

The Mediation Effect of Customer Satisfaction on the Relationship Between Service Quality and Customer Loyalty

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Abstract

The aim of the study was to investigate customer satisfaction's mediation role in the relationship between service quality and customer loyalty within Ghana's telecommunication sector. The report followed an approach to quantitative analysis and questionnaires to collect data from 105 respondents. The statistical analysis was performed using descriptive methods and inferential statistical techniques in IBM SPSS. The mediation analysis was made using Hayes' PROCESS macro model 4. Results of the analysis showed that quality of service is a substantially positive indicator of customer loyalty. It was also evident that Service Quality had a significant and positive influence on customer satisfaction. The direction between the mediator (Customer Satisfaction) and Customer Loyalty was positive but not significant. Again, it became evident that customer satisfaction partially balances the relationship between service quality and customer loyalty. It was evident that telecommunications companies' service quality cannot be the only predictor of customer loyalty, but customer satisfaction should be considered. The study recommends that telecommunications companies in Ghana should lose the script or the strict customer interaction code, review and analyze customer interactions, make multifunctional supports available and reconnect with disgruntled customers.

Keywords: customer service, customer satisfaction, customer loyalty, quality service, service organization

1. Introduction

The success of every business includes a multitude of approaches, including customer service (Sandhu et al., 2013). Customer Satisfaction is necessary to provide quality services to all groups of customers more specifically to meet their core needs. The customer (Eshghi et al., 2008) defines quality of service as the overall valuation of a service. Service quality covers five dimensions, namely responsiveness, assurance, reliability, empathy and tangibility (Parasuraman, 1988). This means that in order to ensure customer loyalty, efficient Service Quality is needed to achieve the desired result (Ahmed, 2010). Service quality would depend on the ability of service providers to meet consumers' expectations and desires. The service sector recognizes the importance of quality of service as a safeguard for customer retention. Understanding Service Quality may include understanding the characteristics of service that are intangibility, heterogeneity and inseparability (Ladhari, 2008; Parasuraman et al., 1985).

Several studies have shed light on the correlation between quality of service and customer satisfaction (Spreng and Mackoy, 1996; Jones and Suh, 2000; Coyles and Gokey, 2002; and Choi et al., 2004). Parasuraman et al. (1988) also carried out a well-cited study. SERVQUAL model was developed by the authors to evaluate and improve service quality for organisations. This model was utilized and implemented by numerous researchers in many service sectors via empirical studies). Because of increased customer loyalty, companies that regularly please their customers experience higher retention rates and greater productivity (Wicks & Roethlein, 2009).

The limited empirical research conducted to establish the mediation role that Customer Satisfaction plays in the relationship between Service Quality and Customer Loyalty as far as the telecommunications industry is concerned is pre-empted this study. The dimensions of service quality, customer satisfaction and customer loyalty seem to be converging (Jones & Suh, 2000). What appears to be a key factor, connecting the different dimensions of service

quality, and customer loyalty, is customer satisfaction. Therefore, customer satisfaction is perceived to be an intermediate variable or channel by which the level of service influences customer loyalty (Oliver, 1997). A conceptual framework for evaluating the relationship between Service Quality and Customer Loyalty was developed based on that. However, little academic attention has been provided within the telecommunication industry in the sense of Service Quality, Customer Satisfaction and Customer Loyalty to provide relevant knowledge to stakeholders to improve upon the quality of operations in the sector. In this context, this study aims to fill the gap in order to help telecommunications service providers and other stakeholders adapt to what customers expect and can survive in this turbulent business environment.

The main purpose of this study is to determine customer satisfaction's mediation role in the relationship between service quality and customer loyalty for Ghana's mobile telecommunications sector. For this research, the five dimensions of Service Quality based on the SERVQUAL model (Parasuraman et al., 1988) are taken as independent variable while Customer Satisfaction is the mediating variable, and Customer Loyalty is the dependent variable for this research. The study also identifies some control variables such as subscriber age, educational levels and occupations, which may affect customer loyalty to a particular provider of telecommunication services. Subscribers of the five major mobile communications networks serve as analytical units for this study.

2. Literature Review

Extensive literature on the quality of service in the telecommunication industry poses a major problem. However, the few authors wrote extensively about the quality of service, but not in the telecommunications industry. This section identified published theoretical and empirical research findings related to the telecommunications level of service quality, mediated by customer satisfaction to influence a brand's customer loyalty. It basically covered the perspectives of some writers and researchers, whose findings give this study an important guide and background.

2.1 Service Quality

Quality of service is characterized as the customer's overall assessment of a service (Eshghi et al., 2008). Ghylin et al. (2008) points out that by defining the quality of service, companies will be able to deliver services with a higher level of quality, which will likely result in increased customer satisfaction. Understanding the quality of service must involve recognizing the features of service that are intangible, heterogeneous and inseparable (Ladhari, 2008; Parasuraman et al., 1985). In this way you can easily measure the quality of service.

In this study, service quality can be defined as the difference between the expectations of customers about service performance before the service encounter and their perception of the service received. Customer expectations serve as a basis for evaluating the quality of service, because quality is high when performance exceeds expectations and quality is low when performance does not meet expectations (Asubonteng et al., 1996). In service-quality literature, preferences are seen as customer's desires or desires, i.e. what they believe a service provider can give rather than deliver (Parasuraman et al., 1988). Perceived service is the product of the customer's view of the technical and functional aspects of the service (Gronroos, 1984).

Kotler (2003) explains that the quality should start from customer needs and end with the perception of the customer. This means that good understanding of quality is not dependent on service provider but dependent on the customer's point of view or experience. Customer understanding of service quality is a systematic assessment of the advantages of service.

Benefits gained from the quality of service being created and maintained are greater than the costs to be reached or the poor quality. Superior quality of service as an instrument for achieving company competitive advantage. Superior quality of service and consistency can lead to customer satisfaction, which in turn will provide various benefits such as: (1) the relationship between the company and its customers becomes more harmonious, (2) provides a good basis for re-purchasing activities, (3) encourages customer loyalty, (4) creating a word of mouth (word of mouth) recommendation which benefits the company, (5) creating a good corporate reputation in the minds of the customer, and (6) increasing the profit of the company. The consequences of these benefits are that each business has to realize the strategic importance of quality. Continuous enhancement of the standard is not an expense but an opportunity to produce greater profits (Hutt and Speh, 2001).

Zeithaml and Bitner (1996) explain that quality of service is the process of delivering excellence or superior service to those with consumer expectations. There are two main factors affecting the quality of the services: service expected and service perceived. If the service is received as expected then the quality of the service is good or acceptable but if the services provided meet the standards of the customer then the perceived quality of the service is either very good or ideal. Conversely, if the received service is lower than expected then the perceived poor service

quality. Quality of service will depend on how much the service provider can consistently meet consumers' needs and desires.

Parasuraman et al. (1988) developed a measurement scheme of service quality dimensions of tangibles, reliability, assurance, responsiveness, and Empathy. This tool is designed to measure the expectations and perceptions of customers, and the gap (gap) is in the service quality model (Tjiptono 1996). Measuring the quality of service in this study is based on the performance of service scores perceived by clients (Cronin & Taylor, 1992).

2.2 Customer Satisfaction

Customer satisfaction is conceptualized as being transaction-specific value focused on the experience of the customer on a particular service encounter (Cronin & Taylor, 1992) and also some believe that total customer satisfaction is based on the overall assessment of service experience (Jones & Suh, 2000). Which reinforce the fact that customer satisfaction is dependent on service provider experience and the service outcome as well. Consumer service is believed to be an attitude (Yi, 1990). For example, in the case of telecommunications in Ghana, there is some relationship between the customer and the service provider and customer satisfaction will be based on assessment of several interactions between both parties.

Therefore, satisfaction will be considered as part of the overall customer attitudes towards the service provider that constitutes a number of measures (Levesque et McDougall 1996). Organizations that consistently satisfy their customers enjoy higher levels of retention and greater profitability because of increased customer loyalty (Wicks & Roethlein, 2009). That is why keeping customers happy is important, and that can be achieved in many ways, and one way is by getting to know their preferences and perceptions of the services that service providers provide. In this way the quality of service could be assessed and customer satisfaction evaluated.

Customer satisfaction or dissatisfaction is, according to Tjiptono (1997), a reaction to the evaluation of the perceived discrepancy between expectations and performance in service. Customer satisfaction is a function of expectations and performance in service quality. Tjiptono (1997) explains that customer satisfaction as an evaluation of the selected alternative option and gives results that are equal to or exceed customer expectations. Unhappiness arises when the results do not satisfy customer expectations.

Kotler (2003) explains that satisfaction is the feeling of someone who described feeling happy or disappointed that the outcome of comparing a product's perceived performance to the expected product performance is. If performance fails to meet expectations, then the customer will feel disappointed or unhappy. If the performance can meet the expectations then the customer will feel satisfied. If the output meets what is expected, the customer should feel extremely satisfied

2.3 Customer Loyalty

Loyalty is more aimed at non-random behaviour shown by the purchase routine. Behaviour or non-random events that is if customers know the benefits of certain goods or services and in accordance with the requirements, then the customer will tend to be loyal (Griffin, 1995). Loyal customers are characterized by: (1) daily buy, (2) buy beyond the spectrum of available products/services, (3) suggest products/services to others, (4) show no interest from rivals to similar goods (Griffin, 1995).

Matching the quality of service delivery with the value of service is expected to enhance customer loyalty. Hill (1996) defines customer loyalty as a behaviour intended to be purchased on the basis of the routine units of decision making. Benefits for businesses that have loyal consumers are: (1) lower marketing costs, (2) lower purchase costs, (3) lower buyer replacement costs, (4) higher revenue, (5) positive mouth-to-mouth details and (6) lower failure costs.

The second concept of loyalty is behavioural. Examples of loyalty behaviour include continuing to purchase services from the same supplier, increasing the scale and or scope of a relationship, or the act of recommendation (Yi, 1990). Over a period of time, customer loyalty is built from a clear meeting record, and sometimes exceeds customer expectations (Teich 1997). Kotler et al. (1999) reported the cost of attracting a new customer could be five times the cost of keeping an existing customer satisfied. In addition, Gremler and Brown (1996) observed that the degree to which a consumer shows repetitive purchasing activity from a service provider has a favourable attitude towards the provider and allows the use of this service only when there is a need for it.

Bloemer & Kasper (1995) have the opposite view on customer loyalty. Loyalty may be defined as true loyalty, according to the writers, rather than repeated buying behaviour, which is the actual re-buying of a brand, regardless of commitment. Zeithaml et al. (1996) states loyalty is a multi-dimensional construct and includes both positive and negative responses. A loyal client cannot always be a happy client though. Colgate et al. (1996) also noted that

customer defection is not always the opposite of loyalty, while Levesque and McDougall (1993) suggested that, “even a problem is not solved, roughly half of the customers would remain with the firm”.

2.4 Service Quality and Customer Satisfaction

According to Sureshchandar et al. (2002), customer satisfaction should be seen as a multi-dimensional structure just as service quality means that it can occur at multi-level within an organization and should be operationalized along the same factors that operationalize service quality. Parasuraman et al. (1985) suggested that when perceived service quality is high, then customer satisfaction will increase. He supports the argument that quality of service contributes to customer satisfaction and this is in line with Saravana & Rao (2007) and Lee et al. (2000) who agree that customer satisfaction is dependent on the quality of service rendered by the service provider.

Fen & Lian (2005) found that both service quality and customer satisfaction have a positive effect on customer re-sponsorship intentions, demonstrating that both service quality and customer satisfaction play a crucial role in the success and survival of any business in the competitive market. This study proved to be a close link between customer satisfaction and quality of service. Su et al. (2002) conducted a study to determine the link between service quality and customer satisfaction. From their study, they concluded that there is a large dependence between the two buildings and that an increase in one will likely lead to an increase in another. They also pointed out that service quality is more subjective than customer satisfaction as customer satisfaction represents the feelings of the consumer about many encounters and experiences with the service company whereas service quality may be influenced by value perceptions (cost-related benefits) or other experiences that may not be as pleasant. We formulate the first hypothesis as follows;

H1: Service quality is positively related to customer satisfaction.

2.5 Service Quality, Customer Satisfaction and Customer Loyalty

Rahaman et al. (2011) examined the level of operation of the Bangladesh private commercial banks. The findings from their analysis showed that the lack of awareness of the changing needs and desires of targeted customers is one of the key causes of service quality design failure.

Ilhaamie (2010) used the SERVQUAL instrument to investigate the level of service quality, expectation and perception of outside customers towards the Malaysian public services. The study found the most important dimension to being tangible. It also has the lowest perception counts. On the other hand, the gap in quality of service is neither the lowest nor the highest. Finally, these external customers have the highest expectations about the Malaysian public service's reliability.

Ojo (2010) focused on Nigeria's Mobile Telecommunications Network (MTN) to investigate the relationship between service quality and customer satisfaction in the telecommunication industry. The study was attended by a total of 230 respondents. Regression and Pearson correlation coefficient were used to analyze the data. The study revealed a positive relation between quality of service and customer satisfaction. Therefore, the researcher recommended that organizations focus more on quality of service because of its impact on customer satisfaction. To ensure that the level of customer satisfaction is high organization, customers' expectations and how they can meet these expectations must first of all be known. Customer satisfaction assists in loyalty and retention of customers. The cost of attracting new customers has been found to significantly outweigh the costs involved in maintaining existing ones.

Kheng et al. (2010) applied the five-dimensional SERVQUAL model developed by Parasuraman et al. (1988) to assess the impact of quality of service on customer loyalty among bank customers in Penang, Malaysia. Customer satisfaction has been used as a mean vector. The findings show that improving the quality of service can improve customer loyalty. Reliability, empathy, and assurance are the service quality dimensions which play a significant role in the equation. The findings indicate that the overall respondents assess the bank positively but there is still room for improvement.

2.6 Interpretive Summary

From the literature reviewed, Rahaman et al. (2011) examined service quality while Ilhaamie (2010) used the SERVQUAL to investigate the level of service quality, expectation and perceptions of customers. Ojo (2010) investigated the relationship between service quality and customer satisfaction while Kheng et al. (2010) applied the five-dimensional SERVQUAL model to assess the impact of the quality of service on customer loyalty. Based on the studies above, this paper therefore decided to examine service quality as it relates to customer loyalty and customer satisfaction as it relates to customer loyalty. It further examined customer satisfaction and its mediating relationship

between service quality and customer satisfaction.

We posit the following other hypotheses;

H2: Service quality is positively related to customer loyalty.

H3: Customer satisfaction is positively related to customer loyalty

H4: Customer satisfaction mediates the positive relationship between service quality and customer satisfaction.

3. Methodology

3.1 Description of Study Area

This study aims to investigate the mediation impact of customer satisfaction on the relationship between service quality and customer loyalty in the mobile telecommunication industry in Ghana. Therefore, the population of this study is all cellphone users in Ghana. Because the population is so huge, collecting data on all of the elements is prohibitively costly. Two hundred (200) mobile phones were sampled for the study given the time constraints and limited resources available at the Kwame Nkrumah University of Science and Technology (KNUST) in Ghana.

3.2 Design, Sample Size and Sampling Technique

This case study method employed the random sampling technique. The sample size for cell phone users in KNUST was one hundred and five (105) postgraduate students. Stratified random sampling was used to ensure that there was representative in each strata (college). Questionnaire was administered to gather the necessary data. The questionnaire instrument was based on the SERVQUAL model. The five dimensions of Service Quality were mainly adopted from Parasuraman et al.'s (1988). The questionnaire was subjected to a validation process for face and content validity. Experts went through the research questions and the questionnaire carefully to ascertain the appropriateness and adequacy of the instrument. A pilot testing was carried out on the instrument using 10 mobile telecommunication subscribers to ensure reliability. Exploratory Factor Analysis (EFA) was conducted to check the factor loading. Hayes PROCESS macro model 4 was employed to analyse the data.

3.3 Exploratory Factor Analysis and Reliability

Exploratory Factor Analysis was used to determine the factor structure underlying the variables employed in the study namely: Service Quality, Customer Satisfaction and Customer Loyalty.

Factor Analysis has as its key objective of reducing larger sets of variables to a smaller set of factors. Reliability of items of a variable surrounds its consistency and the number of times it can be replicated over time. It is measured by a Cronbach's Alpha, testing the freedom from measurement errors.

4. Results

4.1 Demographics of Respondents

Tables 1 present the descriptive statistics involving socio-demographic characteristics of respondents in the study locations. The results revealed that about 55% of the respondents were males with 45% being females. Majority of the telecom service providers (22.9%) were MTN and Vodafone. Other demographic information of respondents can be found on Table 1.

Table 1. Characteristics of respondents (Qualitative variables)

	Factor	Count	Percentage (%)
<i>Gender</i>			
	Male	58	55.2
	Female	47	44.8
<i>Age</i>			
	Less than 20	13	12.4
	20 to 30 years	54	51.4
	31 to 40 years	32	30.5
	41 to 50 years	5	4.8

51 and above	1	1
<i>Telecom Service Provider</i>		
MTN	31	29.5
Vodafone	31	29.5
Airtel-Tigo	5	4.8
Glo	6	5.7
MTN and Vodafone	24	22.9
MTN and Airtel-Tigo	3	2.9
MTN and Glo	1	1.0
Vodafone and Airtel Tigo	4	3.8
<i>Years of Telecom Use</i>		
Less than 1 year	5	4.8
1 -3 years	17	16.2
4 - 6 years	20	19.0
7 - 9 years	23	21.9
10 years and above	40	38.1
<i>Educational Level</i>		
HND	1	1.0
1st Degree	50	47.6
Master's Degree	54	51.4
<i>Occupation</i>		
Student	12	11.4
Private Businessman/woman	39	37.1
Government worker	38	36.2
Others	16	15.2
Total	105	100%

4.2 Service Quality

All five dimensions of Service Quality were employed in this study and the results are presented descriptively below.

4.2.1 Tangibles

It is evident from the descriptive analysis that the telecommunication service providers have a visually appealing physical facilities ($M=5.79$, $SD=.958$) (Table 2). Most respondents agreed that customer service offices have up-to-date equipment ($M=5.71$, $SD=1.063$). Also, the respondents were of the affirmative view that customer service offices of the telecommunication service providers were conveniently located with well-dressed and neatly presented employees. This accounts for $M=5.56$, $SD=1.300$ and $M=5.51$, $SD=.952$) respectively. Overall, respondents agree to the tangible dimension related to the Service Quality of their preferred telecommunication service provider.

Table 2. Descriptive analysis of tangibles

Item Code	Item Statement	Min	Max	Mean	Std. Dev
T1	The customer service offices of your preferred network are located in convenient places.	1	7	5.56	1.300
T2	The physical facilities are visually appealing.	3	7	5.79	0.958
T3	The customer service offices of your preferred network have up-to-date equipment.	2	7	5.71	1.063
T4	The employees of your preferred network are well dressed and neat in appearance	3	7	5.51	0.952
Composite		2.25	7	5.6425	1.06825

4.2.2 Reliability

Reliability in Service Qualities encompasses the ability of firms to execute services accurately and dependably. Reliability is synonymous to delivering to promises. It is consistently highlighted as the most vital determinant of Service Quality.

Respondents agreed that their preferred telecommunication service provider provides services at the times it promises ($M=5.12$, $SD=1.253$) (Table 3). Again, it is revealed that respondents agree that their preferred telecommunication service provider shows sincere interest in solving their problems. There was mild agreement to items on telecommunication service providers meeting their promises and the services charges with $M=4.73$, $SD=1.375$ and $M=4.89$, $SD=1.515$ respective. Ultimately, the respondents mildly agree to the reliability of their telecommunication service providers.

Table 3. Descriptive analysis of reliability

Item Code	Item Statement	Min	Max	Mean	Std. Dev
R1	When your preferred telecommunication service provider promises to do something, it does it	2	7	4.73	1.375
R2	Your preferred telecommunication service provider shows a sincere interest in solving customer problems	1	7	5.11	1.288
R3	Your preferred telecommunication service provides services at the time it promises	1	7	5.12	1.253
R4	The service charges of your preferred telecommunication service provider are accurate	1	7	4.89	1.515
Composite		1.25	7	4.9625	1.35775

4.2.3 Responsiveness

Responsiveness under Service Quality measures the willingness of firms to assist customers as well as provide prompt service. Respondents showed mild agreement to the responsiveness of their telecommunication service providers with a composite mean of 5.16 and a standard deviation of 1.431 (Table 4). With respect to the individual items, there was a mild agreement to the willingness of employees of the telecommunication services to help (M=5.30, SD=1.408). Again, there was a mild agreement to the employees' ability to give prompt services (M=5.18, SD=1.239). Others include the service providers' helpline accessibility and employees' response to customers when busy. All these items were mildly agreed to with means 5.16 and 5.00 respectively.

Table 4. Descriptive analysis of responsiveness

Item Code	Item Statement	Min	Max	Mean	Std. Dev
Rs1	Your preferred telecommunication service provider's help line is easily accessible	1	7	5.16	1.388
Rs2	Your preferred telecommunication service provider's employees give prompt service	2	7	5.18	1.239
Rs3	Your preferred telecommunication service provider's employees are always willing to help	2	7	5.30	1.408
Rs4	Your preferred telecommunication service provider's employees respond to customers even if busy	1	7	5.00	1.687
Composite		1.5	7	5.16	1.4305

4.2.4 Assurance

Assurance under Service Quality measures employees' level of knowledge and courtesy and their ability to inspire confidence and trust. The importance of this dimension comes into play when customers perceive services as high risk or are uncertain of their abilities to evaluate its outcome or results. Respondents mildly agreed to their preferred telecommunication service provider being consistently courteous with customers (M=5.43, SD=1.231) (Table 5). Also, there was a mild agreement to telecommunication service providers protecting the confidentiality of customer information (M=5.11, SD=1.410). There was also a mild agreement to items surrounding trust and prompt services of telecommunication service providers with M=5.02 and SD=1.525 as well as M=5.06 and SD=1.142 respectively. The composite score reveals that respondents mildly agree to the assurance dimension of the Service Quality of the telecommunication service providers.

Table 5. Descriptive analysis of assurance

Item Code	Item Statement	Min	Max	Mean	Std. Dev
A1	The employees of your preferred telecommunication service provider can be trusted	1	7	5.02	1.525
A2	The employees of your preferred telecommunication service provider give prompt service	2	7	5.06	1.142

A3	Your preferred telecommunication service provider protects the confidentiality of customer information	1	7	5.11	1.410
A4	The employees of your preferred telecommunication service provider are consistently courteous with customers	2	7	5.43	1.231
Composite		1.5	7	5.155	1.327

4.2.5 Empathy

Empathy is tied to the importance firms place on their customers towards the provision of a specific service. It is recommended that firms know their customers by name and build relationships reflecting their knowledge of customers' preference. The Composite Mean for the construct Empathy revealed that the respondents mildly agreed to the telecommunication service providers being empathetic to their customers ($M=5.00$, $SD=1.491$) (Table 6). The individual items measuring empathy were mostly within the mildly neutral perspective with means of 4.98, 4.94 and 4.87 for service providers' providing individual attention, having operating hours convenient to all and knowing their customers' needs respectively. The service providers employees having the best interest of their customers at heart were mildly agreed to by the respondents given $M=5.22$, $SD=1.569$.

Table 6. Descriptive analysis for empathy

Item Code	Item Statement	Min	Max	Mean	Std. Dev
E1	The employees of your preferred telecommunication service provider provide individual attention	1	7	4.98	1.373
E2	The employees of your preferred telecommunication service provider know their customers' needs	2	7	4.87	1.551
E3	Your preferred telecommunication service provider has operating hours convenient to all	2	7	4.94	1.473
E4	The employees of your preferred telecommunication service provider have the best interest of the customers at heart	1	7	5.22	1.569
Composite		1.5	7	5.0025	1.4915

4.3 Customer Satisfaction

Customer Satisfaction as a variable measures the extent to which a firm's product, service and overall experience falls short and/or meets or exceeds customer experience. Eight (8) items were used to measure the variable. Three (3) items mildly agreed to with respect to Customer Satisfaction (Table 7). Five items (5) elicited mild neutral responses from the respondents of the study. The means of the five items ranges from 4.54 to 4.97 with standard deviations 1.333 to 1.670. Satisfaction of service providers' other services ($M=4.97$, $SD=1.33$); offers/promotion ($M=4.94$, $SD=1.453$); signal coverage ($M=4.87$, $SD=1.455$); no alternative ($M=4.58$, $SD=1.524$) and charges ($M=4.54$, $SD=1.670$).

Table 7. Descriptive analysis of customer satisfaction

Item Code	Item Statement	Min	Max	Mean	Std. Dev
CS1	You are satisfied with your preferred telecommunication service provider's offers/promotions	2	7	4.94	1.453
CS2	You are satisfied with your preferred telecommunication service provider's charges	1	7	4.54	1.670
CS3	You are satisfied with your preferred telecommunication service provider's signal coverage	1	7	4.87	1.455
CS4	You are satisfied with your preferred telecommunication service provider's other services	2	7	4.97	1.333
CS5	You do not have a better option than your preferred telecommunication service provider.	1	7	4.85	1.524
CS6	You are satisfied with your preferred telecommunication service provider's customer care	2	7	5.03	1.274
CS7	You feel happy and good in dealing with your preferred telecommunication service provider	2	7	5.37	1.002
CS8	You are satisfied with your preferred telecommunication service provider's website	1	7	5.17	1.341
Composite		1.5	7	4.9675	1.3815

4.4 Customer Loyalty

Across all the 6 items measured, respondents mildly agreed to the statements measuring their loyalty to their preferred telecommunication service provider ($M=5.36$, $SD=1.205$) (Table 8). Respondents showed a stronger mild agreement to the statement "You would say positive things about your telecommunication service provider to other people" ($M=5.59$, $SD=1.158$). Another highly ranked mean across the 6 items pertain to respondents considering their current telecommunication service provider as first choice in the next few years ($M=5.48$, $SD=1.279$). Other items such as service providers recommendation ($M=5.40$, $SD=1.132$); always being the first choice ($M=5.25$, $SD=1.254$), getting value for money ($M=5.23$, $SD=1.235$) and being loyal ($M=5.21$, $SD=1.174$) were mildly agreed to by the respondents.

Table 8. Descriptive analysis of customer loyalty

Item Code	Item Statement	Min	Max	Mean	Std. Dev
CL1	Your telecommunication service provider would always be your first choice	1	7	5.25	1.254
CL2	You consider yourself to be loyal to your telecommunication service provider	1	7	5.21	1.174
CL3	You will recommend your telecommunication service provider to someone who seeks your advice	2	7	5.40	1.132
CL4	You get good value for your money with your telecommunication service provider	1	7	5.23	1.235
CL5	You would say positive things about your telecommunication service provider to other people	2	7	5.59	1.158
CL6	You consider your telecommunication service provider your first choice in the next few years	1	7	5.48	1.279
Composite		1.33	7	5.36	1.205

4.5 Reliability of Service Quality Measures

Service Quality in the study was measured with twenty (20) items which were analysed using principal component analysis with Varimax rotation. The resulting analysis yielded five (5) factors accounting for 64.5% of the variance of the variable (Table 9). The communalities of the items or constructs measuring Service Quality were relatively high as compared with other variables. They were above 0.4 confirming that each item shared some common variance with other items. This shows that the items chosen to measure the variables are strongly related. The KMO is .869, which is commonly above the recommended value of 0.6. It indicates that there is a relatively high sampling accuracy. The Bartlett's test of sphericity was significant ($X^2 (190) = 900.49, p < 0.5$). Principal components analysis was employed for the purpose of identifying and computing composite scores for the factors. Initial eigen values were 7.212, 1.885, 1.332, 1.261 and 1.019 across the five factors respectively. With respect to the reliability of the items under Service Quality, a Cronbach's alpha of 0.901 was obtained. With Cronbach alpha reliability coefficient ranging from 0 to 1, an alpha of 0.901 indicate a greater internal consistency of the items in the scale. Table 4.8 shows the factor loadings and reliability of the items.

Table 9. Factor loading and reliability of service quality item

Items	1	2	3	4	5
Located in convenient places.					.548
Physical facilities are visually appealing.					.595
Offices have up-to-date equipment.					.561
Employees are well dressed and neat in appearance					.567

When provider promises to do something, it does it					.713
Service provider shows interest in solving customer problems					.615
Service provider provides services at the time it promises					.724
The service charges are accurate					.653
Service provider's help line is easily accessible					.763
Service provider's employees give prompt service					.641
Service provider's employees are always willing to help					.661
Service provider's employees respond to customers even if busy					.692
Employees of service provider can be trusted				.530	
Employees of service provider give prompt service				.758	
Service provider protects customer information				.585	
Employees of service provider are courteous with customers				.770	
Employees of service provider provides individual attention				.815	
Employees of service provider know their customers' needs				.693	
Service provider has operating hours convenient to all				.711	
Employees of service provider have customers interest at heart				.835	
Eigenvalues	7.212	1.885	1.332	1.261	1.019
Variance	19.251	17.961	12.260	7.678	6.391
		<u>Alpha</u>		<u>Standardized Item Alpha</u>	
Reliability		0.901		0.898	

Table 10. Hypotheses of the study

Hypotheses	Hypothesized relationship	Unstandardized Coefficient	Sig.	Results
Service Quality → Customer Loyalty	H1	.8360	0.0000	Supported
Service Quality → Customer Satisfaction	H2	.9493	0.0000	Supported
Customer Satisfaction → Customer Loyalty	H3	.0310	0.6922	Not Supported
Mediation (Partial)	H4	.8066	0.0000	Supported
Control Variables (+)	H5	.0231	0.3452	Not Supported

5. Discussions

Literature on Service Quality has found that Service Quality is a strong predictor of Customer Satisfaction (Jones & Suh, 2000). Across the literature scope, it is suggested that the more there is of Service Quality, the higher Customers' Satisfaction. Accordingly, the results of this study are consistent with previous studies. There was a significant and positive relationship between Service Quality and Customer Satisfaction. In the case of the telecommunication companies in Ghana, the study suggests that an increase in their Service Quality relationship will ultimately improve Customer Satisfaction leading to higher revenue. Parasuraman et al. (1985) indicated that if perceived service quality is high, then customer satisfaction would increase. He supports the fact the quality of service contributes to customer satisfaction and this is in line with Saravana and Rao (2007). Additionally, the prediction of Customer Satisfaction was predicted that age, education and jobs are not major determinants.

Quality of service delivery and service value is expected to increase Customer Loyalty as posited by Hill (1996). This position was proven in this study where Service Quality had significant positive prediction to Customer Loyalty. With respect to these findings, the quality of service of the telecommunication companies in Ghana, is building on their customers' loyalty, which suggest an increase in their Service Quality relationship will ultimately improve Customer Loyalty. Ghanaian are naturally loyal hence when a service is good, they will tend to stay. Teich (1997) states that Customer Loyalty is developed over a consistent record of meeting. Results on the paths of mediation revealed that Customer Satisfaction is a partial mediator in the relationship between Service Quality and Customer Loyalty. The result did not support the hypothesis of extending the effect of the mediator on the dependent variable. Although there is a positive and but insignificant relationship between the variables, the relationship as predicted was positive, but not significant. That is, Customer Satisfaction influenced by Service Quality did not significantly influence Customer Loyalty. Although previous researches argue the opposite, Hayes' consider mediation present on the indirect relation existing in the model. The results of this study do not support the findings of other research; however, as noted above, past research did not control variables such as age, education and occupation.

Consequently, it becomes evident that there was a significant indirect effect backing the study. This result support similar findings, which indicate that the Customer Satisfaction moderates Service Quality and Customer Loyalty. Moreover, while the design of the study-controlled variables such as age, education and occupation, the study ultimately brought to the fore that telecommunication companies' quality of service improves Customer Satisfaction, which partially mediates the relationship between the independent and dependent variables. Accordingly, the results for the 95% confidence intervals showed Customer Satisfaction had a significant positive indirect effect on Customer Loyalty. Generally, the clients of telecommunication service companies build their loyalty not only through the quality of service they receive, but also through their satisfaction.

6. Implications, Limitations and Future Direction

There are some research limitations which need to be acknowledged. There was analysis of only trusted customers. Caution therefore needs to be practiced when generalizing the results. Despite the limitations, this study provides clear evidence in the context of Ghanaian telecommunication that customer satisfaction partially mediates the relationship between quality of service and customer loyalty. Thus, customer satisfaction fosters their loyalty. More studies are required to analyze the successive direct correlation between quality of service, consumer satisfaction, customer loyalty and market performance of the different service offerings of the telecommunications networks, including calls, Internet data and mobile money payment systems. The study recommends that management of firms should make it a priority to invest in several platforms, which has the capacity of providing round the clock support. Customers love to be treated special and even remembered hence management of telecommunication companies should endeavour to create customer histories to improve the relationship in dealing with customers.

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