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Service Quality: A Mediator of Customer Complaint Behaviour and Customer Loyalty

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Abstract

Aims to examine the mediating role of service quality in customer complaint behaviour and customer loyalty. Adopts a quantitative cross-sectional research design and uses the MedGraph program, Sobel tests and the Baron and Kenny method to test for mediation effect of service quality on the relationship between customer complaint behaviour and customer loyalty. Service quality is a significant mediator in the relationship between customer complaint behaviour and customer loyalty of Ugandan mobile phone subscribers. Adding service quality to the relationship boosts the relationship between customer complaint behaviour and customer loyalty by 45 percent among the mobile phone subscribers studied. The findings therefore suggest that when service quality is low, a high level of customer loyalty may not be attained among mobile phone subscribers. Future research should use quantitative and a qualitative approach. Only cross-sectional used. A longitudinal study may therefore be useful in future to investigate the mediating impact of service quality over a longer period of time. Managers, policy-makers, and mobile telephone companies should advocate and strive for improvements across all dimensions of service quality to boost the loyalty of cell phone customers. While substantial body of research has been carried out on customer complaint behaviour, our paper is the first to test the mediating role of service quality in the relationship between customer complaint behaviour and customer loyalty among mobile phone subscribers in a developing nation context. Contributes to the positive significant influence of service quality in enhancing the level of customer loyalty based on customer complaint behaviour.

Keywords: Customer Complaint Behaviour, Service Quality, Customer Loyalty, Mobile Phone Subscribers.

Introduction

Service quality and the level of customer satisfaction are thought to determine the likelihood of repurchase decisions (Parasuraman et al., 1988). Ramzi and Mohamed (2010) assert that dimensions of service quality such as empathy, responsiveness and reliability significantly predict customer loyalty. In addition, service quality may lead to positive word of mouth (WOM) and favourable behavioural intentions (Gee et al., 2008). Grönroos (1984) defines service quality (SQ) as a perceived judgement resulting from an evaluation process where customers measure their expectations against the service they perceive and have received. SQ is a critical dimension of competitiveness (Saunders et al., 2007). It is also a concept that has generated considerable interest and debate in the research literature due to the difficulty of both defining and measuring it, with no overall consensus emerging regarding either aspect. The debate on service quality may be due to its dimensions of reliability, assurance, tangibility, responsiveness and empathy (Parasuraman et al., 2005), from which a service quality measurement instrument (SERVQUAL) was developed. Quality of a particular service is whatever the customer perceives it to be. Further, Khan (2010) conducted a study on service quality of cellular mobile telephone operators in Pakistan and found that SERVQUAL was found to be a valid instrument to measure service quality in mobile phone services. However, the instrument is still under debate because of its use of gap scores and the variation of SQ dimensions used from one industry to another. For example, convenience and network quality have been found to be important extra dimensions of service quality in the surveys on mobile telephone companies because of the influence of technology (Seth et al., 2008; Hutchinson et al., 2007).

Service quality as perceived by the customer may differ from the quality of the service actually delivered. Services are subjectively experienced processes, where production and consumption take

place simultaneously. Interactions occur, including a series of moments of truth between the customer and the service provider. Such buyer-seller interactions or service encounters have a critical impact on the perceived service. Service quality has been defined in a number of ways, but one of the most popular definitions is: “a comparison between the expected service and the perceived service” (Grönroos, 1984, p. 9). This definition is user-based and thus high service quality is achieved by consistently meeting or exceeding the customer’s expectations. In addition, the issue of providing the promised service in a timely, accurate and dependable manner requires the highest priority (Byarugaba, 2010). Earlier studies indicate that reliability significantly affects mobile phone customers’ perception of SQ, where the reliability of a service has been established as the driver of mobile phone service quality (Lee et al., 2008; Negi et al., 2009). Parasuraman et al. (1988) introduced SERVQUAL, an instrument developed to measure service quality in terms of customer expectations and organizational performance based on five generic service quality dimensions: reliability, assurance, tangibles, empathy and responsiveness (promptness). While SERVQUAL has remained popular with many researchers (Lee, 2005), the fact is that it has been subject to criticism (Ladhari, 2009), largely because replications have not achieved the same results, has led others (Seth et al., 2008) to develop alternative models and approaches, such as service performance (SERVPERF).

Parasuraman et al. (1988; 2005) have claimed that SERVQUAL provides a basic skeleton through its expectations/perceptions format that encompasses statements for each of the five service quality dimensions. When necessary, this skeleton can be adapted or supplemented to fit the characteristics or specific research needs of a particular organization. In their 1988 paper, Parasuraman et al. also claimed that the final 22-item scale and its five dimensions have sound and stable psychometric properties. With respect to technology, however, the dimensions of network quality and service convenience have also been proposed (Seth et al., 2008; Hutchinson et al., 2007). Furthermore, there is general agreement that service quality is a multi-dimensional construct (Samen et al., 2012), though debate remains on how best to conceptualize and operationalize the construct (Seth et al., 2008).

The conceptualization and measurement of service quality has been dominated by the use of the expectancy-disconfirmation paradigm (Oliver, 1997) and the related service quality model and SERVQUAL instrument (Parasuraman et al., 1988). According to this model, service quality is based on a comparison of customer expectations with perceptions of the service actually received (Parasuraman et al., 2005). In an alternative, performance-only or SERVPERF model, Cronin and Taylor (1992) reject the expectations of quality evaluation and include only performance measures of the service encounter. Both models are widely used in service quality research, but the performance-only model has the advantage of efficiency in empirical data collection (Jain & Gupta, 2004).

Researchers have criticized the SERVQUAL scale for its use of gap scores (Samen et al., 2012), measurement of expectations, positively and negatively worded items, the generalizability of its dimensions, and the defining of a baseline standard for good quality (Hutchinson et al., 2007). Service quality has become a major area of attention for researchers because of its strong influence on lower costs, customer satisfaction and customer loyalty (Seth et al., 2008). When companies offer similar services at the same price, the factor determining which company clients opt for is the quality of service provided. Because of the nature of services, however, service quality and its requirements are not easily articulated by consumers and companies (Lovelock & Wirtz, 2007).

Uganda has four main mobile phone operators, namely, Uganda Telecom (UTL), Mobile Telephone Network (MTN), Orange Uganda, Airtel Uganda (Market Review, 2009). The quality of service providers and the services they provide influence the consumer’s choice of the provider. According to the Uganda Communications Commission (UCC; Uganda Telecommunications Sector Policy Review, 2005), the parameters on which a mobile telephone company can provide quality include network and service accessibility, access delay, voice quality and short message service (SMS). A mobile service provider must continuously assess whether the quality of the service they offer matches the client’s expectations (Byarugaba, 2010). While MTN was ranked as the service provider with the largest market share (47%) and Orange Uganda as the provider with the smallest market share, of only 4% (BMI, 2011/2012), Orange Uganda was number one in UCC rankings for quality of services for three

years. Surveys have indicated a relationship between service quality and customer loyalty (Lee et al., 2008), yet this has not been the case for Orange Uganda.

Mobile telephone services include telephone calls, internet services, SMS (text messaging), data storage, and sending and receiving money. Four mobile operators (MTN, Airtel, Warid and UTL) use mobile money services and noted this as a means for bringing about greater financial inclusion to the “unbanked” (Uganda Budget Report, 2011/2012). The increasing competitiveness of new wireless broadband solutions compared to landline alternatives led to heightened interest in internet subscriptions, which increased 29% in 2011. Network operators have introduced dynamic discounts, flat-rate plans, chat zones and mobile broadband solutions in order to bring more value-added services to their subscribers. With greater saturation of the cell phone market (Market Review, 2009), Ugandan MTCs need to realize that their performance can improve by focusing more on retaining customers than constantly acting in a conquest mode.

It can be deduced that companies cannot completely eliminate the possibility of service failures (Hess et al., 2003; Komunda & Osarenkhoe, 2012). What is important, however, is how companies recover from service failure. Recovering effectively from service failures contributes to positive customer evaluations of organizations. Responding effectively to consumer complaints can have a dramatic impact on repatronage intentions and the spread of negative WOM (Halstead, 2002). Consequently, continuous improvement of service quality has been recognized as a critical task for service managers in mobile phone services. Further, there is a need to enhance the trustworthiness of mobile phone operators by keeping customers’ best interests at heart, providing customized services, and exemplary behaviour of contact personnel to make interactions with the MTC a positive memorable experience. In addition to the original five dimensions of service quality (reliability, tangibility, empathy, assurance and responsiveness), mobile operators should also focus on the other two SQ dimensions – service convenience and network quality – proposed by Seth et al. (2009) and Hutchinson et al. (2007). This is because these aspects significantly affect customers’ perception of service quality of mobile phone service providers.

Literature Review

Customer Complaint Behaviour and Service Quality

Customer complaints are a natural consequence of any service activity (Michel et al., 2009) because mistakes are an unavoidable feature of all human endeavours and also of service delivery (del Rio-Lanza et al., 2009). For the consumer, this renders complaining a means of making one’s feelings known when unfair seller practices are encountered, when disappointment with a product arises, or when more general disapproval of business conduct occurs (Fornell & Westbrook, 1979). Conceptualized in this way, dissatisfaction is the attitude resulting from disconfirmation of expectancies, and complaining is a behavioural expression of this dissatisfaction. When managing complaints, it is important that a company understands customer complaint behaviour (CCB) and why consumers choose specific complaint behaviours, particularly behaviours that do not involve the direct voicing of a complaint to the organization. Gruber (2011) asserts that managing complaints well and retaining customers after service failures and complaints, should be the cornerstone of an organization’s customer satisfaction strategy.

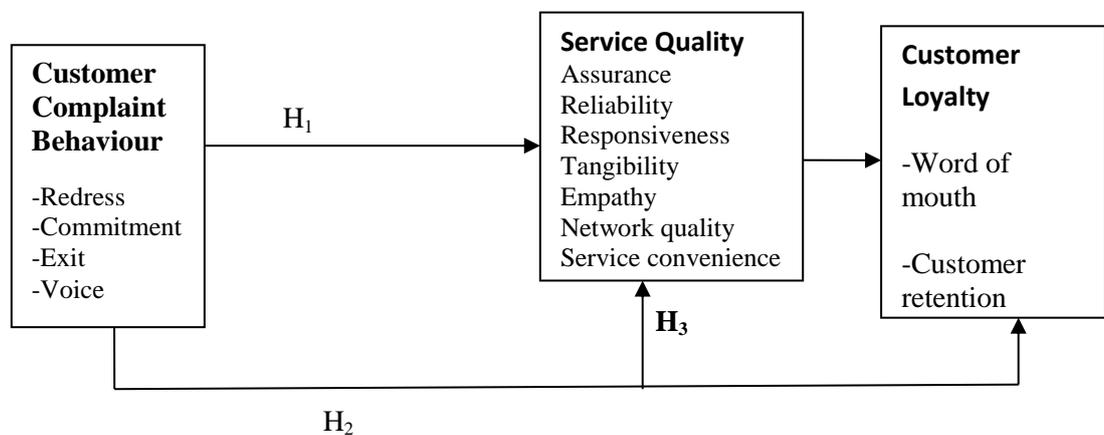
In light of the ongoing discussion of service quality, debate on such controversial concepts like SQ’s multi-dimensionality and SQ gaps is still far from over and there remains an avenue for potential contribution to the service quality literature (Byarugaba, 2010). The majority of studies have been aimed at measuring or validating service quality from the customer’s perspectives only, with little attention given to examining this concept from managers’ and employees’ perspectives. Companies should go beyond customer satisfaction through providing quality services and also by handling customer complaints in ways that will lead to loyal customers (Gee et al., 2008); in any case, customer loyalty is the goal of mobile telephone companies in Uganda.

Service Quality and Customer Loyalty

Service quality can be measured by an instrument called SERVQUAL (Parasuraman, 1988), which has now been employed in a broad spectrum of sectors ranging from financial services to telecommunications but has been critiqued as confusing (Hutchinson et al., 2007). This research is vital to establish the validity of the instrument on the generic dimensions of reliability, tangibility, empathy, assurance and responsiveness as it relates to the use of SERVQUAL in African contexts (Khan, 2010). SQ is a key area for researchers because of its strong impact on image creation, costs and customer loyalty (Seth et al., 2008). Aydin and Ozer (2005) add that SQ enhances customers' inclination to buy again, buy more, buy other services, become less price-sensitive and tell others about their favourable experiences, concluding that there is a positive relationship between service quality and customer loyalty.

Oliver (1997) and Gee et al. (2008) maintain that, with respect to customer loyalty, all service encounters offer an opportunity to provide superior service quality and distinguish a firm from its competitors. With customer loyalty being so vital for business survival, it is strange that the relationship between service quality and customer loyalty is not equally well established (Ramzi & Mohamed, 2010). The customer loyalty-service quality relationship has been studied but not in the telecom industry (Holloway et al., 2009; Lee et al., 2008). And while service quality has an effect on customer loyalty, there remains considerable debate on the nature of this effect (Ramzi & Mohamed, 2010). The assumption is that there is a strong relationship between SQ attributes and customer behaviours such as repurchase intention (Oliver et al., 1997). Further, a study of Turkish cell phone users suggests that service quality is necessary but insufficient to create loyalty (Aydin & Ozer, 2005). Service quality has been found to affect both behavioural intentions and behavioural outcomes. Buyers purchase a lot of services from suppliers with whom they have high quality relationships (Camarero, 2007).

Conceptual Model



Hypotheses of the study

The conceptual hypotheses for the current study were:

- H1: There is a significant relationship between the customer complaint behaviour and service quality of mobile phone subscribers.
- H2: There is a significant relationship between customer complaint behaviour and customer loyalty of mobile phone companies.
- H3: The relationship between customer complaint behaviour and customer loyalty is significantly mediated by service quality.

The current study empirically investigated the relationships shown in the conceptual model and presented in the three study hypotheses above with a view to establishing the relationship between the study variables, as well as the mediation effect of the independent variable on the dependent variable.

Methodology

Stratified random sampling was the method used for the study. A cross-sectional survey was used, referring to a study that involves collecting data from a population or a representative subset thereof at one specific point in time (Saunders et al., 2007; Babbie, 2010). The population of the study constituted subscribers to mobile phone operators, made up of students, academic staff, administrative staff and support staff at Makerere University in Kampala, Uganda. This population was chosen because Makerere University is one of the oldest universities in East Africa. Most people at the university are well-educated and informed of their rights as consumers, they are multicultural, and they are knowledgeable about how to go about complaining and are able to complain through various channels to MTCs. The University's staff and students are a cosmopolitan group of people from across the country (Uganda). The mobile phone subscribers use cell phones to make telephone calls and to access social media and mobile banking. The total population of mobile phone subscribers at Makerere University (2011/2012 academic year) was 50,949.

The sample used was determined based on the Krijcie and Morgan (1970) table, where, for populations greater than 10,000, the sample size is 400. The sampling technique used to select students and staff was stratified random sampling. Uganda currently has four major mobile phone companies, all of which offer data, text and voice services. The unit of analysis was MTC subscribers, specifically students, academic staff, administrative staff and support staff at Makerere University in Kampala. A list of all of the University's students and staff was obtained from the Human Resource Office and Registrar's Office, from which every fifth person was selected as a respondent.

Table 1: Population of Makerere University (2012-2013)

Category	Population	Percentage
Students	46274	50
Academic Staff	1,823	20
Support Staff	1,597	17
Administrative Staff	1,255	13
Total Population	50,949	100
Sample	400	

*Source: Human Resource Office, Makerere University
Registrar's Office, Makerere University*

The study used both primary and secondary data. The primary data is described in detail below. The secondary data used were in the form of reports, brochures, flyers, periodicals, manuals, monographs and journals. The bulk of these materials were obtained from the Uganda International Trade Fair organized by the Uganda Manufacturers' Association, in which the mobile telephone companies (UTL, MTN, Orange and Airtel) are members.

The primary data was collected from Makerere University mobile phone subscribers (students and staff) using a self-administered questionnaire. The questionnaire was divided into five sections. Section A provided info on the demographic variables (age, gender, marital status, education level, income); Section B dealt with customer complaint behaviour (CCB) relating to the dimensions of seeking redress, voicing complaints, exit and commitment; Section C concerned service quality in the dimensions of reliability, responsiveness, assurance, tangibility, service convenience, empathy and network quality); and Section D dealt with customer loyalty (customer retention and word of mouth). The questions were formulated based on the objectives of the study and included both open- and closed-ended questions. A 5-point scale was developed (1=not at all; 2=to a small extent; 3=to a moderate extent; 4=to a large extent; and 5=to a very large extent) as this rating scale has a fairly

robust nature. The question items were developed from the literature with appropriate modifications to suit the context of the current study.

The questionnaire was self-administered. The researcher explained to the respondents the purpose and objectives of the study and how to fill in the questionnaire to ensure reliable and valid information. The researcher assured the respondents of total confidentiality regarding their responses, and kindly requested them to fill out the questionnaire. The questionnaire method was used because it could be administered simultaneously to many respondents.

A total of six hundred questionnaires were distributed to the respondents. For the staff of Makerere University, the drop and pick-up later method was used to collect the questionnaires, and for the students the questionnaire was administered by the researcher at the beginning of the semester in a classroom setting. Cronbach's alpha was used to ascertain the reliability of the instrument and this was advocated for by Kothari (2005) and Nunnally (1978). A pilot study was also undertaken to establish the reliability of the instrument using the internal consistency approach using the SPSS software package (Version 19). Reliability tests were conducted on the pilot study of 81 individuals selected from within the sample. The parts of CCB, service quality and customer loyalty all showed acceptable an alpha coefficient of .70. The overall alpha coefficient was .751 and pertinent results of the reliability of the instrument are summarized in Table 2.

Table 2: Reliability of the Instrument

Part of Instrument	Variable	Number of items	Alpha coefficient
Whole Instrument		55	.751
Section 1	CCB	9	.740
Section 2	Service Quality	29	.836
Section 3	Customer Loyalty	17	.784

Source: Primary Data

As shown in Table 2, the alpha coefficient for the instrument as a whole was high, at .751. As regards the variables, service quality had the highest measure at .836, and CCB the lowest at .740. The Cronbach alpha values exceeded the acceptable level of 0.70 as recommended by Nunnally (1978), confirming that the scale was reliable.

Validity refers to the extent to which data collection methods accurately measure what they are intended to measure (Saunders et al., 2007). A test has content validity built into it by careful selection of study items. The exploratory factor analysis was done based on the criterion of a Kaiser-Meyer-Olkin (KMO) measure above 0.7; while Bartlett's test is significant at eigen values greater than 1. To ascertain validity, the questionnaire was tested on 81 respondents. The constructs of the variables (CCB, service quality and customer loyalty) were subjected to KMO and Bartlett's test extraction using principal component analysis (PCA) by varimax rotation using Kaiser normalization. The KMO measure of sampling adequacy should be greater than 0.05 for satisfactory factor analysis to proceed. In the current study, the KMO values exceeded .660, while the Bartlett's test of sphericity values for the variables were statistically significant at .000, confirming construct validity.

The operationalization of study variables was based on a detailed review of the literature and previous studies. The variables under study included an independent variable (CCB), the dependent variable (customer loyalty) and the mediating variable service quality. The service quality was measured using

Parasuraman's 1988 SERVQUAL model, which was improved based on the literature review. The dimensions of this variable included reliability, assurance, tangibility, empathy and responsiveness, to which service convenience and network quality were also added. A 5-point scale was adopted for all the scales of the questionnaire.

The collected data was first cleaned, edited and coded, then the data was analysed using the Statistical Program for Social Sciences (Version 19). The analysis of data was done using both descriptive and inferential statistics. Assumptions of parametric tests included the normality of distribution of the data, the linearity of the data, and the homogeneity of variance, and a test of multi-collinearity was carried out to assess whether the assumptions of parametric data were tenable. Parametric tests were conducted to establish whether the sample satisfied the assumption of parametric data.

Findings

Descriptive statistics using frequency, mean scores and correlations and regressions were computed for the variables. The pertinent results of these values are summarized in Table 3 to Table 12.

Table 3: Summary of the Study Variables

Thematic Area	Item Description	Frequency	Mean Score	SD
Customer Complaint Behaviour	Voice	336	2.59	.799
	Commitment	336	2.56	.682
	Redress	336	2.45	.820
	Exit	336	2.22	.942
Grand Mean Score		336	2.45	.810
Service Quality	Service convenience	336	3.34	.754
	Tangibility	336	3.30	.750
	Assurance	336	3.29	.841
	Network quality	336	3.27	.782
	Empathy	335	2.96	.772
	Responsiveness	336	2.79	.779
	Reliability	336	2.73	.717
Grand Mean Score		336	3.09	.597
Customer Loyalty	Customer retention	336	3.12	.579
	Word of mouth	336	2.95	.680
Grand Mean Score		336	3.30	.629

Source: Primary Data

The results presented in Table 3 indicate that the mean score for the study dependent variable (customer loyalty) was 3.12, SD=.579. Service quality had the highest- (mean score=3.09, SD=.597). This implies that mobile phone subscribers need to hold the quality of a MTC service in high regard in order to have a positive attitude regarding WOM and repurchase decisions. As regards the coefficient of variation, the variable with the largest dispersion from the average was CCB (33%), followed by SQ (24.9%); and the variable with the smallest coefficient of variation from the mean was customer loyalty (19%). Here, MTC subscribers must have high regard for a service's quality in order to have a positive attitude with respect to WOM and making repeat purchase decisions.

Factor Analysis (FA) was used to validate the questionnaire by testing for convergent validity, discriminant validity and construct validity, applying KMO and Bartlett's test for sampling

adequacy and then principal component analysis and varimax methods to extract the factors that measured the study variables as shown in preceding sections. Principal component analysis and varimax rotation were done using eigen values greater than or equal to 0.5. Factors with eigen values greater than one (1) were extracted and items with factor loadings of greater or equal to 0.5 were retained. The pertinent results are shown in Table 4.

Table 4: Summary of KMO and Bartlett's Test

Variable	KMO	Bartlett's Test of Sphericity		
		Chi-square (χ)	df	Sig. level
Customer Complaint Behaviour	0.680	630.5	66	.000
Service Quality	0.781	1109.3	171	.000
Customer Loyalty	0.665	345.4	21	.000

Source: Primary Data

As presented in Table 4, sampling adequacy of CCB was determined by Kaiser-Meyer-Olkin measure of sampling adequacy=.680, Bartlett's test=630.5, df=66 and Sig.=.000, implying that the sample was adequate for CCB. Sampling adequacy of SQ was determined by KMO=.781, Bartlett's test=1109.3, df=171 and Sig.=000. Further, the sampling adequacy of Customer Loyalty was determined by KMO=.665, Bartlett's test=345.4, df=21 and Sig.=.000, meaning that the sampling adequacy was significant and moderate at 78.8%.

Correlation between Customer Loyalty and Independent Variables

In this section, the research findings are presented using statistical techniques based on tests of the hypotheses. The results are interpreted in view of the conceptual and theoretical model. In order to address the objectives and test the hypotheses of the study, zero-order correlation analysis was carried out. The objective of doing this was to determine whether there was a significant linear relationship between the predictor variable (CCB), mediating variable, and the dependent variable. As shown in the previous section, the data fulfilled the parametric conditions and, consequently, bivariate correlation analysis was performed and Pearson correlation coefficients generated to measure the magnitude of the relationship between the study variables.

A correlation analysis was run using the Pearson Product-Moment Correlation Coefficient technique to establish the relationship between customer complaint behaviour, service quality and customer loyalty. The results were discussed in line with the literature in order to establish the extent to which they relate to existing knowledge. The correlation coefficient provided a numerical summary of the direction and strength of the linear relationship between the variables. As indicated in Table 5, all of the Pearson correlation coefficients (r) fell within the range of -1 to +1.

Table 5: Correlation of Study Variables

Variable	Customer Complaint Behaviour	Service Quality	Customer Loyalty
Customer Complaint Behaviour Pearson correlation Sig. (2-tailed)	1		
Service Quality Pearson correlation Sig. (2-tailed)	.242** .000	1	
Customer Loyalty Pearson correlation Sig. (2-tailed)	.255** .000	.653** .000	1

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

Source: Primary Data

The results in Table 5 indicate that the relationship between customer complaint behaviour and customer loyalty was positive and statistically significant ($r=.255^{**}$, $P=.000$). This finding suggests that improved handling of complaints will lead to increased customer loyalty. It also suggests that when customers receive quality service they remain committed and keep subscribing to their current MTC. This implies that when the mobile operators handle customer complaints in line with the expectations of their subscribers, the subscribers are willing to seek redress and have an understanding for the service provider in the case of service failures.

The correlation results similarly show that there was a high positive significant relationship between service quality and customer loyalty ($r=.653^{**}$, $P=.000$), where service quality relates directly to customer loyalty. The implication of this result is manifested in terms of reliability, responsiveness, empathy, tangibility, assurance of the services by mobile telephone company staff, as they work towards attaining positive word of mouth about the company and, consequently, retaining customers in long-term relationships. Finally, there was a positive and significant relationship between CCB and service quality ($r=.242^{**}$, $P=.000$). The implication of this result is that favourable CCB (seeking redress, voicing complaints to service operators, and using selected MTC services) will lead to an enhancement of service quality.

Table 6: Correlation of Customer Retention and Word of Mouth with Study Variables

		Customer Retention	Word of Mouth	Customer Complaint Behaviour	Service Quality
Customer Retention	Pearson correlation Sig. (2-tailed)	1			
Word of Mouth	Pearson correlation Sig. (2-tailed)	.541** .000	1		
Customer Complaint Behaviour	Pearson correlation Sig. (2-tailed)	.270** .000	.233** .000	1	
Service Quality	Pearson correlation Sig. (2-tailed)	.652** .000	.512** .000	.240** .000	1

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

Source: Primary Data

The correlation analyses evaluated the linear relationships between the study variables. Table 6 shows the correlations of study variables based on the dimensions of the dependent variable for the relationships between customer retention and service quality (.652**), word of mouth and service quality (.512**), service quality and CCB (.240**), customer retention and CCB (.270**), and WOM and CCB (.233**). The correlation of customer retention and WOM was statistically significant for CCB and service quality. All correlations for the three study variables were positive and statistically significant, with the highest correlations being between service quality and customer loyalty. A high correlation was also found between service quality and customer loyalty dimensions. The relationships

between customer loyalty dimensions and CCB, as well as between CCB and service quality were positive and statistically significant.

H₁: There is a significant relationship between customer complaint behaviour and service quality.

Favourable CCB (voicing complaints to service operators, seeking redress, using selected services of the MTC) will lead to improved service quality. The results of simple regression analysis with predicting service quality are shown in Table 7.

Table 7: Regression of Service Quality on Customer Complaint Behaviour

	R	R ²	F	Sig (P)	Constant	B	β (Beta)	T	
Customer Complaint Behaviour (H₃)	.239	5.7%	20.052	.000	2.429	.276	.239	4.478	
B =Unstandardized coefficient; β = standardized coefficient; Dependent Variable: Customer loyalty Independent Variables: Customer Complaint Behaviour and Service Quality									

Source: Primary Data

The results in Table 7 show that customer complaint behaviour had a statistically significant influence on service quality; the coefficient of determination (R²) was .057, meaning that it explained 5.7% of its variation (R²=.057). In this case, the independent variable explained 5.7% of the variation in service quality, with 94.3% of the variation remaining unexplained. This means that the model provided a relatively weak fit since only 5.7% of the variation in service quality was explained.

The standardized regression coefficient value of the computed scores of SQ was $\beta = .239^{**}$, with a significance level of $p = .000$. This implies that customer complaint behaviour influences the service quality of mobile telephone companies. The standardized regression coefficient was used because it removes the unit of measurement of the predictor and outcome variables and this consequently enables one to compare the relative effect of predictors measured on different scales.

Table 8: Regression of Customer Loyalty on Customer Complaint Behaviour

	R	R ²	F	Sig. (P)	Constant	B	SE	β (Beta)	T
Customer Complaint Behaviour (H₁)	.263	6.9%	24.267	.000	2.329	.293	.060	.263	4.926
B =Unstandardized coefficient; SE =Standard error; β =Standardized coefficient; Dependent Variable: Customer Loyalty Independent Variable: Customer Complaint Behaviour									

Source: Primary Data

H₂ :There is a significant relationship between customer complaint behaviour and customer loyalty

Table 8 provides the model summary of customer complaint behaviour and customer loyalty, where the coefficient of determination (R²) for model 1 was .069, meaning that the independent variable

(CCB) explained 6.9% of the variation in customer loyalty, with 93.1% of the variation remaining unexplained. This signifies that the selected independent variable had little explanatory power of the dependent variable.

The standardized regression coefficient value of the computed scores of SQ was $\beta = .263^{**}$, with a significance level of $p = .000$. This implies that customer complaint behaviour influences the customer loyalty of mobile phone companies. The standardized regression coefficient was used because it removes the unit of measurement of the predictor and outcome variables and this consequently enables one to compare the relative effect of predictors measured on different scales.

H₃: The relationship between customer complaint behaviour and customer loyalty is significantly mediated by service quality

To improve on the goodness of fit of the model, the mediating effect of service quality was introduced in the model between CCB and customer loyalty. In this case, customer loyalty was regressed on CCB and service quality where SQ was a mediating factor, to assess whether there was a significant change in the relationship between the study variables. The pertinent results are shown in Table 10.

Table 10: Regression Results for Customer Complaint Behaviour, Service Quality and Customer Loyalty

a. Goodness of Fit of Service Quality and Customer Complaint Behaviour

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.662 ^a	.438	.436	.43377
2	.670 ^b	.450	.446	.43003

a. Predictors: (Constant), Service Quality
b. Predictors: (Constant), Service Quality, Customer Complaint Behaviour

Source: Primary Data

The model summary of service quality and customer loyalty in Table 10(a) shows that the coefficient of determination (R^2) for Model 1 was .438, which meant that the dimensions of SQ explained 43.8% of the variation in customer loyalty, with 56.2% of the variation remaining unexplained. However, with the addition of the variable CCB in Model 2, the results show that the coefficient of determination (R^2) increased ($R^2 = .450$) and therefore provided a fairly good fit, meaning that the Model was able to explain 45% of the variation in customer loyalty.

b. Analysis of Variance Statistics for Service Quality and Customer Loyalty

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	47.253	1	47.253	251.140	.000 ^a
1 Residual	60.586	322	.188		
1 Total	107.838	323			
2 Regression	48.477	2	24.239	131.073	.000 ^b
2 Residual	59.361	321	.185		
2 Total	107.838	323			

- a. Predictors: (Constant), Service Quality
- b. Predictors: (Constant), Service Quality, Customer Complaint Behaviour

Source: Primary Data

The analysis of variance (ANOVA) was used to assess the overall significance of the regression model. In Model 1 in Table 110(b), the F-value was 251.140 and the P-value was .000. In Model 2, the F-value was 131.073, and the P-value .000. This means that both models 1 and 2 were significant, with p-value = .000 at $\alpha=.05$ level of significance, in explaining the relationship between CCB, SQ and customer loyalty.

c. Coefficient of the Model of CCB, Service Quality and Customer Loyalty

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.184	.120		9.875	.000
SQ	.600	.038	.662	15.847	.000
2 (Constant)	.977	.143		6.820	.000
SQ	.576	.039	.636	14.927	.000
CCB	.112	.044	.110	2.573	.011
a. Dependent Variable: Customer Loyalty					

Source: Primary Data

In Table 10(c), the coefficients of the mediated model show a significant relationship between CCB, service quality and customer loyalty, where Beta=.636 and P =.000 at $\alpha=.05$ level of significance. This shows that service quality (a mediating variable) had a statistically significant influence on customer loyalty, with $R^2=45\%$ and P =.000. After mediation, the results improved to explain 45% of its variation ($R^2=.450$). The standardized regression coefficient (β) value of the computed scores for service quality was Beta=.110, and a significance level of p =.011. Since the Beta coefficient was not equal to zero, and was statistically significant (p =.011), service quality had a significant mediating effect. The pertinent results are summarized in Table 11.

Table 11: Summary of Mediating Effect of Service Quality on Customer Complaint Behaviour and Customer Loyalty

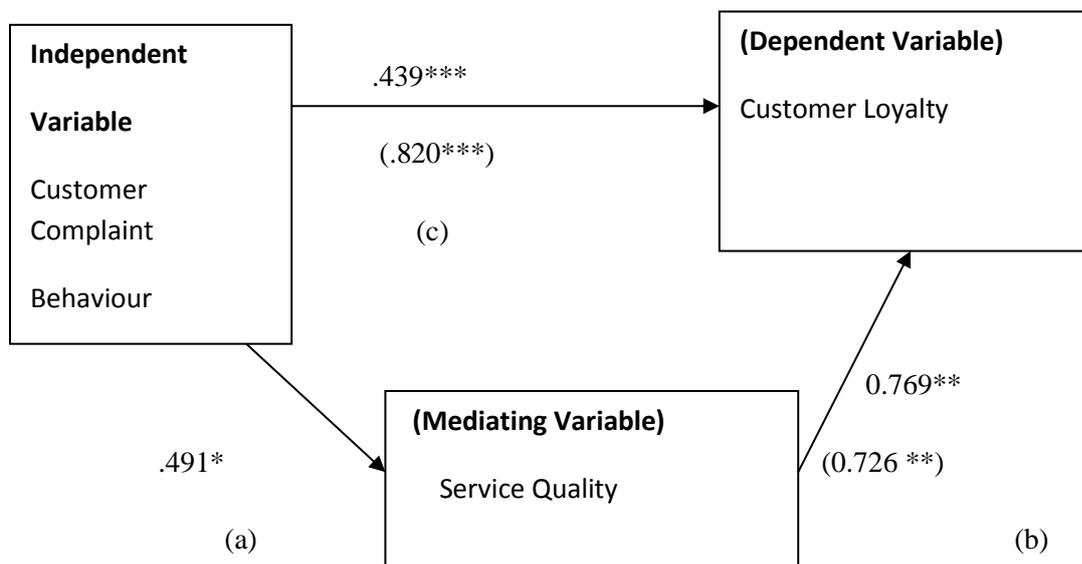
Analysis	R	R Square	R Square Change	β	Significance (p-value)
Analysis One:	.263	.069		.263	.000

Customer Loyalty and Customer Complaint Behaviour					
Analysis Two: Service Quality and CCB	.239	.057		.239	.000
Analysis Three: Step 1: Customer Loyalty on Service Quality	.662	.438		.662	.000
Step 2: Customer Loyalty on Customer Complaint Behaviour	.670	.450	.011	.636	.000

Source: Primary Data

The results in Table 11 reveal that the correlation between customer complaint behaviour and customer loyalty was moderate and statistically significant ($r=.263$, $p =.000$), while the mediating effect of service quality on customer complaint behaviour was low and statistically significant ($r=.239$, $p =.000$). The mediated relationship is represented in Figure 1.

Figure 1: MedGraph program graphically depicting mediation among variables of CCB, service quality and customer loyalty.



Source: Primary Data

As shown in Figure 1, the mediating effect of service quality on the relationship between CCB and customer loyalty is confirmed. There was a 95% symmetrical confidence interval where the lower limit was 0.20794, and the upper 0.54747.

The results yield a large and significant Sobel z-value, further confirming that service quality mediates the relationship between customer complaint behaviour and customer loyalty. Service quality is therefore a significant mediator in the association between customer complaint behaviour and customer loyalty, and this reduces the relationship between the two variables by 1% in the MTCs. This

means that the presence of service quality weakens the direct relationship between CCB and customer loyalty. While service quality accounts for 61.7% of the indirect relationship, the direct relationship accounts for 61.8%. The main conclusion drawn from the relationship was that service quality partially mediates the relationship between CCB and customer loyalty in mobile telephone companies in Uganda. Service quality slightly weakens the direct association between customer complaint behaviour and customer loyalty.

The unstandardized indirect effect was: $a*b = 0.37771$; $SE = 0.0866$. The direct effect was .820, the indirect effect was .535, and the indirect to total ratio was .811. The overall total standard coefficient = .439. Further, service quality has a direct relationship with customer loyalty, $Beta = .820$. Customer complaint behaviour and customer loyalty is significantly mediated by service quality, where $Beta = .726^{**}$, $Sig = .000$. There is a relationship between service quality and customer loyalty, with a statistically significant correlation coefficient of 0.769^{**} .

Customer Complaint Behaviour, Service Quality and Customer Loyalty

The objective of the study was to assess the effect of service quality (mediator variable) on the relationship between customer complaint behaviour and customer loyalty. The results in Table 12 show that service quality had a statistically significant influence on customer loyalty as a mediating variable, with a significance level of $p = .000$, $\beta = .636$, and coefficient of determination (R^2) = .450, meaning that the mediating variable made a contribution of 45%. The main conclusion to be drawn from this relationship is that service quality partially mediates the relationship between CCB and customer loyalty in Uganda MTCs. The results from the MedGraph indicate that service quality accounts for 61.7% of the indirect relationship, while the direct relationship accounted for 61.8%. Service quality slightly weakens the direct association between CCB and customer loyalty.

The study established the mediating effect of service quality on CCB and customer loyalty, revealing that this effect was positive and statistically significant and therefore Hypothesis 3 was not rejected. This finding suggests that service quality may play an important role in influencing the relationship between customer complaint behaviour and customer loyalty. Previous studies have shown a linear positive and statistically significant relationship between CCB and customer loyalty (Komunda & Osarenkhoe, 2012).

Table 12: Summary of Hypotheses Testing

Hypothesis	Analytical Model	R	R ² value	ANOVA (P-value)	β-Value	Coefficient (P-Value)	Decision
H ₁ : There is a significant relationship between CCB and service quality.	SQ=2.429+.276CCB, $p < 0.05$, $R^2 = 5.7\%$	.239	5.7%	.000	.239	.000	Hypothesis not rejected
H ₂ : There is a significant relationship between SQ and customer loyalty.	CL=1.184+.600SQ, $p < 0.05$, $R^2 = 43.8\%$	.662	43.8%	.000	.662	.000	Hypothesis not rejected
H ₃ : The relationship between CCB and customer loyalty is mediated by SQ.	CL= .997+.576SQ+.112CCB, $P < .05$, $R^2 = 45\%$.	.636	45%	.000	.636	.000	Hypothesis not rejected

Source: Primary Data

The overall objective of the study was to determine the mediating effect of service quality on CCB and customer loyalty of mobile phone subscribers. The current study also sought to establish the influence of CCB on customer loyalty of mobile subscribers and service quality (mediator) influenced this

relationship. The study hypothesized the existence of a significant relationship between CCB and customer loyalty and the three hypotheses about these relationships were tested using primary data. This section summarizes the major findings. The results of the study revealed that the influence of CCB on MTC customer loyalty was positive and statistically significant ($\beta=.263$, $p<0.05$) and was partially mediated by service quality. The research findings contribute to the general body of knowledge on consumer behaviour by providing a basis for mediation of the study variables. Service quality had a positive and significant direct relationship with the other variables, namely CCB and customer loyalty, and also as a mediating variable.

Conclusion

Service quality had positive and statistically significant direct effect on customer loyalty ($p<0.05$). This suggests that any improvements to the quality of services, such as tangibility, service convenience, network quality, assurance, empathy and responsiveness, have a direct but varying impact on customer loyalty. The research results showed that to sustain the loyalty of telephone subscribers the management of MTCs should place an emphasis on various dimensions of SQ when trying to improve the loyalty of mobile phone subscribers.

Recommendations

Mobile Telephone companies should make it their policy to recruit staff who have (but are not limited to) soft skills like empathy, reliability and promptly responding to customer complaints. The goal should be to work towards winning and retaining their subscribers by creating a good impression through friendly interactions. For successful complaint resolution, MTC management should design training programs for staff in handling customer complaints. As Gruber (2011) suggests, staff should go beyond just smiling and provide a warm, hearty response and treat subscribers nicely when handling complaints.

MTCs should adopt a positive approach when dealing with customer complaints such as “a complaint is gold,” to help maintain the relationship with the mobile phone subscriber and generate positive WOM about the company for image creation and, consequently, customer retention. This implies that management should ensure that their companies encourage dissatisfied customers to complain in order to express their feelings and suggest how they would best like their problems to be addressed. MTCs should provide timely, convenient channels for their subscribers to express their disappointment regarding service failures.

In addition, management should put in place easily accessible avenues through which subscribers can voice their complaints, in the form of customer care centres, suggestion boxes and 24-hour automated services to address frequently asked questions, instead of leaving subscribers to complain privately in their social circles. This can be achieved through prompt service recovery in situations when service failures are encountered, which lead them to switch, quietly walk away or complain privately to their social groups through social media like Facebook, WhatsApp and Twitter, or directly to friends and family. Mobile phone operators should be proactive by anticipating negative WOM and minimizing such messages from reaching social media or social networks.

Finally, MTC should establish a system for recording all complaints from subscribers, effectively communicate these complaints to the staff of the company, and then work towards avoiding repeating the same problems. The notes will be used to find solutions to problems and kept as a record to be used in the future to avoid recurrences (stability in terms of attribution theory) that may hinder subscribers from voicing complaints in the future.

Implications of the Study

The findings from this research present a number of issues that have implications for marketing theory, managerial practices and policy issues. The results of mediation testing have several

managerial implications. CCB and customer loyalty was partially mediated by service quality. This implies that the mobile telephone companies were considered to provide a quality service customers, thus boosting customer loyalty; that is, they provided services as promised, were dependable, and were able to handle subscriber complaints promptly to meet customer expectations. MTC management should consider and monitor SQ dimensions, especially those of convenience, tangibility and network quality. Mobile telephone subscribers rated as being important “to a moderate extent” in order to monitor customer dissatisfaction and to aim to provide services that exceed customer expectations. Mobile telephone companies need to routinely survey customer complaints to keep track of how mobile subscribers behave when it comes to complaints, that is, whether they voice them, seek redress, remain committed to the company or exit, as this impacts their loyalty to the mobile operator. This enables MTC operators to handle subscriber dissatisfaction as or before it arises.

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