external as well and ubiquitous. Therefore, the future of retail banking will continue to be challenging and paradoxical with the question of whether future customers will still need bank services (Ibrahim 2014). The determination of the way forward remains with the banks to prove their continuous relevance beyond today by attracting young customers. Some researchers support mass marketing of financial services but in a competitive environment, selecting key segments and strategically concentrating marketing efforts towards serving them better is superior. Conceptual postulations on successful segmentation hold that the segment must be measurable, substantial, accessible, unique and actionable (Lees and Winchester 2018). Youth as a market segment is noted to be growing phenomenally in some parts of the world, particularly in Africa. It is estimated that about two-thirds of youth engage in active work with significant incomes and substantial earning potential far more than average lifetime earnings making them highly lucrative segment (Singh et al. 2018). This segment is characteristically creative, venturesome, and curious who turn to experiment with new things with a high potential of building a long relationship with banks (Chan et al. 2017). The youth segment of the population is growing leaps and bounds in Africa, which is considered as the greatest asset for Africa and estimated to double to more than 830 million by 2050 (AfDB 2016).

Instructively, this trajectory demands a proactive evidence-informed strategic response with updated and penetrating insights on factors underpinning youth initial bank selection and loyalty decisions. Even though such studies have been done in the area of bank selection and loyalty in Ghana (Narteh 2013, Abdul Mumin et al. 2012, Blankson et al. 2009, Narteh and Owusu-Frimpong 2011, Hinson et al. 2013) and the world over (Katircioglu et al. 2011, Sayani and Miniaouti 2013), new and sophisticated technologies is rapidly changing and predicting taste and preferences of customers, particularly the youth. It has made existing studies on bank selection and loyalty not only transient but outdated and inapplicable in many contexts (Nkamnebe et al. 2014). It is against this backdrop of shifts in the social, economic and technological milieu that this study is focusing on revisiting the youth bank selection and loyalty study by exploring the

critical factors considered to be the most crucial in influencing today's youth decisions drawing data from University of Ghana students in Ghana.

Necessarily, findings from this study will make a substantial and original contribution both at the theoretical and empirical level to current literature. Thus, it will add knowledge to a proper conception and orientation as well as support and enrich theories and or models of youth bank selection and loyalty decisions, especially in a developing country. By so doing, invaluable new and far-reaching insights that are evidenced-informed will be provided to assist bank managers in optimising marketing efficiencies.

Literature Review

This review, among other things, seeks to update the extant literature and to achieve that, recent literature will be reviewed under the sub-themes: youth bank selection decisions and development, factors impinging on bank loyalty decisions and rational choice theory and competition theory.

Youth Bank Selection Decisions and Development

The genesis of premier research on bank selection criteria takes its roots from the works of researchers such as Anderson et al. (1976), Evans (1979), Kazeh and Decker (1993), Hejazi (1995) and Metawa and Almossawi (1998). These studies were focused on identifying the dominant factors impinging on bank selection decisions a priori to segmentation of the bank customers. As competition intensifies, customers getting increasingly sophisticated and fickle and technologies unleashing new and better ways of doing things, bank marketers have segmented the markets to tailor its products to suit the various segments' needs. Also, previous selection criteria were fundamentally on rates, fees, bank charges and proximity to banks (Ibrahim 2014) but today, the focus is shining on service excellence, streamline services and innovative products using technologies of the internet.

For this reason, we have studies abound concentrating on segments such as gender by Ukenna and Nike (2012), multiple bank users by Mokhlis et al. (2011), students by Almossawi (2001), Gerrard and Cunnigham (2011), Mahmoud et al. (2011) and a host of others. Extant literature on young adults' bank selection revealed that when it comes to factors impinging on bank selection, parental influence and convenience hitherto used to be the most important influencing factors. Subsequent studies found out that convenience which used to include proximity to home or workplace has diminished in importance due to the emergence of technology-assisted services such as ATM, internet banking, credit cards, online shopping etc. Although convenience could still be valid, but the traditional definition of convenience is rendered invalid (Hinson et al. 2013). Sharma and Rao (2010) expressed a considered view that despite the promising nature of young customers, it has not been given enough attention, especially university students. It can be realised that following the 2008-2009 financial crisis

customers to banks have become continuously fastidious and savvy in taking decisions about choice of banks based on trust and their banking service needs (KHaitbaeva et al. 2014).

Subsequently, Katrircioglu et al. (2011) investigated undergraduates' bank selection criteria who were considered the future potential customers to banks. Their study revealed that availability and convenient locations of ATM services, speed and quality of services and recommendations from parents and friends were the most critical factors determining both Turkish and non-Turkish undergraduates bank selection. They indicated that the introduction of technology in the service industry has a significant impact on the interaction between service providers and customers and companies are motivated to invest in technology to secure their longevity and relevance in this electronic age. This observation is relevant to make because social media has steadily emerged as the bedrock of recent technology and became the most preferred tool of communication of late (Hayta, 2013, Cakir et al. 2013, Dryer 2010).

According to Cakir et al. (2013), social media takes a special place in the lives of young consumers which should be a serious concern to financial service marketers and firms. It is not only indispensable to young customers, but unavoidable communication tool to every organisation and it is rapidly growing (Hayta 2013). Suffice to indicate that it took radio 30 years to reach 50 million listeners and 13 years for TV to reach 50 million viewers. As for social media, it strikingly reached 50 million users within a span of 4 years, and Facebook amazingly attained 50 million users in one and a half years (Hayta 2013). Studies by Haciefendioglu (2011) espoused that consumers, especially the youth, are influenced by the views of their friends on social media when they are making decisions to purchase and what they end up buying are guided by the opinions of friends.

Internet-based tools are becoming ubiquitous and pervasive among recent studies concerning youth bank selection. Chan et al. (2017) study on marketing bank service to youth in China discovered that banks in China could improve upon their competitive edge and brand reputation by upgrading the professionalism of their front-line staff. The banks can also achieve that by enhancing efficiency and transparency and streamlining the process of service acquisition and delivery. They concluded that in terms of efficacy in contacting the youth, the banks have to conduct that via offline and online promotional activities, including co-branding with popular online games. It is, however, emphasised that the banks in China are still glued to the traditional banking services as Western banks have done. Lelissa and Lelissa (2017) also conducted a study on crucial factors determining the choice of commercial banks in a banking environment that had the speed of service among the best in the industry with adequate branch network at vantage spots and forex resources easy to acquire at banks. The findings revealed that service quality and availability in addition to the quality and accessibility of physical and human resources came out as the most significant determinants of bank choice. The regression analysis further indicated that the aforementioned factors not only impact on customers' choice of banks but their loyalty levels to banks. To Maiyaki (2011), it is the size of a bank, its total assets, proximity and convenience of banks to office or residence, personal security of customers and

ease of accounts openings to banks that are considered important to customers. This assertion sits well with Caratelli (2013) findings that before other factors come into play, customers initially look at the reputation of a bank and then move further to consider other factors such as technology, price and opinions of relations and friends. This postulation holds well for contexts where there are frequent banks failures and volatilities. For instance, this study conducted by Nkamnebe et al. (2014) reveals bank financial stability, availability and functional ATM network, family and friends' influences, the proximity of bank branches to the university, professional bank staff and internal and external aesthetics were the six most influencing factors in a ranked order. In the case of Nigeria, the financial stability of the bank came on top. The authors discussed that the frequency of bank failures in Nigeria before the consolidation of the banking sector could reasonably be responsible for the cause of apprehension among the Nigerian banking public.

It can be fathomed that opinions of family and friends classified as word of mouth (WOM) seem to be prominent in most of the findings. This makes WOM so important in bank selection criteria and has attracted further interrogation as evidenced in Almossawi's (2015) work which sought to assess the impact of WOM on bank selection decision of the youth. It is reported that the effectiveness of WOM as far as changing the attitudes of customers is a concern, as well as its influence on their purchasing decisions, exceeds that of advertising and direct sales. There is evidence of a strong and positive correlation between WOM and satisfaction with satisfied customers having an irresistible proclivity to relate positive WOM to others and the vice versa (Almossawi 2015). Dillon (2013) conducted similar studies in the Indian financial services sector and arrived at the results that most of the respondents regarded WOM as an effective means of communication in enrolling new customers and sustaining existing ones.

Customer Loyalty Dimensions

Customer loyalty building is a critical key factor in gaining market share and establishing a sustainable competitive advantage (Afsar et al. 2010). These researchers thought of loyalty to a bank as "continuing patronage over time" and that the degree of loyalty can be well gauged by monitoring the customer accounts within a specified space of time and observing the extent of "continuity in patronage". It is observed by experts that the financial sector has witnessed serious structural changes exposing the area to serious competition, slow development of basic demand and increased deregulation or if you like liberalisation of the banking sector. To stem this tide, many innovative and sophisticated means of gaining and retaining customers have emerged. This is because the importance of loyal customers cannot be relegated to the periphery in the sense that it costs several times much more to retain a customer than to scout for a new one. This brings to forth the necessity of designing programmes and strategies aimed at retaining loyalty with benchmarking and tracking customer satisfaction and loyalty been instrumental (Abdul Mumin et al. 2012).

It must be pointed out that maintaining a high rate of customer satisfaction does not necessarily deliver customer loyalty in that firms will still lose customers who change residence, retires or no longer need particular services. Yet, the

contribution of satisfaction is still highly correlated to loyalty as noted by Afsare et al. (2010) that there are two types of loyal customers who are satisfied and unsatisfied. In demystifying this, he made the point that satisfaction is not a sine qua non to loyalty since satisfied customers may not be loyal. Unsatisfied customers incidentally, can be loyal as a result of attachment and commitment to a product/service. Conversely, satisfied customers for lack of commitment and attachment to a product/service may switch to better quality products/services once it is readily available. According to Dick and Basu (1994), loyalty is a complex construction constituting both psychological and behavioural divides. Loyalty of any form is anticipated to result in repeated purchases and favourable attitudes towards a firm. They contended that in defining customer loyalty, it should be considered both in terms of customer behaviour, which is tantamount to the retention and in terms of customer attitudes.

Filip and Anghel (2009) think that the determinants of loyalty can be viewed in terms of the positive and negative influencing factors on the customer-bank relationship. Said differently, there are some critical issues that impact on sustaining and improving relationships and others that mitigate customer behaviours and attitudes towards being retained and being loyal. Further, they categorised the factors that assist relationships into two with the first one been issues that impact on the customers willingness to participate in a relationship stemming from great satisfaction, better service quality, sense of trust and commitment to the bank, good bank image, and ancillary benefits that project good value of the core products and services. The second is postulated to be those issues limiting the customer from sustaining the relationship and bond issues that will not allow switching. They enumerated issues such as a legal bond (contractual arrangements), economic bonds (financial penalties or the loss of some monetary rewards), cost of searching information and evaluation, learning cost, uncertainty cost, small number of attractive alternatives in the market, and also geographic bonds (there is no other bank in the geographical location of the customer) as some of the limiting barricades to exit.

Clark (2007) has a conviction that customer loyalty is generally endorsed as worth nurturing and outlined six significant factors to be impinging on loyalty and commitment to be core offerings, satisfaction, elasticity level, the market place, demographics and share of wallet. He asserted that firms that boast of very high loyal customers achieved that not on card programmes or gimmicks but by reliable, dependable core offerings that sink well with the customers. He also considered good level of satisfaction to be essential in creating loyal customers but not a good measure of the level of loyalty, explaining why the customer can still defect or switch despite being satisfied. Elasticity, in his submission is described to be the significance and strength of a purchasing decision and that the importance of the product or service will determine the level of involvement. The market place also determines the level of loyalty as the opportunity to switch will be spelt out in the market. They could be inertia loyalty where it is difficult and time-consuming to switch to a new bank. He also mentions demographics to refer to the different segments in the market and share of wallet as a factor creating the impression that

it is more beneficial or profitable to increase what the customer spend on the bank than acquiring a new one.

Narteh and Kuada (2014) found out that like Western countries, the Ghanaian banks' customers share significant importance to relational, core, and tangible dimensions of banking services. Relational factors were discovered to be the most important determinant of customer satisfaction followed by the individualised attention given to customers, the courtesy and consistency of the interaction process and content all realised to have great impact on customer satisfaction. This revelation is significant because research postulates that the ability of retail banks to make their customers satisfied is instrumental to their long-term business success and satisfied customers turn to be loyal to their banks.

Theoretical Underpinning

Customer's preference is viewed in marketing as the likelihood to select one thing over others. Customers' preference is regarded in economics as the taste of the individual, which is measured by the utility of different bundle of goods or services (Sowunmi et al. 2014, Thiyagaraj 2015). In the field of psychology, preference is considered as an individual attitude and predisposition towards a defined object that stimulate or determines the person's behaviour in the decision-making stage (Aregbeyen 2011). The decision here is a choice that could be simple or complex, and the process involves customers collecting relevant information that concerns the attributes of products or firms. The gathered information is exquisitely evaluated based on their likes or preferences. The rational choice theory and competition theory elucidate that the more as follows.

Rational Choice Theory and Competition Theory

The rational choice theory provides useful insights on the choice or selection behaviour of the individual customer, while the competition theory explains how firms try to win customers patronage and loyalty through service excellence, meeting customers' needs and providing innovative products (Russo & Confente 2017, Baines et al. 2017). The choice theory, otherwise referred to as rational choice theory or rational action theory, is a framework for understanding and often formally modelling social and economic behaviour. Rationality expresses the idea of wanting more rather than less of a good, is widely used as an assumption of the behaviour of individuals in microeconomic models. The theory posits that patterns of behaviour in societies reflect the choices made by individuals as they try to maximise their benefits and minimize their costs (Smith 2017). In other words, people make decisions about how they should act by comparing the costs and benefits of different courses of action.

Consequently, patterns of behaviour develop within the societies that result from those choices (Smith 2017). Rational decision making entails choosing an action given one's preferences, the actions one could take, and expectations about the outcomes of those actions (Morton 2017). The validity of rational decision making is rooted in two complementary assumptions, namely completeness and

transitivity. Completeness requires that all actions of the individual can be ranked in an order of preference (indifference between two or more is possible), while transitivity is a condition that if choice *A* is preferred to *B*, and action *B* is preferred to *C*, then *A* is preferred to C. Together these assumptions form the result that given a set of exhaustive and exclusive actions to choose from, an individual can rank them in terms of his preferences and that his preferences are consistent.

Competition in economics is best described as the existence within a market for some good or service of a sufficient number of buyers and sellers such that no single market participant has enough influence to determine the going price of the good or service. Competition occurs when two or more organisations act independently to supply their products to the same group of consumers. Direct competition exists where organisations produce similar products that appeal to the same group of consumers. Indirect competition exists when different firms make or sell items which, although not in head to head competition, still compete for the same money in the customers' pocket. Both direct and indirect competition cause commercial firms to develop new products, services and technologies which would give consumers greater selection and better products. The greater selection typically causes lower prices for the products, compared to what the price would be if there were no competition (monopoly) or little competition (oligopoly). Thus, the competitive strategy of firms is dependent upon consumers' choice characteristics which tend to influence firms productive decision towards the satisfaction of consumers preferences.

The Methodology of the Study

The study adopted a quantitative approach since the purpose of this paper is to examine young adults' selection and loyalty to banks in Ghana. The target population were 1st year university students who mostly are opening/operating bank accounts for the 1st time on their own. A survey was done using questionnaires among students at the University of Ghana. The questionnaires were distributed, before and after lectures, and administered. Three hundred and seventy (370) questionnaires were distributed, and three hundred and twenty (320) were answered and retrieved, however, only two hundred and thirty (230) of the questionnaires were used for further analysis representing 62%. This high response rate was due to the authors' strategy of handing over questionnaires and staying around for respondents to fill and hand them back as far as possible. Such a high rate of response is considered satisfactorily adequate for statistical reliability and generalizability. The two hundred and thirty (230) emerged as complete and worthy of analysis after we went through the cleaning process.

The authors formulated structured questionnaires for application in the survey. The questionnaires were formulated out of the concepts that were raised in the review of the literature. The questionnaires were put into three sections. Thus, section A, B, and C. Section "A" captured questions on the basic demographics of the respondents. Section "B" also captured questions on bank selection, and section "C" captured questions on bank loyalty decisions of young adult Ghanaians. The questions were measured on a five-point Likert-type scale of importance

ranging from 1 (least important) to 5 (very important). The list, as indicated previously was derived from similar studies, including Gerrard and Cunningham (2001), Almossawi (2001), Thwaites and Vere (1995) and a host of others.

The participants were undertaking studies in about five different faculties. The authors have employed non-probability convenience sampling in the study. Convenience sampling is a non-probability sampling method in which samples are drawn at the convenience of the researcher (Kuada 2012). It is established on the assumption that the target population is homogeneous and the individuals selected are similar to the overall target population with regards to the characteristics studied (Hair et al. 2006: 340). The research questionnaires had a standard set of instructions as part of the cover letter for the respondents, informing them of the purpose of the study and how to respond to the questions and motivating them to participate in the study. The authors commune from faculty to faculty, library to students' group rooms to get students to solicit for their participation. The data were entered into SPSS (version 21) for descriptive and factor analysis in attempts to reduce the data collected (Narteh and Owusu-Frimpong 2011). The factor analysis was executed using varimax rotation on the responses to the bank selection statements and loyalty decisions statements (Hinson et al. 2017).

Results of the Study

In the extant literature on the financial services sector, age and gender are the common demographic variables investigated (Narteh and Owusu-Frimpong 2011). Therefore, this investigation included these demographic features with a programme of study and area of study to understand the bank selection and loyalty decisions in Ghana. The majority of the respondents were studying undergraduate business-related discipline. Also, majority of the respondents were males and below 20 years. Table 1 details the respondent demographic information.

Table 1. *Respondent Descriptive Information*

Profile	Indicators	Frequency	Percentage
Gender	Male	177	77
	Female	53	23
	Total	230	100
Age	Below 20 years	144	62.6
	20 – 30 Years	86	37.4
	Total	230	100
Program of Study	Undergraduate	191	83
	Masters	39	17
	Total	230	100
Area of Study	Business Related	176	76.5
	Non-Business Related	54	23.5
	Total	230	100

Source: Field Data

This study aimed to identify the factors influencing Ghanaian youth bank selection in light of increasing competition. Similarly, the study also sought to

establish bank loyalty decisions. Existing scales on factors measuring bank selection was used, the mean and standard deviations recorded are presented on Table 2. While Table 3 presents the means and standard deviations on bank loyalty measures. The least mean was 3.63 in respect of bank's providing assurance for customers while the least standard deviations were 0.566 in respect of a bank having responsive staff. All the remaining items recorded higher means (above 3.63) and higher standard deviations (above 0.566). Accordingly, factor analysis was executed. The determinants of bank selection and client loyalty decisions are presented on Table 4 and 6 (internal consistency and related decision on bank selection) and Table 5 and 7 (internal consistency and related decision on bank loyalty decisions).

Table 2. *Bank Selection Indicators*

Items	N	Mean	Std. Deviation
Responsive staff	230	4.27	.566
Customer services with regulation	230	4.26	.669
Bank image	230	4.16	.696
Bank promotions	230	4.16	.570
Bank advertisement	230	4.15	.604
Endorsements by University Authority	230	4.14	.723
Bank regulations	230	4.12	.861
Use multiple banks for Varied transactions	230	4.11	.757
Reliable services	230	4.10	.620
Cost of bank transactions	230	4.10	.890
Competence of a bank's staff	230	4.09	.655
Family recommendations	230	4.08	.720
Easier account opening	230	4.07	.670
Competence of bank staffs	230	4.07	.683
Free Banking (No Bank charges)	230	4.07	.680
Staff capabilities	230	4.02	.721
Ample variety of products	230	4.02	.705
Bank promises	230	4.01	.647
Empathetic staffs	230	4.00	.825
Less restrictions on operations	230	3.99	.745
A well-established bank	230	3.97	.693
Service offers of a Bank	230	3.97	.667
Knowledgeable staff	230	3.97	.711
Brand endorsements	230	3.95	.780
Banking halls	230	3.93	.833
Bank friendliness	230	3.90	.806
Availability of ATMs	230	3.90	.905
Convenient locations	230	3.88	.800
Fulfils its promises	230	3.81	.824
Recommendation by Peers	230	3.77	.913
Bank charges	230	3.71	.929
Provides assurance	230	3.63	.758

Source: Field Data

Table 3. *Bank Loyalty Measures*

Items	N	Mean	Std. Deviation
Friendly Bank	230	4.08	.797
Staff assurance	230	3.98	.736
Bank image	230	3.95	.813
Well established bank	230	3.85	.851
Bank reputation	230	3.83	.913
ATM service satisfaction	230	3.81	1.101
Satisfaction	230	3.80	.826
Reliability of a bank	230	3.78	.988
Many regulations	230	3.78	.996
Responsiveness of a bank	230	3.76	.873
Empathetic behaviour of a bank staff	230	3.75	1.000
Unexplained charges	230	3.75	.960
Unnecessary bank charges	230	3.73	.997
Low charges	230	3.70	1.012
Process satisfaction	230	3.69	1.048
Several procedures	230	3.68	1.002
Trusted bank	230	3.64	.996
Commitment to promises	230	3.63	1.022
Bank operating procedures	230	3.63	1.116
Happiness	230	3.62	.949
Bank charges	230	3.62	1.032
Explained regulatory requirements	230	3.56	1.042
Relationship marketing practices	230	3.49	1.064
Bank communication	230	3.40	1.101

Source: Field Data

Factor Analysis

Table 4, 5, 6 and 7 present the results of exploratory factor analysis for bank selection and bank loyalty measures. The Bartlett test of sphericity for bank selection (Approximate Chi-Square, 5,296, df. 528, Sig. 0.000) and that of bank loyalty, (Approximate Chi-Square, 1913, df. 276, Sig. 0.000) and the KMO measure of sampling adequacy for bank selection was a value of 0.860 and that bank loyalty had a value of 0.760. These outcomes confirm that there were significant correlations among the variables to warrant the application of factor analysis (Narteh and Owusu-Frimpong 2011). Guided by previous studies, only factors with eigenvalues equal to or greater than only factor loadings with a minimum of the threshold of 0.5 (Hair et al. 2008, Malhotra and Birks 2008).

Table 4 provides six (6) factor from the thirty-four (34) items. Their communalities, Eigen value, per cent of variance and per cent are showed. The six factors together have a percentage of about 63. Factor 1 was named Bank Service/ Convenience due to the high number of bank service features like available ATMs, variety of products, convenient locations, use of multiple branches, staff

competence, and endorsement by the university authority. Factor 1 accounted for about fourteen (14) per cent of the variance.

Table 4. *Principal Component Analysis of Bank Selection Measures*

Variable Cumulative	Communality	Factor	Eigen Value	Per cent of Variance	Per cent
Reliable services	.571	1	4.63	14.02	14.02
Responsive staff	.495	2	4.44	13.47	27.49
Good banking halls	.602	3	4.40	13.33	40.81
Empathetic staffs	.559	4	2.67	8.08	48.89
Provides assurance	.648	5	2.50	7.57	56.46
A well-established bank	.550	6	2.04	6.19	62.65
Bank image	.493				
Fulfils its promises	.603				
Bank friendliness	.645				
Easier account opening	.582				
Fewer restrictions on operations	.640				
Customer services with regulation	.631				
Bank regulations	.600				
Bank advertisement	.677				
Service offers of a Bank	.700				
Bank promotions	.641				
Bank promises	.778				
Competence of bank staff	.681				
Knowledgeable staff	.824				
Staff capabilities	.804				
Competence of bank staffs	.838				
Peer recommendation	.898				
Endorsements by University Authority	.723				
Brand endorsements	.760				
Family recommendations	.814				
Free Banking (No Bank charges)	.822				
Bank charges	.908				
Use multiple banks for varied transactions	.747				
Cost of bank transactions	.697				
Convenient locations	.626				
Availability of ATMs	.662				
Ample variety of products	.642				
Number of branches	.523				

Source: Field Data

Table 5. *Internal Consistency and Related Decision on Bank Selection*

Factor and Items	Loadings	Item-total correlation	Reliability	Decision
Factor 1: Bank Service/ Convenience			.884	Retained
Competence of a bank's staff	.735	.734		
Endorsements by University Authority	.684	.739		
Use multiple banks for different transactions	.685	.731		
Cost of bank transactions	.647	.710		
Convenient locations	.711	.607		
Availability of ATMs	.678	.642		
Variety of products	.647	.601		
Factor 2: Service Quality/ Bank Image			.857	Retained
Good banking halls	.513	.550		
Empathetic staffs	.598	.545		
Gives me assurance	.801	.624		
A well-established bank	.597	.623		
Based on its image	.501	.502		
Fulfils its promises	.592	.506		
Friendly bank	.633	.674		
Less restrictions on operations	.580	.544		
Service offers	.793	.702		
Factor 3: Staff Attitude/ Recommendation			.911	Retained
Bank promises	.586	.682		
Knowledgeable staff	.825	.789		
Staff have good capabilities	.817	.827		
Brand endorsements	.777	.764		
Family recommendations	.808	.812		
Factor 4: Core Service/ Communication			.703	Retained
Reliable services	.706	.498		
Responsive staff	.635	.434		
Regulations governing bank	.597	.481		
Bank advertisement	.619	.598		
Factor 5:			.944	Delete
Recommendation by Peers	.892	.894		
Bank charges	.902	.894		
Factor 6: Customer Service			.607	Retained
Easier account opening	.628	.395		
Good customer services	.760	.381		
Bank promotions	.604	.482		

Source: Field Data

Factor 2 was named Service quality/Bank image, items like having good looking banking halls, empathetic staff, delivering of service assurance, fewer

restrictions of operations. Factor 2 accounted for about thirteen (13) per cent of the variance. Factor 3 was named Staff attitude/recommendation as it comprised items like knowledgeable staff, staff with good capabilities, bank promise delivery, brand endorsement and family recommendation. Factor 3 accounted for about thirteen (13) per cent of the variance. Factor 4 was named core service/ communication as it included: reliable service, responsive service, bank regulatory regime and bank advertisement. Factor 4 accounted for about eight (8) per cent of the variance. Factor 5 was eliminated for conceptual and theoretical weaknesses. Factor 5 accounted for about eight (8) per cent of the variance. Factor 6 was named customer service because it included items like good customer service, easier account opening and bank promotions. Factor 6 accounted for about six (6) per cent of the variance.

Table 6. *Principal Component Analysis of Bank Loyalty Measures*

Variable Cumulative	Communality	Factor	Eigen Value	Per cent of Variance	Per cent
Bank's image	.713	1	3.11	12.94	12.94
Bank's reputation	.620	2	3.02	12.56	25.50
Well established Bank	.612	3	2.24	9.34	34.65
Friendly Bank	.581	4	2.16	9.00	43.84
Responsiveness of a bank	.675	5	2.08	8.64	52.48
Reliability of a bank	.662	6	1.60	6.66	59.15
Empathetic behaviour of a bank	.685	7	1.10	4.60	63.74
Staff assurance	.633				
Satisfaction	.741				
Process satisfaction	.691				
ATM service satisfaction	.668				
Happiness	.468				
Bank charges	.637				
Unnecessary bank charges	.590				
Unexplained bank charges	.621				
Low charges	.712				
Commitment to promises	.638				
Trusted bank	.625				
Bank communication	.647				
Relationship marketing practices	.641				
Bank operating procedures	.575				
Several procedures	.560				
Many regulations	.614				
Explained regulatory requirements	.690				

Source: Field Data

Table 7. *Internal Consistency and Related Decision on Bank Loyalty Measures*

Factor and Items	Loadings	Item-total correlation	Reliability	Decision
Factor 1: Friendly Operations / Regualtions			.748	Retained
Makes me happy	.553	.464		
Trusted bank	.668	.501		
Operating procedures	.579	.518		
Bank procedures	.656	.566		
Regulations	.751	.519		
Factor 2: Relationship Management			.799	Retained
Education	.753	.483		
Communication	.717	.647		
Relationship marketing practices	.769	.639		
Satisfaction	.753	.686		
Factor 3: Service Quality / Financial benefits			.721	Retained
Reliability of a bank	.583	.558		
Empathetic behaviour of a bank	.660	.355		
Bank charges	.647	.552		
Unnecessary bank charges	.662	.392		
Low charges	.536	.550		
Factor 4: Client Satisfaction			.700	Retained
Responsiveness of a bank	.799	.567		
Satisfaction	.822	.550		
Committed to promises	.568	.451		
Factor 5: Bank Image			.595	Retained
Bank's image	.748	.424		
A well established	.755	.424		
Factor 6			.539	Delete
Bank reputation	.702	.375		
ATM service satisfaction	.625	.375		
Factor 7				Delete
Friendly bank	.830			

Source: Field Data

Table 6 and 7 provides seven (7) factors from the twenty-four (24) items. Their communalities, Eigen value, per cent of variance and per cent are showed. The seven (7) factors together had a percentage of about sixty-four per cent (64%). Factor 1 was named Friendly Operations/Regulations dues to the high number of operational descriptors like regulations, trusted bank, makes me happy, operating procedures. The factor 1 accounted for about thirteen (13) percent of the variance. Factor 2 was named Relationship management due to it loading items like: service education, service communication, and relationship marketing practices. The

factor 2 accounted for about thirteen (13) percent of the variance. The factor 3 was named Service quality/financial benefits as it loaded items like: reliability of a bank, empathetic behaviour of a bank, bank charges, unnecessary charges, and low charges. The factor 3 accounted for about nine (9) percent of the variance. The factor 4 was named client satisfaction because it loaded items like: responsiveness of a bank, satisfaction, commitment to promises. The factor 4 accounted for about nine (9) percent of the variance. The factor 5 was named Bank Image as it loaded items on bank image. The factor 5 accounted for about nine (9) percent of the variance. The factor 6 and 7 were eliminated for conceptual and theoretical weaknesses. The factor 6 accounted for about seven (7) per cent and 7 accounted for about five (5) per cent of the variance.

Implicit in the study findings on Tables 5 and 7 is an ordering of importance using the eigenvalues or per cent of the variance. On Table 5, Bank service/convenience is the most important factor in youth bank selection, followed by service quality/bank image, then staff attitude/recommendation, the core service/communication and customer service come next respectfully. As such, bank managers in an attempt to attract youth customers should leverage on these factors. Similarly, youth loyalty to bank factors is ranked on table VII. Friendly operations/regulations were identified as the most important factor influencing youth loyalty to banks. The relationship management strategy was found to be the next most important factor. Service quality / financial benefits, client satisfaction and bank image, were respectfully identified as influencers of youth loyalty to a bank.

Discussion of Study Findings

The youth bank choice and loyalty decisions are very crucial in today's competitive landscape. Due to concepts like customer life time value, most banks are today scouting for young customers. In Ghana, 1st year students are frequently besieged by banks trying to convince them to open bank accounts with them. Therefore, a study on what informs the youth on selecting banks is timely. The study found that bank service/convenience, service quality/bank image, staff attitude/recommendation, core service/communication, and customer service were identified as factors that could affect youth decisions about banks in Ghana. These findings have some similarities with existing bank selection examinations (Almossawi 2001), however, the peculiarity of this study occasioned the variations of the study findings. Almossawi's (2001) study was equally on youth customers in the Gulf region. The context and time variations may be the result of the variation in study findings. More so, the study findings might be due to the hard to differentiate banking service. According to Hinson et al. (2006), there is no difference in the service provisions of banks in Ghana. Thus, banks in Ghana provide virtually similar or the same services. As such, for the youth to select a bank, the bank's service must be outstanding or considered different from the existing alternatives. The cost of bank transactions (bank service) was equally

advanced by Phuong et al. (2000) to influence youth bank selections. The image of a bank affects the youth in their choice of a bank (Sayani and Miniaoui 2013).

Similarly, the study found that: friendly operations/regulations, relationship management, service quality/financial benefits, client satisfaction, and bank image were responsible for youth staying with a bank. Friendly operations or regulations were identified to have the strongest influence on youth decisions to stay with a bank. This included a bank's day to day procedures of how to deposit or withdraw money from an account. In addition, relationship management was also key in this study. Thus, banks should continue to implement and practice relationship management. Relationship marketing or management is a key determinant of customer loyalty behaviours (Ndubisi et al. 2008). According to Amin et al. (2013), there is an association between image and client loyalty. In view of that, the bank image could inform a youth decision to stay with a bank. More so, satisfaction was also identified to have a relationship with loyalty (Fraering and Minor, 2013). According to Osayawe Ehigie (2006), service quality predicts a client's loyalty. Thus, the perceive service quality levels of a bank could influence a youth on his/her decisions to stay with a bank.

Conclusions and Study Implications

The goal of this paper was to identify the crucial factors influencing youth bank selection in Ghana and equally provide the factors that might help banks keep their customers. Consequently, factors such as bank service/convenience, service quality/bank image, staff attitude/recommendation, core service/ communication, and customer service were identified as factors that could affect youth decisions about banks in Ghana. Similarly, the study found that: friendly operations, relationship marketing, service quality, client satisfaction, and bank image were responsible for youth staying with a bank. The contribution of this investigation could be viewed via both theoretical and practical implications. From a theory standpoint, the study explores the bank selection indicators from a developing economy perspective using young consumers. The study's respondents were made of first-time bankers, explaining why some of the traditional constructs of bank selection like technology-enabled services might not have loaded. Accordingly, this study will undoubtedly contribute to the existing literature on bank selection. The practical implications of this investigation are the provision in a rank manner, factors that influence youth bank selection and loyalty decisions. Bank managers are encouraged to consider the positions of each factor in developing strategic directions. Findings from this study showed that young customers placed more emphasis on a bank's services/convenience, service quality/bank image, staff attitude/recommendation, core service/communication, and customer service. Therefore, banks, in their attempts to attract young customers, could develop strategies leveraging on those factors. Similarly, the youth customer segment will continue to do business with a bank if the bank has: friendly operations/regulations, relationship marketing, service quality/financial

benefits, client satisfaction, and bank image among other things. Subsequently, bank loyalty strategic development could be designed to incorporate these factors.

Limitations

The findings of the study should painstakingly be interpreted in that the context of the study was narrowed to only first-year students of the University of Ghana, Legon. In light of this, generalising the findings beyond the context without caution may not be scholarly. Again, due to the limited time and resources, this study could not cover the different segments of the young population across the length and breadth of Ghana. In connection with this, future studies should consider revisiting the factors impinging on young adults' bank selection and loyalty decisions broadly across Ghana while paying particular emphasis on the role of technology and social media.

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