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Measuring Antecedents of Customer Satisfaction: An Empirical Analysis of Telecom Services in Pakistan

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Abstract: Organization's profitability is directly proportional to customer satisfaction. Sustainable competitive advantage can only be attained through services excellence and quality products. The effect of the antecedents of service quality on customer satisfaction has been under discussion among researchers since long. The primary aim of this study is to investigate the antecedent of customer satisfaction in the telecommunication industry of Pakistan. Primary data was gathered from telecom services' walk-in customers at various telecom service providers' service centers. In an effort to measure whether users of telecom services are satisfied with services offered by various telecom operators in Pakistan, the proposed model was tested on the basis of responses received from 236 users. Data was collected from three major cities of Pakistan, i.e. Islamabad, Karachi and Lahore through random distribution of structured questionnaire. Obtained data was analyzed using Structural Equation Modeling analysis technique. Reliability and validity of measurement model was examined by performing confirmatory factor analysis. Results show that perceived quality, perceived value and customer expectations has positive and significant impact on customer satisfaction. However customer expectation was found to be the best predictor of customer satisfaction in telecom service sector of Pakistan.

Keywords: perceived value,customer satisfaction, perceived quality, telecommunication services, customer expectation

1. INTRODUCTION

21st century customers are very different in their choice because of their technical familiarity, more alternate available options, exposure of information and better educational and information resources. In today's competitive environment one of the essential strategies for service providers, is to pursuit service quality standards. Successful businesses are formed through satisfied customers that further leads to positive word of mouth, brand loyalty and repeat repurchase. Emerging social networking platforms have connected peoples to share their views and experiences they perceive with the service and products they consume and use in their daily life. Today, survivability of service provider firms is not limited to the superior services provision only, rather, they need to compete and prove their dominancy in the market place where customers have too many alternate choices to opt.

This research study is intended to find the significant factors effecting telecom services' customer satisfaction in Pakistan. This research expects to reveal the insights of customer perceptions and expectations of service quality which are important to customer satisfaction. In conclusion, this research aims to find the answer of three major questions related to customer satisfaction: (i) Does the telecom service quality have any relationship with customers' satisfaction? (ii) Does telecom service quality have any relationship with perceived value? (iii) Can telecom service quality play its role in fulfilling customer expectations? Thus, the objectives to address these questions are: (i) to find the association between telecom services' quality and customer satisfaction (ii) to find the association between telecom services' quality and customer perceived value (iii) and to find the association between customer expectation and telecom service quality.

2. TELECOMMUNICATIONINDUSTRY IN PAKISTAN

Telecom industry in Pakistan has a pivotal role on the economy in terms of employment opportunities, attracting foreign investment in the country and contributing to national exchequer through taxes. Pakistan is a huge telecom market having total teledensity of 63.6% of its total population (PTA, 2015). Pakistan's telecom industry has seen a substantial growth with the proliferation and innovation of new hand held devices and technological solutions. Telecom sector in Pakistan has witnessed a resurgent growth with an astounding pace and surpassed all forecasts over past few years (PTA, 2015). After the introduction of telecom deregulation policy by Ministry of Information Technology, Government of Pakistan in 2003 (MOITT 2003), telecom industry in Pakistan has undergone an interesting changes. In result, centralized monopolistic telecom market became an open competitive market among wired and wireless operators. At present 17 telecom operators are offering telecom services in Pakistan including Landline, cellular

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wireless local loop services (MOITT, 2014). Maintaining subscriber base has becoming a more challengeable task in a divergent competitive environment of Pakistan.

3. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

Customer satisfaction

Customer satisfaction plays a vital role in various research areas, like marketing consumer research, economics, welfare economics, economic psychology, and information systems research. Customers are more prone to return and buy the same or alternate service or product again and again if they are satisfied resulting in building a trustworthy relationship between a customer and service provider. According to Oliver*et al*.,(1980), customer satisfaction is a result of the difference between customer expected performance and customer perceived performance. Customer satisfaction is the apparent degree of actual services provided and the fulfillment of expectations.

Service quality

Service quality is usually explained as the difference between what customers expect and what they get in return to some financial expenditure. According to Ojo (2010), attention to service quality can make organizations distinguished while gaining a long lasting competitive advantage.After the initiation and introduction of worldwide trend towards service quality in 1980s, customer services became an important and distinct aspect of service/product offering (Wal, *et al*. 2002).

SERVQUAL is a reliable and consistent scale for the measurement of service quality. It is proved to be an appropriate tool for the measurement of customer satisfaction and quality measurement (Wal *et al*., 2002; Lam, 1995; Ojo, 2010; Akbar and Parvez, 2009). Researchers (Akbar and Parvez, 2009; *et al*., 2012) identified a close relation and resemblances between the constructs of service quality by Parasuraman *et al*., (1988) and Sureshchanndra *et al*., (2003). Because of large scale adoption and clear understanding, this research employed all these five dimensions of SERVQUAL model. Consistent with these findings, it can be hypothesized that:

H2a. Perceived service quality has positive effect on Customer satisfaction.
H2b. Perceived service quality has positive effect on perceived Value.

Customer Expectation

Understanding customer expectation is an important factor for the improvement of service quality and customer satisfaction. The term expectations matters a lot for the firms who care for their customers and are keen to know what their customer's expect. Different sources of information including word of mouth, prior exposure with competitive services, publicity and expert opinions lead to the expectation of a new service or a product (Zeithaml *et al*., 1993). In pre-purchase stage, expectation influence customer decisions about brand, type of product which form the basis of customer satisfaction. Almsalam (2014) argued that, customers may have multiple types of expectation in evaluation process of their satisfaction. Churchill and Surprenant (1982) divide expectations into two types: normative and predictive expectations. Thus, it is hypothesized that:

H3a. Customer expectation has significant, positive effect on perceived quality.
H3b. Customer expectation has significant, positive effect perceived value.
H3c. Customer expectation has significant, positive effect on customer satisfaction.

4. RESEARCH METHODOLOGY

Sample and data collection

A quantitative method with cross-sectional survey approach was employed to collect data for testing the propositions. This research approach is analogous to the prior studies conducted in various sectors including mobile value-added services, telecommunication, information systems acceptance domain (Wang and Lo 2002; Johnson *et al*. 2006; Kuo *et al*., 2009; Lai *et al*., 2009; Chandio, 2011; Fida *et al*., 2013). For the purpose of this research, data was collected using convenience sampling approach from all telecom service providers' users in Pakistan. Questionnaires were distributed to the walk-in customers at various telecom service providers' service centers at three big cities of Pakistan. Subjects were requested to assess items related to different constructs such as customer satisfaction, overall quality, customer expectation, and perceived value. The inclusion criteria for respondents was that they must be telecom service users at time of survey or have used these services in past. A total of 236 usable responses were obtained out of 275 distributed questionnaires, which represent 85% response rate.

Measures and instrument development

To enhance the content validity of this research a number of steps were taken with the help of experts, field managers and researchers (Evans and Dean, 2003; Khan, 2010). This study employed two stages to establish the content validity of the instrument. Initially, pretesting was performed with the help of telecom executives, managers and users to identify any contextual error or ambiguity in understanding thequestionnaire items. Although questionnaire found affirmative, little uncertainty was experienced by

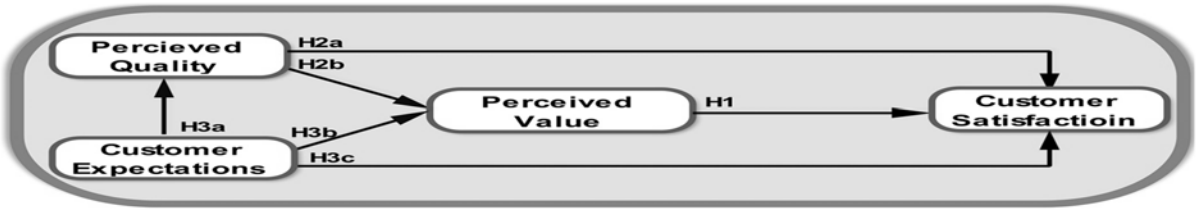

Fig. 1. Research model

Table 1. Demographic attributes of the respondents

Variable	Category	Frequency	Percent (%)	Cumulative (%)
Gender	Male	178	75.4	75.4
	Female	58	24.6	100
Age	<20	12	5.1	5.1
	21–30	68	28.8	33.9
	31–40	105	44.5	78.4
	41–50	32	13.6	91.9
	51–60	19	8.1	100
	>60	0	0.0	100
Education	Less than high school	6	2.5	2.5
	High school	39	16.5	19.1
	Diploma	9	3.8	22.9
	Bachelor	110	46.6	69.5
	Postgraduate	72	30.5	100
Occupation	Student	21	8.9	8.9
	Government employee	67	28.4	37.3
	Private sector	95	40.3	77.5
	Businessperson	49	20.8	98.3
	Other	4	1.7	100
Income (rupees)	<20,000 Rs	40	16.9	16.9
	21,000-40,000 Rs	78	33.1	50.0
	41,000–60,000 Rs	64	27.1	77.1
	61,000-80,000 Rs	28	11.9	89.0
	81,000-100,000 Rs	11	4.7	93.6
	>100,000 Rs	15	6.4	100

experts in understanding the items in the research. After reviewing and fixing the suggested minor corrections, a second stage of pilot study with a sample of 50 responses was performed. The survey instrument was divided into two sections. In first section respondent's demographic profile and telecom services usage experience was collected. Nominal scale used to collectthe information related to demographics. Section two comprised of items related to the assessment of respondent's perception about each construct ranging from (1) strongly disagree to (7) strongly agree depending on seven-point Likert scale.

5. DATA ANALYSIS AND RESULTS

Descriptive statistics

The results of demographic characteristics of the respondents produced through descriptive statistics are shown in **(Table 1)**. Results indicate that approximately 75% male, and 25% female users participated in the survey. Users in the age bracket of 31-40 years account for the majority (44.5%) followed by age bracket of 21-30 with (28.8%). Results show that Bachelor's level students showed great interest to share their usage experience having 46.6% participation followed by postgraduate students having 30.5% participation. Analysis indicates that majority of respondents (40.3%) work in private sectors, followed by government employees (28.4%). Almost one third (33.1%) respondents have monthly income in between Rs. 21,000-40,000, however very little proportion 6.4% have monthly income greater than Rs.100,000. From the experience of telecom services,most of the customers (28.8%) were found to have 3-4 years

6. VERIFICATION OF PROPOSED MODEL AND HYPOTHESIS TESTING

Structural Equation Modeling (SEM) was used to evaluate the proposed research model.The relationships among multiple variables was found using SEMs statistical model. Confirmatory Factor Analysis (CFA) technique was run using the SEM based software package AMOS Version 21.0. Reliability and validity of an individual measurement item was tested for the presumed model comprising of 28 items related to all 4 constructs: Perceived value, customer satisfaction Perceived quality, customer expectation. In second step the specification of structural model based on dependent and independent factors was conducted for the testing of hypotheses.

Table 2. Variables, factor loading, reliability and validity values					
Construct	**Dimension**	**Item code**	**Factor Loading**	**Cronbach's α**	**Composite Reliability**
Perceived Quality (PQ)	Tangibles	TAN1	.660	.853	0.785
		TAN2	.780		
		TAN3	.843		
		TAN4	.808		
	Reliability	REL1	.872	.775	
		REL2	.727		
		REL3	.849		
		REL4	.805		
	Responsiveness	RES1	.874	.881	
		RES2	.834		
		RES3	.820		
	Assurance	AUS1	.796	.801	
		AUS2	.683		
		AUS3	.795		
	Empathy	EMP1	.793	.903	
		EMP22	.830		
		EMP3	.880		
		EMP4	.841		
Customer Expectation (CE)		CE1	.872	.876	0.878
		CE2	.891		
		CE3	.754		
Perceived Value (PV)		PV1	.839	.899	0.899
		PV2	.810		
		PV3	.836		
		PV4	.835		
Customer Satisfaction (CS)		CS1	.889	.915	0.915
		CS2	.872		
		CS3	.893		

Table 3. Model fit indices and analysis results for perceived quality measurement model								
	χ^2	*Df*	*Absolute fit measure*			*Incremental fit measures*			*Parsimony fit measure*
			χ2/df	*GFI*	*RMSEA*	*NFI*	*TLI*	*CFI*	*AGFI*
Criteria	518.772	287	*1<χ2/df<3*	*≥ 0.85*	*<0.05*	*≥ 0.85*	*≥ 0.90*	*≥ 0.85*	*≥ 0.80*
Obtained			1.808	.866	.059	.895	.943	.950	.836

Notes: n=323. Notes: The diagonal elements (highlighted)

Table 4. Reliability, Discriminant & convergent validity, and correlation matrix								
	CR	**AVE**	**MSV**	**ASV**	**PV**	**CE**	**CS**	**PQ**
PV	0.899	0.689	0.280	0.241	0.830			
CE	0.878	0.708	0.252	0.153	0.502	0.841		
CS	0.915	0.783	0.291	0.212	0.437	0.393	0.885	
PQ	0.785	0.500	0.291	0.208	0.529	0.230	0.539	0.707

*Notes: *** indicates that relations are highly significant at 0.001 level. * indicates that relations are significant at 0.05 level*

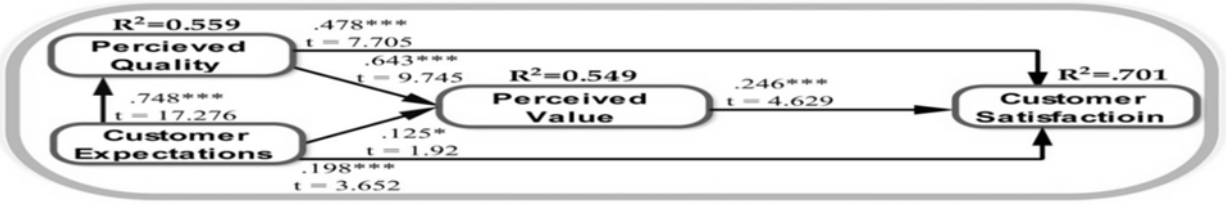

Fig. 2. Model supported by empirical data

Measurement model

According to (Hair *et al*., 2006), measurement model assist us to test the discriminant and convergent validity of the constructs. The measurement quality of each multiple-item indicator (PQ, CE, PV, and CS) was tested on factor-to-factor bases with CFA to see if any item has less than 0.5 factor loading value. According to the factor loadings results, items values found significant and are above the cut-off limit i.e < 0.5. To test unidimensionality in each construct, internal consistency reliability approach was adopted and the results were assessed by Cronbach's alpha. The scale-wide Cronbach alpha results exceed the threshold limit of 0.70 (Nunnally and Bernstein, 1994), i.e obtained results found in the range between 0.785 to 0.915 **(Table 2)**.

To assess the overall goodness-of-fit of model, seven mostly commonly employed model fit measures were used, such as the ratio of $\chi 2$ to degrees-of-freedom (d.f.), the root mean square error of approximation (RMSEA), the goodness-of-fit index (GFI), the norm fit index (NFI), Tucker-Lewis Index (TLI), the comparative fit index (CFI), and the adjusted goodness-of-fit index (AGFI). Goodness-of-fit results as shown in table 3 indicate adequate model fit and validity indices fall within suggested cut-off-values ($\chi 2$/df = 1.808, RMSEA = 0.059, GFI = 0.866,NFI = .895, TLI = .943, CFI = .950, AGFI = .836). Convergent validity and Internal reliability were estimated by the average variance and composite reliability extracted respectively. According to Smith (1974), sometimes Cronbach's alpha values

underestimate reliability.We used composite reliability (CR) technique to further assess reliability which is the degree to which the construct indicators signify the latent construct. CR values of all the constructs in measurement model found above recommended threshold limit of ≥ 0.7. Similarly, AVE values were found ≥ 0.5, which are lying in the recommended range (Hair *et al*., 1998). Overall measurement model results reveal satisfactory convergent validity and reliability values **(Table-4)**. In Table-4 square correlations results of construct were found less than AVE values and satisfy the recommended conditions (Fornell,1981).

Structural Model Testing

Byrne, (2001) contend that, the structural model (SM) help to identify the direct or indirect influence of one latent constructs on the other latent constructs in the model, i.e SM tests the proposed hypothetical path in the model. In consequence with the overall goodness-of-fit t-values Table 3, we could confidently proceed to examine the estimated path coefficients to evaluate the proposed hypothesis. **(Table 5)** shows hypothetical relationships, standardized regression coefficients, and t-values. Results show the results of that all proposed hypotheses (H1, H2a, H2b, H3, H3a, H3b, H3c) were supported by the data. Similarly, except one hypothesis (H3c) all other found highly significant (i.e p-values < 0.001). Results indicate the highest positive significantcoefficients path between CE and PQ (β value .748, value 17.266). However least positive significant coefficient path found between CE and PV (β value .125, t-value 1.92). Fig. 2 demonstrates t-values, the coefficients of determination (R^2) of latent variables and standardized path coefficients (β values).

Table 5. Report of hypotheses testing

Hypothesis	Relationship	Structural Coefficients	CR (t -Value)	Remarks
H1	PV→CS	.246***	4.629	Supported
H2a	PQ→CS	.478***	7.505	Supported
H2b	PQ→PV	.643***	9.745	Supported
H3a	CE→PQ	.748***	17.266	Supported
H3b	CE→PV	.125*	1.92	Supported
H3c	CE→CS	.198***	3.652	Supported

Notes: ***p<0.001,*p<0.05

7. DISCUSSION

Customers always prefer to acquire good service in lower prices. Companies which give some extra service benefits to their customers are likely to get competitive advantage over rivals. Gaining a competitive advantage can only result either by implementing a value-creating strategy not being adopted by the potential competitors in same sector or through superior execution of similar strategies as compotators.

This research investigated the role of service quality, how customers value telecom services and whether services offered meet customer expectation. Empirical evidences (as shown in table 5 and fig. 2) advocate that all hypothetical relationships found statistically significant. It is important to see that model is found fit with good indication of R^2 values. 55% of variance of perceived quality is explained by customer expectations. 54% of variance of perceived value is explained jointly by customer expectations and perceived quality. Similarly, 70% of variance in dependent variable (customer satisfaction) is jointly explained by the customer expectations, perceived quality, and perceived value.A positive significant direct effect was found by perceived quality and customer expectations on perceived value which indicates that perceived value thus has an important mediating role between perceived quality, customer expectation and satisfaction and these are in line with the previous research conducted by Lai *et al*. (2009); Kuo *et al*., (2009); Turel, (2006); McDougall, (2000). Furthermore findings of this research clearly answer the research questions by showing that all service quality dimensions play equally important role in overall customer satisfaction, and, service quality has directly as well as indirectly positive significant relationship with customer satisfaction. These results are similar to previous research findings (Palkar, 2004; Serkan *et al*., 2005). Similarly, this research also found simultaneous positive significance of customer expectation on perceived quality, perceived value and customer satisfaction. The highest significant impact of customer expectation on perceived quality indicates that users of telecom services in Pakistan have high expectations in service quality and they only value high quality service provisioning. These findings also validate previous research findings (Turkyilmaz *et al*., 2007; Chan *et al*., 2003).

8. CONCLUSIONS

Due to huge numbers of telecom operators and users in Pakistan, there is an intense competition and unlimited opportunities in this industry. In this study, we first examined the hypothetical relationships among all constructs of proposed model i.e perceived quality, customer expectation, perceived value and customer satisfaction. Analysis of data collected from Pakistan strongly supports the proposed model. Although all independent and mediating constructs found to have positive significant effect on customer satisfaction, role of customer expectations found to be the most important. In some cases the great deal of customer experience results in well-formed expectations, alternately, in some cases customer expectations can be ill-defined. In that case customer's feedback regarding their expectations may help to create or formulate new expectations. Telecom service providers need to involve in knowing customer expectations to help them narrow down the gap between, what customer need and what they get in response to what they pay for. Further, the

finding of this study reveals that telecom service providers need to assess all five service quality dimensions to understand which dimension need further improvement. Thus, telecom service firms expecting to have strong roots in their customers must try to deliver superior customer values and improve their service quality to achieve higher customer satisfaction.

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