

Assessment of the Relationship between Service Quality and Customers' Satisfaction: A Case Study of Audit Firms in Nigeria

Onipede R. O. and Domma, S. O.

Department of Accountancy,
School of Business Studies,
Federal Polytechnic,
Ado Ekiti,
Nigeria.

adeleke.omolade@fuoye.edu.ng

Structured Abstract:

Purpose: Improving the relationship between clients and service providers has been one of the impetuses for increasing customers' patronage of service providers. Consequently, the purpose of the study is to investigate the effect of audit firms' service quality on customers' satisfaction.

Design / Methodology / Approach: A survey of their clients from three different organizations' includes 76 respondents which rated the services of the audit firm using the SERVQUAL model. Logistic regression is used to determine the probability of a customer being satisfied with the services of the audit firm based on the five dimensions of SERVQUAL which include reliability, responsiveness, tangibility, assurance and empathy.

Findings: This result of the logistic regression shows that tangibility is the most outstanding dimension that drives customers' satisfaction. Notwithstanding, the study have shown that the five dimensions of SERVQUAL will jointly influence customers' satisfaction significantly.

Research Limitations: KPMG which is one of the four biggest audit firms in Nigeria is used as a case study. Three clients of the audit firms are investigated there are First Bank Nigeria PLC, MTN Nigeria and Guinness Nigeria PLC.

Implications: Since these SERVQUAL dimensions have been shown to be affecting customers' satisfaction significantly, It is recommended that the audit firm should pay attention to these dimensions as they will improve their relationships with their clients.

Originality / Value: The review of literature has shown that no empirical study has investigated the relationship between audit services and customers; satisfaction in Nigeria. Therefore the study is making original contribution to literature.

Keywords: SEVQUAL, Customers' satisfaction, Customers' loyalty, Tangibility.

Introduction

Service quality is the major driving force for business sustainability (Carlzon, 1987) and in today's competitive global marketplace, it is recognized that high quality service is essential

for the success of the firm (Rust and Oliver, 1994). When other factors have been considered, it leads to customer loyalty (Lewis, 1994) and higher profitability (Gundersenet al., 1996).

Therefore, a key strategy for customer-focused firms is to measure and monitor customer satisfaction and service quality. In the marketing literature, service quality, customer satisfactions with audit firm are three distinctive elements that firms offering services should strive for. Customer satisfaction or dissatisfaction results from experiencing a service and comparing that experience with the kind of quality of service that was expected (Oliver, 1980). Many customer satisfaction studies have concluded that there is a significant relationship between customer satisfaction and loyalty.

Hence, the primary objective of service providers and marketers is identical; i.e. to develop and provide services that satisfy customer needs and expectations. In short, in the service industry, the goal of the service marketer is to close or narrow the gap between expectations and perceptions of customers. In the context of auditing, the quality of service provided by audit firms is a very important issue when signs of dissatisfaction with the services arise (Sutton, 1993). In a recent survey by the US General Accounting Office (GAO) in September 2003, it was found that half of the public companies reporting that they were satisfied with the audit service stated that they had used the services of their current auditor for 10 years or more. GAO also found service quality to be a very important consideration for public listed companies when choosing or looking for a new audit firm to act as their auditor. Usually, when the public listed companies are satisfied with the quality of service received from a particular audit firm, there is a strong probability that they will also use the same audit firm for other non-audit services such as taxation, secretarial practice, review engagement or other related non-assurance engagement.

In addition, GAO also found a positive association between audit tenure and client satisfaction. Audit quality is important in the rendering of audit services. Prior research has examined the attributes of audit quality (Carcelloet al., 1992; Sutton,1993). However, the majority of previous research on auditing measured audit quality by the proxy of size, i.e. "big 4" and "non big 4" audit firms. Behnet al. (1997) introduced a new proxy for measuring audit quality by examining the attributes of audit quality that will determine client satisfaction. Some of the qualities of audit services found to influence client's satisfaction were responsiveness to client's need, effectiveness and on-going interaction with the audit committee, industry expertise and the appropriate conduct of audit field work. A more

comprehensive approach to measuring audit service quality is the use of SERVQUAL which was popularized by Parasuraman (2003). This approach has been identified as a better way of appraising quality of service.

There abounds literature on assessment of service quality of other professions in Nigeria such as banking, insurance, and manufacturing among others. But as far as we know, there is no empirical study that has specifically examined the relationship between service quality and customer satisfaction with reference to auditing services. Since the relationship between audit firms and their clients has been described as very germane to the success of the organization, it is imperative to assess the impact of quality of services render by the audit firms on their customers' satisfaction. This is the major objective of this study.

Review of Literature

Baker (2013) examined the service quality and customer satisfaction of the top 14 U.S. airlines between 2007 and 2011 using data from the Department of Transportation Air Travel Reports. The objectives of this study were to compare customer satisfaction and service quality with respect to airlines quality dimensions and subsequently to determine the relationships between the dimensions of service quality and passengers' satisfaction on airlines services. A critical review of the literature revealed that the airline industry has been struggling with many challenges: cutting costs, managing fluctuating demand, keeping up with tight quality requirements while trying to maintain superior services and satisfy the needs of various customer groups. Data were collected on the following variables: percentage of on-time arrival, passengers denied boarding, mishandled baggage and customer complaints. Using a quantitative research method, Microsoft Excel version 2010 was used to analyze the data using percentages, mean and standard deviation. Results indicate that while the traditional carriers are converging toward a higher level of service quality, using the four measures, there continue to be significant variation. In this study, over a five year period 2007 to 2011, the service quality of low cost airlines was generally found to be higher than that of traditional legacy airlines. Implications related to operating costs, market share, infrastructure and customer service were evident.

Agyapong (2010) examined the relationship between service quality and customer satisfaction in the utility industry (telecom) in Ghana. The study adopted the SERVQUAL model as the main framework for analyzing service quality. Multiple regression analysis was

used to examine the relationships between service quality variables and customer satisfaction. The results showed that all the service quality items were good predictors of customer satisfaction. For managers, this finding has important implications with regard to brand building strategies. Indications of a successful brand building strategy are found when companies provide quality services relative to other companies within the same industry. It is imperative for Vodafone (Ghana) and other telecom firms, therefore, to improve customer services by giving customers what they want and at the right time. Thus, identifying and satisfying customers' needs could improve network services because what is offered can be used to separate the company's services from competitors'.

Rasileta (2011) investigated the relationship between service quality and customers satisfaction in a technology-based university. According to them, to achieve the twin objectives of satisfaction and loyalty, service quality in the university sector needs to be evaluated from both the internal (customers) and external (service providers) perspectives. Based on the foregoing, issues involving service quality in university from the perspectives of the customers' satisfaction were reviewed, taking students as primary customers, especially in technology-based universities in Nigeria. The study noted that, service quality and customer satisfaction has direct relationship, because the students' expectations of a university education are skewed towards learning experiences and individual preferences, implying students' enrolment decision depends on the service encounters relating to factors like support facilities and infrastructure, image and marketing, academic issues, administrative issues, location and access.

Kahn and Fasil (2014) assessed the impact of service quality on customers' satisfaction and loyalty in the banking sector in Pakistan. The aim of this research study was to determine the satisfaction level of banking customers regarding quality of different services provided by their bank and their loyalty with the respective bank. Service quality is studied within a spectrum of different dimensions. An effort was also made to find out which service quality dimensions may enhance customer satisfaction and customer loyalty in a better way. Respondents were chosen from a range of varying demographic features using stratified random sampling. Banks from both public and private sector were selected for sampling. Survey questionnaires were distributed among 270 customers of different banks. An 83% (225 respondents) valid response rate is yielded. Descriptive statistics, one sample t-test, correlation and regression were used to analyze the data. Findings indicated that service

quality and all its dimensions have significant and positive association with customer satisfaction and customer loyalty. Banking sector is a significant sector in Pakistan's economy and has seen unprecedented growth and raging competition during the last decade. Therefore this study has been specifically conducted to look into this phenomenon and seek empirical justification in this regard by considering service quality as the main contributory factor towards customer satisfaction and customer loyalty.

Ojo (2010) assessed the relationship between service quality and customer satisfaction in the telecommunication industry in Nigeria with a focus on Mobile Telecommunication Network (MTN) Nigeria. The number of respondents that participated in the survey was 230. After the research questions the objectives of the study and hypotheses to be tested were stated. Descriptive statistics comprising the simple percentage and tables were used for data presentation and analysis. The estimating techniques used were regression analysis and Carl Pearson product moment correlation coefficient. The study revealed that service quality has effect on customer satisfaction and that there is a positive relationship between service quality and customer satisfaction. The researcher concluded by recommending that organisations should focus more attention on service quality, because of its effects on customer satisfaction. To ensure that customer satisfaction level is high, organization must first of all know the expectations of the customers and how they can meet such expectations. Customer satisfaction helps in customer loyalty and retention. It has been discovered that it costs to attract new customer than to retain existing ones. It was also recommended that organizations should welcome suggestions from customers and more programs should be designed to measure service quality and customer satisfaction.

Arokiasammy and Abdulla (2013) examined the impact of service quality dimensions on customer satisfaction using SERVQUAL model. A total of 225 current users of a GSM provider participated in this study. Gap Analysis was used to determine the perceived and expected satisfaction level on each of the service quality dimensions and regression analysis was conducted to test the relationship between the SERVQUAL dimensions and customer satisfaction. Results indicated that all 5 service quality dimensions positively influenced customer satisfaction in terms of loyalty and attitudes. In addition, t-test results showed that there was a significant gap between the perceived satisfaction and expectation (P-E) on all of the service quality dimensions.

It is obvious from the reviewed literature that there has been no empirical study that used auditing as a case study in Nigeria. On this note this; article is poised to make major contributions to the growing literature on service quality and original contribution as regards auditing services in Nigeria.

Objectives

Specifically, this paper will examine the relationship between audit service quality and customers' satisfaction. Some other sub objectives of the study are to:

- (i) Identify various ratings of the quality of service of the audit firms using the five dimensions of SERVQUAL that is reliability, responsiveness, tangibility, assurance and empathy.
- (ii) Examine the impact of each of the five dimensions on the customers' satisfaction.

Research Questions

In achieving the set objectives some research questions readily come to mind. The research questions are as follows

- (i) Is there any difference between the perception and expectation of customers regarding the services of the audit firms?
- (ii) How the quality of service of the audit firms is rated by the companies using the five dimensions of SERVQUAL namely reliability, responsiveness, tangibility, assurance and empathy?
- (iii) Do the five dimensions of SERVQUAL have significant effect on customers' satisfaction?

Hypotheses

H₀: There is no significant difference in the impact of each of the five dimensions of SERVQUAL on customers' satisfaction.

H₁: There is significant difference in the impact of each of the five dimensions of SERVQUAL on customers' satisfaction.

Limitation / Delimitation

The study focuses on the audit service of one of the big 4 audit firms in Nigeria, that is KPMG. The reason behind this is that KPMG is one of the most prominent audit firms in Nigeria that participates in auditing both government and private organizations. Also three different companies that are being audited by KPMG are selected; these are First bank Nigeria PLC, Guinness Nigeria PLC and MTN Nigeria. The three are selected to cover both service and production sector.

Methodology

1. Introduction

Methodology is defined as the philosophical framework within which a research is conducted or the foundation upon which a research is based (Brown, 2006). This chapter therefore, describes the methods, approaches and designs in details, highlighting those methods used throughout the study and justifying the relevance of each approach and design, taking into account its practical applicability to the research. This research work is approached with special emphasis on the following research procedures:

- a) Procedure and techniques to be used for data gathering.
- b) Population to be studied and sampling technique.
- c) Methods to be used in processing and analyzing data.

2. Procedures and Techniques for Data Gathering and Collection

This study is ex-post factor in nature. Furthermore, the study set out to examine the relationship between service quality and customers' satisfaction by auditing firms. However, basically primary sources of data are explored.

2.1. Instrumentation for the Study

Questionnaires are used to collect responses from relevant workers in organizations patronizing the auditing firms selected for the study. The questionnaires are developed by the researcher based on ideas about the services rendered by auditing firms. The questionnaire used for the study consists of five component parts. SERVQUAL model is used to measure the desired (perceived) and adequate (expected) service levels of audit firms due to its high reliability and validity in previous studies.

Research instrument design is based on the five dimensions of service quality and the 22 service items of the SERVQUAL model. Some modifications were made to the items in order to suit the context of audit firms. The questionnaire was divided into three sections: part one contained items on demographic details of respondents and organizational profiles, part two comprised the modified standard SERVQUAL questions that examined each of the audit service elements.

Lastly, the part three contained items for respondents to provide feedbacks on customer satisfaction. This aspect basically describes the dependent variables which is customers' satisfaction.

2.2. Instrument Scoring Scale

To capture audit service quality, we adopt the five-point Likert scale (1-strongly disagree to 5-strongly agree) perspective questions from Parasuraman et al. (1988). The questions were then divided into client perception and expectation. Client expectation refers to services that the client feels the audit firm should offer, while client perception is related to the performance of the audit firm in delivering its services.

Studies on customer satisfaction with services have traditionally measured the construct with single item measures (Bitner, 1990; Bolton and Drew, 1991). In this study, clients' satisfaction is measured using one item that captured overall satisfaction of clients based on the service offered by the audit firm. It was measured in binary scale due to the method of analysis to be adopted.

2.3. Validity and Reliability

The authors adopt a method of checking the validity, reliability and consistency of the instrument through Cronbach's α scores for each dimension SERVQUAL (Spreng and Mackoy, 1996). To further check the consistency of responses we include a few extra questions to respondents which deem essential for the study. Apart from the use of correlation coefficient, the author used a technique of putting in two roughly equivalent or closely related questions but well separated in the questionnaire. With this, it is possible to measure the consistency of answers.

2.4. Pre-Testing of the Questionnaire

Pre-test was carried out to see how the questionnaire would work out and whether changes will be necessary before the commencement of full-scale study. The respondents used for the pre-test exercise will be similar in grade and characteristics to those that would be eventually sampled in the final study.

3. Population Studied and Sampling Technique

The population studied is relevant staff of three organizations that are audited by KPMG. A total number of thirty respondents are targeted from each of the organizations. The three organizations' are quoted firms and are from different subsectors.

- (1) Financial sector
 - (i) First Bank Nigeria PLC
- (2) Industrial Goods Sector
 - (i) Guinness Nigeria PLC
- (3) Telecommunication
 - (i) MTN Nigeria

3.1. Sample Selection

Since it is not possible to cover all the staff in the 3 organization, the famous Yamane technique sample selection techniques was adopted by the study. The calculation of the sample size was done as follows:

$$n = \frac{N}{1+N*(e)^2} \dots\dots\dots(7.1)$$

Where n = the sample size

N = the population size

e = acceptable sampling error

* 95% confidence interval is assumed (p=0.5)

Based on this, a total of thirty respondents were targeted in each of the three organisations, thus making our total sampling ninety.

4. Methods to be used in Processing and Analyzing Data

The major objective of this study is to examine the effect of service quality of audit firms on their customers' satisfaction. This objective guides us on the relative influences of some factors of SERVQUAL on customers' satisfaction. Individual respondents from each of the companies are allowed to rate the audit firm services to their organization based on the five dimensions of SERVQUAL using 22 items contained in the research instrument. The five dimensions are reliability, tangible, assurance, responsiveness and empathy. All these constitute the independent variable and are rated on 5 points likert scale. The dependent variable here is the customers' satisfaction which has to do with binary response from the respondents since logistic regression is adopted.

Model Specification

Based on the information above the model which will be estimated via a logistic regression analysis is illustrated thus:

$$CS_{i,t} = f(SERVQUAL_{i,t},) \dots\dots\dots (7.2)$$

Where $CS_{i,t}$ is the customers satisfaction by firm i at period t, and $SERVQUAL_{i,t}$ are responses based on five dimensions of SERVQUAL by firm i at period t.

The Logistic Regression

In literature logit and probit models were developed to resolve the problem associated with linear probability model LPM. Some of the problems associated with LPM are based on the fact that it cannot be used for a non-linear model(Soderborn, 2009). Also nonsense prediction is very possible under LPM since there is nothing that binds the dependent variable to the binary response (0, 1). Instead, logit model considers a class of binary response model of the form:

$$Pr(y = 1/x) = G(\beta_1 + \beta_2x_2 + \dots + \beta_kx_k) \dots\dots\dots (7.3)$$

$$Pr(y = 1/x) = G(x\beta) \dots\dots\dots (7.4)$$

Where G is a function taking strictly values that range between zero and 1 that is $0 \leq G(z) \leq 1$ for all real numbers z in the model. Equation 3.2 is often referred to as the index model because $Pr(y = 1/x)$ is a function of vector x only through the index. That is:

$$x\beta = \beta_1 + \beta_2x_2 + \dots + \beta_kx_k \dots \dots \dots (7.5)$$

Equation 3.4 is simply a scalar. However, since $0 \leq G(x\beta) \leq 1$ this ensures that the estimated response probabilities are strictly between zero and one, which thus addresses the main worries of using LPM. G is usually accumulative density function (cdf), monotonically increasing in the index z (i.e. $x\beta$), with probabilities for responses to the dependent variables as:

$$Pr(y = 1/x) \rightarrow 1 \text{ as } x\beta \rightarrow \infty \dots \dots \dots (7.6)$$

$$Pr(y = 1/x) \rightarrow 0 \text{ as } x\beta \rightarrow -\infty \dots \dots \dots (7.7)$$

It follows that G must be a non-linear function, and hence we cannot use OLS. Various non-linear functions for G have been suggested in the literature. By far the most common ones are the logistic distribution, yielding the logit model, and the standard normal distribution, yielding the probit model. In the logit model,

$$G(x\beta) = \frac{\exp(x\beta)}{1 + \exp(x\beta)} = A(x\beta) \dots \dots \dots (7.8)$$

The approach of logistic regression will generally inform us on the probability that a particular customer will be satisfied the services of the audit firm given the SERVQUAL dimensions.

Discussions

The logistic regression is adopted to fulfill the objective of the study. The dependent variable in the logistic regression is the customers' satisfaction. In other words we examined the probability of a client of the audit firm to be satisfied given the quality of services render by the audit firms. Questions on customers' satisfaction are framed to accommodate binary responses in terms of yes or no. that is a respondent tick yes if satisfied with the services of the audit firm and no if not satisfied. However, the explanatory or the predictors are the variables of services quality which are the five dimensions in the SERVQUAL model. The

responses to the 22 point questions on the SERVQUAL are rated by the respondents based on the 5 point likert scale. The result of the logistic regression is presented in table 1

Table 1 and 2 presents the logit regression result. Table 4.3 shows the un-exponential coefficient while table 4.4 shows the result of exponential coefficient which is called the odd ratio. The results show similar result and they both explain the degree of responsibility of each of the dimension of SERVQUAL for the probability of meeting customers' satisfaction regarding the services of the audit firms. The results further indicate relative effect of each dimension in dictating the likelihood of a customer to be satisfied with the quality of service of the audit firm.

All the Un-exponential and exponential coefficients of each dimension are positive except empathy. This is indicating that an increase in each of them brings about more likelihood of a customer to be satisfied with the services of the audit firm. However, the coefficient varies in terms of their individual significance on the customer satisfaction.

From the result, only the un-exponential and exponential coefficients of tangibility and empathy have significant impact on the tendency of a customer to be satisfied with the quality of service of the audit firms. For instance, the un-exponential coefficient of tangibility is 2.177921 and the value is significant at 5% level. The implication of the result is that an increase in tangibility rating of the quality of service of the audit firm will bring about more likelihood of a customer to be satisfied with their services. This simply indicates that the rating of the services of the audit firms in terms equipment and items they possess to carry out their services brings more satisfaction to the customers. In other words, customers derive more satisfaction from the usage of sophisticated technology and all other tangible items applied by the audit firms when rendering their services. The implication of this is that possession of these tangible items by the audit firms have a significant influence on their tendency to be satisfied with the services rendered by the audit firms.

Another variable of the SERVQUAL with significant impact on customers' satisfaction is empathy. However, this dimension is wrongly signed. The implication is that empathy as a dimension of measuring quality of service of audit firms has not positively and significantly influenced customers' satisfaction. The un-exponential coefficient is -2.285020 and the value is significant at 5%. Therefore the kind of empathy shown by the audit firms to customers

further makes them to be dis-satisfied with their services. That is the empathy brings about significant dis-satisfaction to the customers.

The remaining three dimensions namely; reliability, responsiveness and assurance demonstrate positive influence on customers satisfaction but their effects are not significant. The coefficients of the three of them according to the result are 0.333769, 0.984762 and 0.010355 respectively. None of the coefficient is significant thus, indicating that rating the quality of service of the audit firms in terms of reliability, responsiveness and assurance will bring more likelihood of customers to be satisfied with their services but the influence the three have on their level of satisfaction is not significant.

Notwithstanding, the R square of 0.69 implies that the five dimensions jointly account for about 69% variation in the probability of a customer to be satisfied with the quality of services of the audit firms. Also the test of overall significance supports this. The implication of the result is that the five dimensions of SERVQUAL namely, reliability, responsiveness, assurance, tangibility and empathy will significantly influence the probability of a customer rating the services of audit firms satisfactory or not. Therefore, the hypothesis that the five dimensions of SERVQUAL have significant impact on customers' satisfaction is accepted.

However, the reliability of the logistics regression result is tested via some diagnostics tests. Basically, the normality test and the serial correlation tests are carried out to enable us determine the validity of the logistic regression results.

Diagnostics

Firstly the normality test is carried out to examine if the distribution is normal. The Jaque Berra statistics is used for this and the result is presented in figure 1. Considering the probability of the Jaque Berra statistics it is clear that the hypotheses that the distribution is normal. This is because the probability of 0.122714 is greater than 0.05 that is 5%. This result is very good for the logistic regression results.

The next diagnostic is the serial correlation test. This test examines the possibility of autocorrelation in the results which may render the parameter estimates of the logistic regression unreliable. The result is presented in table 3. The result show that F statistics probability is again greater than 0,05. The implication is that the Null hypothesis of no serial

correlations accepted. Therefore the parameter estimates of the logistic regression are reliable and good for forecasting.

Conclusion

Findings from the logistic regression have shown a kind of consistency in our findings. This is because tangibility remains the only rating dimension that exerts significant impact on customers' satisfaction. Responsiveness, reliability, assurance and empathy fail to impress the customers. The implication of this is that tangibility in terms of level of technology, equipment and other gadgets the audit firms use in carrying out their services meet the customers' satisfaction.

However, one of the seemingly bizarre findings from the study is the empathy which shows significant negative impact on customers' satisfaction. The implication is that the empathy shown by the audit firms to their customer rather than bringing satisfaction it brings dissatisfaction. However, the reason for this might not be unconnected with frosty relationships that sometimes exist between audit firms and some stakeholders in the companies being audited (Bonds, 2004).

Recommendations

It is recommended that the audit firms should continue to maintain and update their level of technology application and usage of sophisticated equipment in carrying out their services as this has been shown to have significant influence on customers' satisfaction.

Again, it is recommended that the audit firms should generally improve on the following yardsticks for measuring quality of service that is reliability, responsiveness, assurance and empathy. These dimensions are capable of jointly driving customers' satisfaction.

References

- Andreassen, T.W. (1994). Satisfaction, loyalty and reputation as indicators of customer orientation in the public sector. *International Journal of Public Sector Management*, 7 (2), 16-34.
- Andreassen, T.W., & Lindestad, B. (1998). Customer loyalty and complex services: the impact of corporate image on quality, customer satisfaction and loyalty for customers with varying degrees of service expertise. *International Journal of Service Industry Management*, 9(1), 7-23.
- Arens, A. A., Elder, R. J., & Beasley, M. S. (2003). *Auditing and Assurance Services: An Integrated Approach* (9th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Arokiasamy, A., & Abdullah, A. G. (2013). Service quality and customer satisfaction in the cellular telecommunication service provider in Malaysia. *Journal of Arts, Science & Commerce*, 4 (2).
- Ayapong, G. Q. (2011). The effect of service quality on customer satisfaction in the utility industry – a case of Vodafone (Ghana). *International Journal of Business and Management*, 6(5).
- Baker, D. M. (2013). Service quality and customer satisfaction in the airline industry: a comparison between legacy airlines and low-cost airlines. *American Journal of Tourism Research*, 2(1), 67-77.
- Bongsu, H. (2004). Quality of services and its relationship with customer loyalty: perceptions of audit clients, MBA thesis, School of Management, University Sains Malaysia, Penang.
- Brookes, R. (1995). Recent changes in the retailing of fresh produce: strategic implications for fresh produce suppliers. *Journal of Business Research*, 32, 149-161.
- Graack, C. (1996). Telecom operators in the European Union: internationalization strategies and network alliances. *Telecommunications Policy*, 20(5), 341-355.
- Joseph, J., & Walker, C. E. (1988). Measurement and integration of customer perception into company performance and quality, In M. J. Bitner & L. A. Crosby (Eds.). *Designing a Winning Service Strategy*. New York, NY: AMA.
- Karatepe, O. M. (2011). Service quality, customer satisfaction and loyalty: the moderating role of gender. *Journal of Business Economics and Management*, 12(2), 278-300.

- Khan, M. M . (2014). Impact of service quality on customer satisfaction and customer loyalty: evidence from banking sector. *Pakistan Journal of Commerce and Social Sciences*, 8(2), 331-354.
- Kotler, P., Keller, K. L., Koshy, A., & Jha, M. (2009). *Marketing management: a South Asian perspective* (13th ed.). New Delhi, DL: Pearson Prentice Hall.
- Ogbari, M., & Borishade, T. T. (2015). Strategic imperatives of total quality management and customer satisfaction in organizational sustainability. *International Journal of Academic Research in Business and Social Sciences*, 5(4).
- Ojo, O. (2010). The relationship between service quality and customer satisfaction in the telecommunication industry: evidence From Nigeria. *Broad research in accounting, negotiation, and distribution*. 1(1).
- Rasil, A., Danjuma, I., & Igbai J. M. (2011). Service quality, customer satisfaction in technology-based universities. *African Journal of Business Management*, 5(15), 6541-6553.
- Webster, C. (1989). Can consumers be segmented on the basis of their service quality expectations?. *Journal of Services marketing*, 3(2), 35-53.
- Wieseke, J., Geigenmüller, A., & Kraus, F. (2012). On the role of empathy in customer employee interactions. *Journal of Service Research*, 15(3), 316-331.
- Wilson, C. (1979). An Infinite Horizon Model with Money, In Jerry R. G. and Jose, A. S., (Eds.), *General Equilibrium, Growth and Trade* (pp. 81-104). New York, NY: Academic Press.

Table 1

Logistic Regression for Customers' Satisfaction CS

Variable	Coefficient	Standard error	Z statistics	Probability
Reliability	0.333769	0.535456	0.623336	0.5331
Responsiveness	0.984762	0.687939	1.431468	0.1523
Tangibility	2.177921**	0.820896	2.653102	0.0080
Assurance	0.010355	0.743312	0.013931	0.9889
Empathy	-2.285020**	0.703450	-3.248304	0.0012

Note: R square 0.69, Log Likely hood -30.89651

Table 2

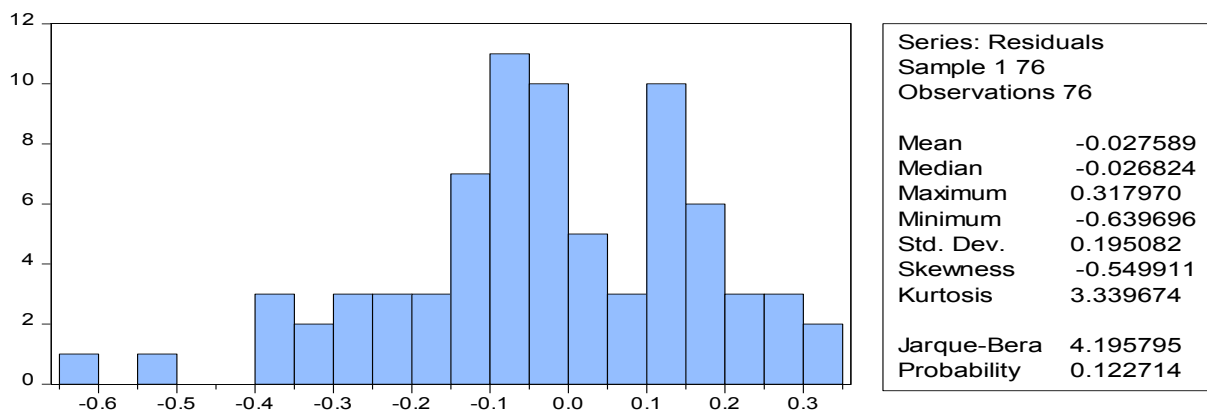
Logistic Regression for Customers' Satisfaction CS Odd Ratios

Variable	Coefficient	Standard error	Z statistics	Probability
Reliability	0.334141	0.326000	1.024973	0.3054
Responsiveness	0.613730	0.436363	1.406467	0.1596
Tangibility	1.190642**	0.468763	2.539967	0.0111
Assurance	0.200061	0.486650	0.411098	0.6810
Empathy	-1.435975**	0.443923	-3.234739	0.0012

Note: R square 0.69, Log Likely hood -28.76156

Figure 1

Normality Test



Source: Authors Compiled

Table 3

Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.698405	Prob. F(2,69)	0.5009
Obs*R-squared	1.507987	Prob. Chi-Square(2)	0.4705

Source: Authors Compiled