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SERVQUAL and Customer Satisfaction: The Mediating influence of Communication in the Privatized Telecom Sector

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Abstract

This paper basically examines the effects of service quality on customer satisfaction after the privatization of a telecom company in Oman It does so from two distinct methodological perspectives. Specifically, a study utilizing a sample of the telecom customers is conducted, wherein service quality is put into operation through the well-known measure - SERVQUAL. The findings are of importance to organizations in the service industry, where constant effort is being made to find ways and means of identifying efficient and effective approaches for improving service quality and customer satisfaction. The study explores the theoretical and practical insights of the findings, including potential strengths and limitations of current service quality models with regard to their ability to define and explain the quality/satisfaction relationship. Also of interest to the authors is the influence of Communication as a mediator in customer satisfaction. The results reiterate the propositions that SERVQUAL dimensions influence Customer Satisfaction and that the influence is accentuated with the mediatory influence of communication.

Keywords: SERVQUAL, Communication, Customer Satisfaction, Service Quality

1. Introduction

The public sector organizations today have to deal with different pressures due to globalization, public debt problems, growth of technology, and demanding consumers. Large and expensive public sectors are becoming more difficult to maintain in a new environment of dwindling resources, rising expectations and global economic competition (Wright, 1994; Ancarani and Capaldo, 2001). Public sector organizations are being challenged to improve their performance through the use of market-like approaches, decentralization of management, and focus on

constantly improving service quality (Kelly, 2005). Many public sector organizations have failed to live up to society's expectations .General disillusionment with privatization has led to explicit attempts to engage with the private sector in a different way. (Domberger,1998 ; Hodge, 1998). Many of the studies on performance changes after privatization examine the effects on groups such as workers, but few examine the effect of privatization on consumers. Actually, one of the principal reasons for launching privatizations, particularly of monopoly utilities, is consumer dissatisfaction with a firm's service. However there is little empirical evidence on how privatization affects consumers. Studies of post-performance rarely examine the welfare effects on consumers. Customer satisfaction is increasingly considered as a baseline standard of performance and a possible standard of excellence for any business organization (Mihelis et al., 2001). Companies with a bigger share of loyal customers profit from increasing repurchase rates, increasing cross-buying potential, willingness to pay higher price, positive recommendation behavior and less switching tendency (Rust et al., 2000). In the customer satisfaction/service quality arena, aggregate market studies have shown that higher customer satisfaction leads to better financial results (Anderson, 1996; Hallowell, 1996). The main objective of this paper is to study the customer satisfaction experience in Omantel, a partially privatized telecommunication company which was previously entirely in the public sector.

One of the main benefits of privatization is often stated in terms of improvements in service quality and customer satisfaction (Spackman, 2002; Nijkamp et al., 2002).However, very few studies have investigated the success of service performance improvement in the privatization context by analyzing customer satisfaction. Hence, this study seeks to fill this gap in the literature by investigating the relationship between the performance of privatized firms and its impact on service quality. It presents an assessment of customer satisfaction against objective measures of service quality. This company was selected for investigation because it represents a recent privatization initiative in a basic service sector in the context of a developing country. Privatization has been generally welcomed in both developed and developing countries, despite the conspicuous absence of systematic evaluations of quality improvement and/or customer satisfaction in the privatization context. Next, a review of the relevant literatures is presented.

2. Review of Literature

2.1 Customer satisfaction and its relationship to service quality

We have witnessed in recent years a proliferation of work on the topic of customer satisfaction and its close cousin, service quality (Rust et al., 2000).The concepts of service quality and service satisfaction are indeed closely related, although the exact nature of these customer judgments and the relationship between them remains fuzzy (DeRuyter et al., 1997). Some scholars point out to the considerable overlap between the two concepts to the extent of conceiving the terms as synonymous and interchangeable (Gronroos, 1982; Boulding et al., 1993; Rust and Zahorik, 1993).However, researchers have often debated the sequential order of quality and satisfaction in services. There are mainly two schools of thought as regards consumer satisfaction. Outcome definitions of satisfaction view satisfaction as a post-consumption evaluation containing both cognitive and affective elements, distinguishing for

example between "satisfaction as contentment", "satisfaction as pleasure", "satisfaction as relief" on the basis of level of reinforcement and arousal (Oliver, 1989). However, the process-oriented view of satisfaction considers satisfaction as the customer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption (Tse and Wilton,1988).

As far as research in service quality is concerned, it has been conducted within the framework of the gap model which states that service quality is primarily a function of the difference scores or gaps between expectations and perceptions. Service quality research has been dominated by the SERVQUAL instrument, which commonly groups' quality determinants into five basic clusters as illustrated in Table I (Parasuraman et al., 1985; Ghobadian et al., 1994; Curry and Herbert, 1998; Wisniewski, 2001). Various scholars however have pointed out that SERVQUAL is not a generic measure that could be applied to any service and that it needs to be customized to the specific service under consideration (Carman, 1990; Babakus and Boller, 1992).

Accurate measurement of service quality is important in order to better understand its essential antecedents and consequences, and, ultimately, establish methods for improving quality to achieve competitive advantage and build customer loyalty (Palmer and Cole, 1995; Zahorik and Rust, 1992). Thus the association between service quality and customer satisfaction has emerged as a topic of significant and strategic concern (e.g. Bolton and Drew, 1991; Cronin and Taylor, 1992; Taylor and Baker, 1994). In general, research in this area suggests that service quality is an important indicator of customer satisfaction (Spreng and Mackoy, 1996).

Research in the area of services marketing has recently begun to address whether or not service quality differentially affects satisfaction depending on particular service settings or situations (Mittal and Lassar, 1998). The idea that different quality/satisfaction processes operate under different conditions is fairly well accepted for tangible goods (e.g. Churchill and Surprenant, 1982; Patterson, 1993; Tse and Wilton, 1988). However not much research has been done to test if the same applies to services also.

The relationship between service quality and customer satisfaction has been studied at length (e.g. Anderson and Fornell, 1994; Brown and Swartz, 1989; Spreng and Mackoy, 1996) and, generally, researchers agree that the two constructs are conceptually distinct (Bitner, 1990; Boulding et al., 1993). Service quality influences, among other things, levels of customer satisfaction (Oliver, 1993). Service quality as determined by its various components, is a partial determinant of satisfaction (Parasuraman et al., 1985, 1988).There exist numerous empirical works to support the quality/satisfaction causal order. Cronin and Taylor (1992) tested, among other things, the causal relationship between service quality and customer satisfaction. They note that researchers in this field are not in agreement in terms of the causal order of these constructs, and suggest that empirical justification is necessary to determine the true nature of this relationship. According to their analyses, perceived service quality leads to satisfaction. Oliver's (1993) model integrates the two constructs, and suggests, among other things, that perceived service quality is an antecedent to satisfaction Spreng and Mackoy (1996) while

studying the relationship between service quality and satisfaction, tested Oliver's model and concluded that service quality leads to satisfaction.

Even though the direction of the quality/satisfaction relationship (i.e. quality leads to satisfaction) is fairly well accepted for services, it is not clear whether or not (and how) this relationship varies depending on particular settings and/or situations. We therefore   take this issue further, and propose suitable moderators of the quality/satisfaction relationship for services. One such moderator which we test is communication.

2.2 Communication as a moderator

Proper and free communication between the two parties, namely the service provider and the customer is absolutely essential for the relationship between the two to be sustained for a long time. Although important in the services setting, level of communication (e.g. higher versus lower levels) has not been tested as to its moderating effect on the service quality/satisfaction relationship.

We propose that the ability (or lack thereof) of a customer to communicate freely and easily with the service firm will moderate the quality/satisfaction relationship. Mohr and Nevin's model (1990) suggests, among other things, that communication serves to moderate the effects of various circumstances and conditions associated with exchange, on the outcomes of exchange, as well as the impact that organizational climate exerts on buyer-seller satisfaction. Communication between buyers and sellers is considered to be an important process such that the link between exchange conditions and outcomes is explicated more fully by modeling the role of communication (Mohr and Nevin, 1990, p. 49).

In the services literature, communication is thought to play an important role in the service delivery process. The GAP theory of service quality suggests that ignorance regarding customers' expectations is one of the root causes of failure to satisfy these expectations (Zeithaml et al., 1990). This ignorance of customer expectations is perhaps due to a lack of direct interaction and communication between sellers and buyers.

2.3 SERVQUAL Instrument

The SERVQUAL instrument is based on the gap theory (Parasuraman et al., 1985) and suggests that a consumer's perception of service quality is a function of the difference between his/her expectations about the performance of a general class of service providers and his/her assessment of the actual performance of a specific firm within that class (Cronin and Taylor, 1992).It is recognized as a principal instrument in the services marketing literature for assessing quality (Parasuraman et al., 1991; Parasuraman et al., 1988). It has been widely utilized by both managers (Parasuraman et al., 1991) and academics (Babakus and Boller, 1992; Carman, 1990; Crompton and MacKay, 1989; Cronin and Taylor, 1992; Johnson et al., 1988; Webster, 1989; Woodside et al., 1989) to assess customer perceptions of service quality for a variety of services like banks, telecommunication companies etc.

The original SERVQUAL instrument included two 22-item sections that intended to measure (a) customer expectations for various aspects of service quality, and (b) customer perceptions of the service they actually received from the focal service organization (Parasuraman et al., 1988).The results of the initial published application of the SERVQUAL instrument indicated that five dimensions of service quality emerged across a variety of services (Parasuraman et al., 1988). These dimensions include tangibles, reliability, responsiveness, assurance, and empathy (Brensinger and Lambert, 1990; Carman, 1990; Crompton and MacKay, 1989; Parasuraman et al., 1985, 1988; Woodside et al., 1989; Parasuraman et al., 1991). Tangibles are the physical evidence of the service (e.g. physical facilities, appearance of personnel, or tools or equipment used to provide the service), reliability involves consistency of performance and dependability (i.e. a firm performs the service right the first time and honors its promises), responsiveness concerns the willingness or readiness of employees to provide service (e.g. timeliness of service), assurance corresponds to the knowledge and courtesy of employees and their ability to inspire trust and confidence, and, finally, empathy pertains to caring, individualized attention that a firm provides its customers.

Further research conducted in a variety of settings suggests that the five SERVQUAL dimensions may not be universal across all services, and that it is probably unnecessary to administer the expectation items every time SERVQUAL is administered (Babakus and Boller, 1992; Carman, 1990; Parasuraman et al., 1991). According to Cronin and Taylor (1992), a   psychometrically superior assessment of service quality can be obtained through the SERVQUAL performance items alone, rather than the expectations-performance methodology originally used by Parasuraman et al. (1988).

3. Research goals and propositions

The primary goal of the present research is to test the ability of service quality to predict customer satisfaction. This is based on the relationship between service quality and customer satisfaction discussed above. A second research goal is to examine the utility of separately measuring customer satisfaction from the perspectives of the service delivery process.

By individually examining these interpretations of satisfaction, we hope to determine whether satisfaction is more appropriately conceptualized as a general affect (as in traditional definitions) or rather as a multidimensional construct. Since service quality has been previously demonstrated to have a variety of distinct elements, it might therefore be expected that customer satisfaction (as directly impacted by the various components of service quality) also comprises multiple components.

Proposition 1: SERVQUAL dimension positively impact the overall Customer Satisfaction in the Telecom sector

Proposition 2: The influence of SERVQUAL dimensions on Customer Satisfaction is mediated by Communication.

Based on this reasoning, our hypothesis is that customer satisfaction is a multidimensional construct, and that these dimensions will be differentially impacted by the various components of service quality. The research also aims to determine the mediating influence of communication on customer satisfaction.

Figure 1: The Research Model
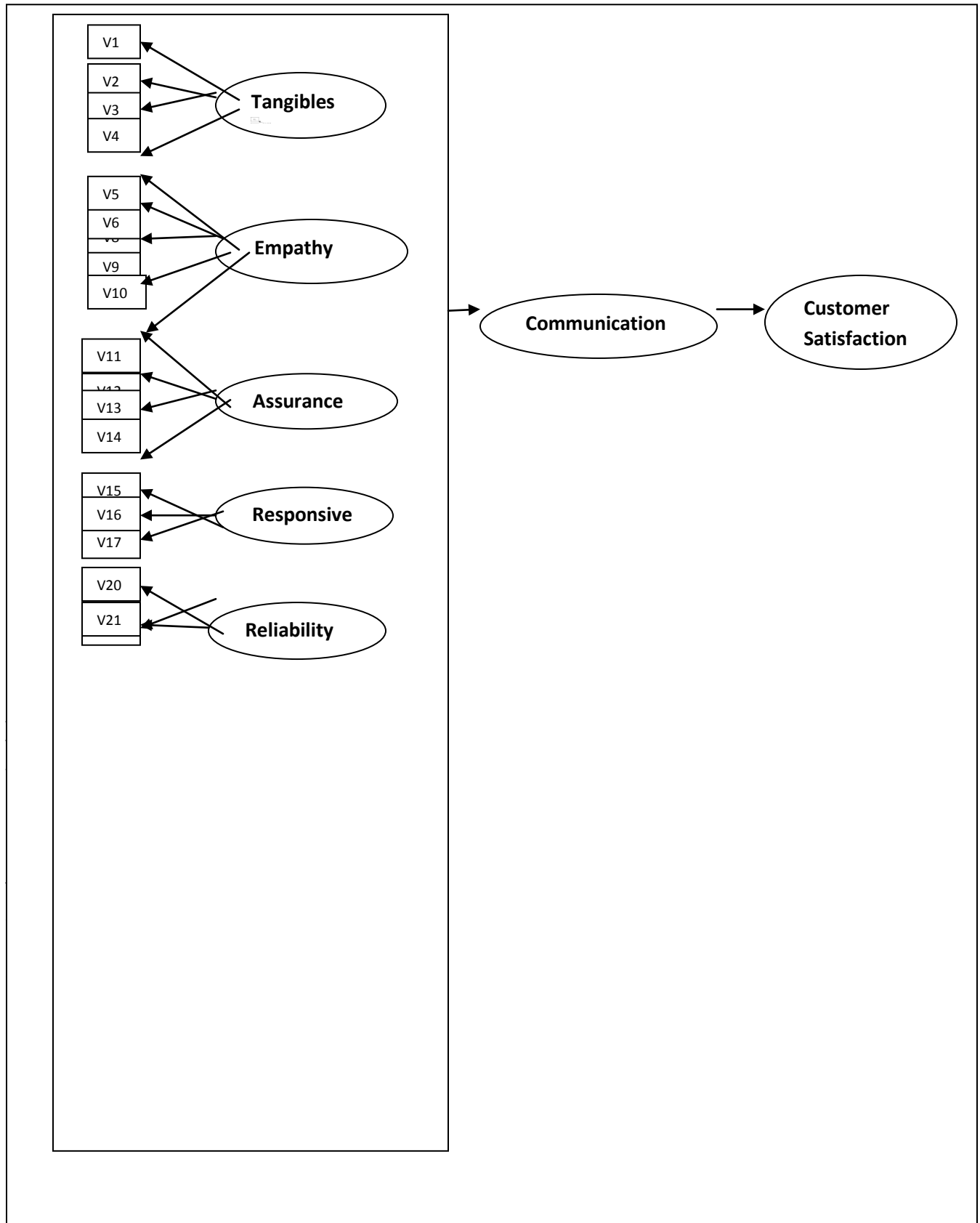
operating hours, layout, systems). Also taken into consideration are "Customer Satisfaction" and "Communications". Each item in the questionnaire was rated by respondents on a seven-point Likert. The dependant variable for the study is Customer Satisfaction, the independent variables being the entire SERVQUAL dimension. Also considered for this study is the moderating variable, Communication. The pilot study was carried out on a random basis for 30 respondents and the characteristic taken in the pilot study was whether the respondents used Omantel services or not.

Table I: Pilot Study

	Used Omantel	Never used Omantel	Total
Respondents	18	12	30

P = Percentage of population who have used Omantel's services
P = Omantel Customers/Total pilot study respondents = 18/30 = 0.60 = 60%
Sample size determination (For Infinite Population)

$$n = \{Z^2 * (P) * (1-P)\}/ C^2$$

Z = 1.96 (For 95% confidence levels)
P = Percentage of population with a particular choice
C = Confidence levels expressed as a decimal

Taking 95% confidence levels and P = 0.6 (based on the pilot study)
n = {1.96*1.96*(0.6)*(1-0.6)}/0.05*0.05
   = {3.8416*0.6*0.4}/0.0025
   = 0.921984/0.0025
   = 368.79

n ≃ 369

After the pilot study was conducted, the modified questionnaires were originally given to 572 customers of Omantel. For this a systematic random sampling method was used, and out of 572 customers who were given this questionnaire, 369 responded (64.5 % response). The survey was conducted during the two months of June and July 2012. 72 % of the respondents were male, and 28 % were female. All the respondents belonged to the Dhofar Governorate, in the Sultanate of Oman. 56 % of the respondents were within the age group of 20-30 years, 25 % between the ages 31-40 years and 19% above 41 years. Most of the respondents were from the younger age group, since it is assumed that they are the prime users of the mobile services. The was data collected, at places where most of the customers were likely to be found, such as in shopping malls, Omantel customer outlets etc. The attitudes of the respondents were measured on a seven point Likert-type scale ranging from Strongly Agree to Strongly Disagree.

5. Analysis and Inferences

The researchers first carried out a factor analysis of Sample 1 (S1) comprising of a third (123) of

the bigger sample   (369) which is the Sample 2 (S2) for this study. An iterated factor analysis was done with commonalities for items estimated from squared multiple correlations and the method of estimation employed was maximum likelihood. The method yielded five factors that were rotated with a promax algorithm. Items with loading smaller than 0.4 on any factor were deleted. Also, factors that showed cross-loadings of more than 0.4 on more than one factor were deleted as they are not pure measures for the construct. Kaiser's (1960) eigen values and the scree test was used to identify the factors. For assessing the dimensions of the newly developed scale, confirmatory factor analysis (CFA) was used on the broader Sample 2 (S2) as CFA is a more rigorous measure of dimensionality than the exploratory factor analysis. The reason for having used two different samples for the exploratory factor analysis and the confirmatory factor analysis was to reduce the probability of capitalizing the factors on chance characteristics. The iterated factor analysis is presented in Table II. Item 25 was removed with a lower than 0.3 factor loading for factor 2. Also, item 18 and item 19 were removed as they were associated with factor 3 in sample 1 and at the same time were associated with factor 4 in sample 2. Item 7 was found not to fit well with the assigned factor "Empathy" and is therefore deleted

Table II: Factor Loadings for Service Quality Dimensions-Sample S1

No[a]	F1 Tangibles	F2 Empathy	F3 Assurance	F4 Responsiveness	F5 Reliability
2	0.911		2.0227		
3	0.804				
4	0.802				
1	0.707		0.260		
6		0.865			
5		0.981			
8		0.772			
9		0.723			
10		0.680			
11			0.878		
12			0.853		
13			0.847		
14			0.560		
15				0.540	
16				0.487	
17				0.400	
20					0.812
21					0.753
22					0.672
Eigen value	10.58	1.59	1.20	1.07	1.06

Cumulative Percent of Explained variance	58.87	60.78	66.73	72.08	60.86
Cronbach alpha	0.93	0.81	0.91	0.78	0.86
Exploratory factor analysis on sample S1, [a]factor loadings less than 0.20 are not shown					

Table III: Factor Loadings for the Service Quality Dimensions-Sample S2

No[a]	F1 Tangibles	F2 Empathy	F3 Assurance	F4 Responsiveness	F5 Reliability
2	0.993				
3	0.883				
4	0.795				
1	0.675				
6		0.847	0.354		
5		0.786			
8		0.647	0.273		
9		0.564		0.233	
10		0.456		0.266	
11			0.837		
12			0.811		
13			0.807		
14			0.593		
15				0.665	
16				0.645	
17				0.518	
20					0.655
21					0.615
22					0.548
Eigen value	8.56	1.84	1.03	0.88	0.90
Cumulative Percent of Explained variance	50.33	61.08	67.06	72.18	73.06
Cronbach alpha	0.92	0.80	0.91	0.78	0.76
Exploratory factor analysis on sample S2, [a]factor loadings less than 0.20 are not shown, No.7 which is the adequacy of parking did not fit in with Dimension "Empathy" and was not included in further analysis.					

Item-to-total correlations and coefficient alpha were calculated to reassign items or delete a few items. The eigen values and alphas for "Tangibles" (Factor 1) are 10.58 and 0.93 and for "Empathy" (Factor 2) they are 1.59 and 0.81. For "Assurance" (Factor 3) the eigen values and Cronbach alpha values are 1.20 and 0.91 and for "Responsiveness" (Factor 4) the values are 1.07 and 0.78 and for "Reliability" (Factor 5) the values are 1.06 and 0.86. It can also been

seen that the Cronbach alpha values for all the factors are above the accepted value of 0.7 also indicating decent consistency internally among items. Using the results from Table II a Confirmatory Factor Analysis was done for the sample 2 (S2).

Convergent validity was assessed using t tests for factor loadings. The coefficient for one indicator was fixed at 1.00 for each of the four factors and the metric for the scale was assessed. Excepting for the fixed loadings, items exhibited highly significant t-statistics (p > 0.01) indicating that all variables were good measures to their construct. All the indicators had standard loadings higher than with the highest of 0.9 as shown in Table IV.

The research model depicted schematically in Figure 1 shows five factors that establish the relationships between variables and their respective factor dimensions. The fit statistics also indicate that the Model A is the accepted measurement model. Composite reliability scores for each factor are also shown in Table IV. The analysis also shows that all factors have composite reliability scores greater than 0.7 which is the accepted norm. The researchers then assessed discriminant validity which is the degree to which items used in the construct are distinct. Discriminant Validity is said to be satisfied if a 95 percent confident interval of the inter-factor correlation between two constructs does not include an absolute value of one (Anderson and Gerbing, 1988). Correlations for all the constructs are shown in Table V and they are high. The 95 percent intervals for these correlations did not include 1.0. Thus, the interval test is supportive of the discriminant validity of the constructs considered in this work. Chi-square differences test also reaffirms the position that the constructs be perceived distinct (Anderson and Gerbing, 1988).

Table IV Properties of the CFA for SERVQUAL

Construct and Indicators	Standardized Loading	t-statistics	Composite Reliability
Tangibles (F1)			0.93
1	0.81	13.51*	
2	0.86	14.64*	
3	0.91	15.49*	
4	0.84	14.24*	
Empathy (F2)			0.81
5	0.82	13.81*	
6	0.74	9.78*	
7	0.83	10.50*	
8	0.63	8.58*	
9	0.66	8.93*	
10	0.67	9.18*	
Assurance (F3)			0.92
11	0.81	7.31*	
12	0.87	7.45*	

13	0.87	7.45*	
14	0.85	7.40*	
Responsiveness (F4)			0.84
15	0.84	5.33*	
16	0.80	5.32*	
17	0.74	5.26*	
18	0.72	5.18*	
Reliability (F5)			0.91
19	0.87	7.49*	
20	0.80	7.34*	
21	0.87	7.49*	
22	0.85	7.40*	
Notes: Number refers to Table II; analysis is performed on sample , S2; *indicates significance at P > 0.01 level			

These results strongly support our proposition P1 that the dominant dimensions for assessing service quality are "Tangibles", "Empathy", "Assurance", "Responsiveness" and "Reliability". It may also be noted that the Customer Satisfaction has a Cronbach alpha value of 0.97 and that for Behavioural Intentions it is 0.83 meaning that there is no need for reassigning items under these constructs.

Table V Correlation matrix for all exogenous and endogenous variables

	TAN	EMP	ASU	RES	REL	SAT	COMM
Tangibles	1.00						
Empathy	0.45*	1.00					
Assurance	0.68*	0.59*	1.00				
Responsiveness	0.58*	0.64*	0.72*	1.00			
Reliability	0.82*	0.81*	0.91*	0.88*	1.00		
Customer Satisfaction	0.59*	0.54*	0.63*	0.58*	0.68*	1.00	
Communication	0.59*	0.58*	0.67*	0.76*	0.66*	0.88*	1.00
Note: *Indicates significance at p>0.01 level							

Table VI Comparative fit indices among models

	X^2/df	RMSEA	RMSR	AGFI	CFI	NFI	NNFI
Model A	2.75	0.083	0.077	0.846	0.940	0.910	0.927
Model B	2.97	0.088	0.092	0.838	0.935	0.905	0.918
Model C	2.76	0.083	0.096	0.802	0.929	0.892	0.919

Results shown in Table IV also clearly support the second proposition P that Service Quality has direct effect (SQ effect on Customer Satisfaction, SAT) and also the indirect effect (SQ influences Communication, COMM and therefore impacts Customer Satisfaction, SAT) on Customer Satisfaction. The R^2 value for Customer Satisfaction is 0.93. Also, the standardized coefficients from Service Quality to Customer satisfaction are 0.69 and from Communication to Customer Satisfaction is 0.88. This clearly indicates the proposed path between Service Quality, Communication and Customer Satisfaction. Therefore the second proposition P2 can be accepted. A statistically significant but smaller standardized regression coefficient (0.10) was observed between Service Quality and Customer Satisfaction, indicating the indirect impact of Service Quality on Customer Satisfaction. The path of influence mediated by Communication is stronger and therefore Communication is the driver for Customer Satisfaction in the Telecom Sector.

6. Limitations

The study is confined to the Telecom Industry and the analysis cannot be generalized to other industry sectors. Further, the study is not a longitudinal one and therefore time frame as an important gradient cannot be included in the findings of this study. The researchers also haven't taken into account the comparative index of Customer Satisfaction and the study confines itself to one major player in the telecom sector in one country only. Another important facet of SERVQUAL could be the employee perspective of Tangibles, Empathy, Assurance, Responsiveness, Reliability and Communication. This perspective has not been surveyed and could constitute the satisfaction of an organization's internal customers.

7. Conclusions and Discussion

The researchers comprehend the importance of customer satisfaction and customer focus for the telecom sector, and attempt to study the impact of SERVQUAL and Communication on Customer Satisfaction. For achieving this objective of delivering quality service, it is imperative that organizations must understand their customers to stay competitive.   The sources of customer expectations are marketer controlled factors (such as pricing, advertising, sales promises) as well as factors that the marketer has limited ability to affect (innate personal needs, word of mouth communications, and competitive offerings). These are precisely the areas that the researchers explore in the telecom sector by constructing a structured questionnaire and administering it to the sample (369) considered for the study. SERVQUAL has been researched a great deal but very little in the telecom context. With customer as the focus, it was obvious that customer expectations and perceptions had to be studied taking the customer Gap as the basis. In a perfect world, expectations and perceptions would be identical. However, in practice, these are usually separated by some distance. It is of interest to very marketer, be it in telecom or in any other sector, to bridge this distance.

Desired service is a blend of what the customer believes "can be" and "should be". What is of great interest to marketers is the extent to which customers are willing to accept a variation in service offered by different providers.   If service drops below adequate service - the minimum

level considered acceptable – customers will be frustrated and their satisfaction with the company will be undermined. When service falls outside this range and is either very low or very high, the service gets the customers' attention in either a negative or a positive way.

Also of interest to the researchers was the mediating effect of Communication on SERVQUAL and Customer Satisfaction. From the evidence gathered, it was clear that the effect of SERVQUAL dimensions were strongly mediated through the role of communication. Communicating the SERVQUAL initiatives, service offerings and also the follow up after-sales-service influenced Customer Satisfaction. The path mediated by Communication was much stronger than the direct influence of SERVQUAL on Customer Satisfaction. The study also necessitated that the telecom companies concentrate on various SERVQUAL dimensions considered for this study and that include Tangibles, Empathy, Assurance, Responsiveness and Reliability.

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