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The Impact of Service Quality Dimensions on Customer Satisfaction: A Case of Kabulbased Telecommunication Service Providers

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ABSTRACT

This study investigates the impact of service quality dimensions on customer satisfaction in Afghanistan's telecommunications sector. The research adopts a quantitative approach, utilizing a convenience sampling method to gather data. The objectives and hypotheses of the study were formulated and analyzed using statistical techniques. A total of 520 customers were surveyed, yielding 487 valid responses. The data was analyzed using the Statistical Package for Social Sciences (SPSS), version 24.0. Initially, a reliability test of the questionnaire was conducted, and Cronbach's Alpha was found to be 0.867, indicating that all 36 items were reliable and consistent. The study employed scale analysis, correlation, and linear regression for data analysis.

The findings reveal that over half of the respondents were dissatisfied with network coverage. Correlation analysis showed a significant positive relationship between service quality dimensions and customer satisfaction. Linear regression analysis further revealed that dimensions such as reliability, assurance, responsiveness, and empathy have a positive influence on customer satisfaction, while tangibles were found to have a negative impact.

Keywords: Tangibles, Reliability, Responsiveness, Assurance, Empathy, Network Coverage, Customer Satisfaction.

INTRODUCTION

In the competitive modern marketplace, businesses must adopt diverse management strategies to secure long-term success, with a primary focus on customer satisfaction to drive performance. Service quality, as defined by Parasuraman et al. (1991), refers to the gap between customer expectations and perceptions, extending beyond basic service delivery. Lee et al. (2000) established a direct link between service quality and customer satisfaction, while Oliver (1980) defined satisfaction as the difference between pre-purchase expectations and post-use evaluations. Recent studies have expanded upon Oliver's framework by considering additional factors influencing satisfaction. For example, Gremler and Dwayne D. (2000) highlighted the significance of customer-employee rapport, identifying two key dimensions: enjoyable interaction and personal connection. Their research found that both dimensions positively affect customer satisfaction, loyalty, and word-of-mouth communication, suggesting that interpersonal relationships play a crucial role in customer satisfaction. Achieving customer satisfaction requires excellence across various service quality dimensions, including tangibles, assurance, responsiveness, empathy, reliability, and network quality, as emphasized by Ishaq (2011). A failure in any dimension may impede optimal outcomes. The telecommunications industry has seen substantial global growth, particularly in mobile, broadband, and internet services, with Asia alone representing 51% of global internet users by 2018. However,

the digital divide remains a significant challenge, as 2.6 billion people remain offline. Telecommunications services encompass diverse digital infrastructures, such as fiber optics, WiMAX, VSAT, GSM, broadband, telephone services, and e-commerce platforms.

Moreover, since 2001, Afghanistan's telecommunications sector has experienced significant growth, transitioning from minimal infrastructure to a substantial industry. By 2023, investments in this sector exceeded \$2.8 billion, with over 25.9 million users and approximately 118,000 jobs created. Key Developments (2001-2023):

Early 2000s: The first mobile services were introduced in 2002 by Afghan Wireless Communications Company, followed by Roshan in 2003. 2012: Etisalat launched Afghanistan's first 3G network, significantly enhancing mobile internet accessibility. 2017: 4G services were introduced, further improving data connectivity.

2023: The Afghanistan Telecommunications Regulatory Authority (ATRA) reported that 33.9 million SIM cards had been distributed nationwide, with fiber optic infrastructure extending over 9,138 kilometers and reaching major cities. Recent Initiatives: In 2024, ATRA initiated the construction of 16 telecommunications centers in Faryab Province, investing \$1.6 million to enhance connectivity in underserved regions.

Research Problem

Recent research in developing nations has shown conflicting results when it comes to the impact of marketing strategy on organizational performance. Research conducted by researchers (Akimova, 2000; Cross & Daniel, 2018; Ellis, 2005; Mahamad, 2018) found that marketing strategy has a significantly greater impact on performance than market and service quality orientation. There exists a significant market and service quality gap in the telecom sector.

By establishing enduring and strong ties with their clients, telecom industries aim for long-term success. In order to achieve higher benefits, telecom businesses in Afghanistan must reevaluate the quality of service they provide to customers and comprehend the important service components that primarily impact customer satisfaction, given the highly competitive industry. The study's primary goal is to evaluate how customer satisfaction is affected by the service quality in the telecom sector, specifically in relation to Afghanistan's Kabul-based telecom service sector.

Significance of the Research

Any telecom company that wants to improve customer satisfaction to boost business performance must take customer satisfaction seriously. This will help the provider become more successful and profitable in the long run. To understand the influence on consumers' satisfaction and loyalty, it is necessary to examine several additional scenarios, including 4G internet operating at 3G or 2G network speed, call dropouts, accessibility, network problems, and several other quality-related difficulties. The feelings or attitudes that lead someone to think about repurchasing a specific service or brand from a business are known as customer satisfaction. Customer satisfaction is defined as the measure of how well a company's goods, services, and improvements satisfy its customers' needs and wants. The following elements make up the quality of service: tangibles, assurance, responsiveness, empathy, and reliability.

LITERATURE REVIEW

Service Quality

Previous research on customer perceptions of service quality has largely focused on the SERVQUAL dimensions (Parasuraman, Berry, and Zeithaml, 1991; 1993; 1994; Zeithaml et al., 1990; 1993). However, several scholars, including Bakus and Boller (1992), Cronin and Taylor (1992, 1994), have critiqued the SERVQUAL model.

Service quality and customer satisfaction, though distinct, are directly correlated, with high service quality perception being essential for achieving customer satisfaction (Sureshchandar, 2002). Service quality reflects specific behaviors that influence customer retention or defection (Uddin and Akhter, 2012). Customers often compare service quality, which plays a crucial role in customer engagement (Sattar, 2012). A key factor in retaining and impressing customers is delivering quality service (Andaleeb, 2006). Additionally, Rakshit (2009) highlights that overall service quality significantly impacts the satisfaction of digital cellular customers, with transmission quality and network coverage enhancing customer perceptions of mobile telecommunications.

In Afghanistan, four international telecommunications corporations and one state-owned company provide GSM services to the population, resulting in intense competition between government and commercial operators. Key factors influencing customer satisfaction include customer care, pricing fairness, and network coverage. Customer service involves addressing complaints, responding promptly to issues, and resolving concerns. Despite these efforts, prices remain relatively high compared to neighboring countries. Afghan residents express concerns regarding price and network coverage, which are critical to consumer satisfaction. However, consumers are willing to pay higher prices for improved service quality. Below is an overview of the key service quality dimensions.

Tangibles (Physical Appearance)

In the telecommunications industry, elements such as quality products, front-line employees, physical infrastructure, towers/antennas, brochures, bandwidth, and credit cards can be categorized as tangible assets. According to Johnson and Sirikit (2002), these tangible aspects are considered the most critical factor for customers in the Thai telecommunications sector.

Responsiveness

Responsiveness refers to the speed and efficiency with which Mobile Network Operators address customer requests, queries, complaints, and concerns. According to Khan (2010), mobile phone users expect prompt responses from telecom employees to their inquiries and issues. Any industry, particularly telecommunications, is accountable for the outcomes of the products and services it offers. Implementing a well-structured system that consistently adapts to customer needs can enhance customer satisfaction.

Reliability

Reliability is defined as the ability to deliver the required and promised services with accuracy (Parasuraman 1988). Reliability as a service dimension in mobile communications services could include the company's provision of caring, individualized attention to the customers' expectations.

Assurance

Assurance in telecommunications refers to the ability to establish trust and confidence with customers through respectful communication, professional conduct, and effective guidance of digital services. According to Shaharudin (2009), providing better warranty terms enhances assurance, which can lead to increased sales. It involves consistently building trust and demonstrating courtesy in every customer interaction.

Empathy

Empathy refers to how well a business understands its customers' requirements and responds to them with care and compassion (Parasuraman, 1988). Further, empathy in the telecommunications industry refers to the ability to access, communicate, and comprehend the needs of customers. According to prior studies, if the telecommunications industry paid more attention to enhancing responsiveness, empathy, tangibles, and assurance, customer satisfaction would be enhanced.

Customer Satisfaction

Oliver (1980) posits that customer satisfaction is achieved when a company's product or service performance aligns with customer expectations, whereas dissatisfaction occurs when performance falls short. Additionally, when customer expectations exceed actual performance, a heightened level of satisfaction is attained. Customer satisfaction is a key indicator of a company's ability to deliver quality service, although it remains a challenging concept to define (Sattar & Sattar, 2012). Ishaq (2011) identifies three critical service quality factors—value-added services, customer service, and pricing systems—that significantly influence customer satisfaction. Customer satisfaction is a dependent variable influenced by independent factors, where higher service quality leads to increased customer satisfaction. The conceptual model of this study is illustrated below.

Research Conceptual Model



Source: Modified from (Wilson et al., 2008) Research

Objective of the Study

The following is the research's primary objective:

To explore the impact of tangible services on customer satisfaction in Afghanistan's telecommunications sector.

To assess the impact of service responsiveness on customer satisfaction in Afghanistan's telecommunications sector

To examine the impact of reliability of services on customer satisfaction in Afghanistan's telecommunication sector

To review the impact of assurance of services on customer satisfaction in Afghanistan's telecommunication sector Exploring the impact of empathy in services on customer satisfaction in Afghanistan's telecommunication sector

Hypotheses

Hypothesis HA1: There exists a significant relationship between the tangibles associated with service provision and customer satisfaction in the Afghan telecommunications market.

Hypothesis HA2: There exists a significant relationship between the reliability of telecommunications services and customer satisfaction in the Afghan telecommunications market.

Hypothesis HA3: There exists a significant relationship between the responsiveness of telecommunications service providers and customer satisfaction in the Afghan telecommunications sector.

Hypothesis HA4: There exists a significant relationship between the assurance provided by telecommunications service providers and customer satisfaction in the Afghan telecommunications sector.

HypothesisHA5: There exists a significant relationship between the empathy demonstrated by telecommunications service providers and customer satisfaction in the Afghan telecommunications market.

METHODOLOYG

The research methodology serves as a structured plan for conducting the study. Data will be collected from both primary and secondary sources. Primary data will be gathered through a questionnaire administered to respondents in Kabul city. Secondary data will be sourced from official websites of telecommunications companies, including Salaam Telecom Networks, Afghan Wireless Communication Company (AWCC), Roshan Telecom, Mobile Telephone Network (MTN) Afghanistan, and Etisalat Afghanistan, along with relevant magazines, government reports, academic journals, books, dissertations, and other reputable websites.

RESEARCH DESIGN

This study aims to collect data from customers of telecommunication service providers to assess the impact of service quality on customer satisfaction. The research is structured in three sections: the first section gathers demographic information, including age, education, income, telecom provider, SIM card usage duration, and living area; the second focuses on service quality dimensions; and the third evaluates customer satisfaction as the dependent variable. The study employs a descriptive research design, with convenience sampling for data collection and quantitative methods for analysis. A Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree) is utilized to measure responses. The questionnaire is adapted from previous studies to ensure reliability and validity.

Sample size

According to the ATRA statistics department, about 7,525,802 million subscribers in Kabul use the services of five different telecom companies. The sample size was estimated using the Yamane (1967) formula with a 95% confidence level and a p = 0.05 assumption.

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

Where:

n = sample sized

N = Number of people in the population

E = level of significance (allowable error %)

However, after calculating the sample size, the researcher added 30% extra to produce a more reliable and error-free result. As a result, 520

% $n = \frac{7,525,802}{1+7,525,802(0.05)2}$ n = 400

extra to produce a more reliable and error-free result. As a result, 520

questionnaires were given, with a total of 487 respondents who were counted for this study.

Statistical Tools

The data collected through the questionnaire was analyzed using SPSS IBM 24.00 version, employing various statistical tests such as scale analysis, correlation, and regression. Descriptive statistics, including mean and frequency calculations, were also used to summarize the data. The objective of this study was to examine the impact of different service quality characteristics on customer satisfaction in the telecom sector of Afghanistan.

The findings are based on these analyses, and the results provide insights into the relationships between service quality dimensions and customer satisfaction in this sector.

Results and Findings

Reliability of the questionnaire

The reliability of the questionnaire was assessed using Cronbach's Alpha, which demonstrated satisfactory internal consistency. The overall Cronbach's Alpha value of 0.867 indicates good reliability. Subscales related to demographic variables also showed acceptable reliability: tangibles ($\alpha = 0.726$, 4 items), reliability ($\alpha = 0.766$, 4 items), responsiveness ($\alpha = 0.698$, 4 items), assurance ($\alpha = 0.750$, 4 items), empathy ($\alpha = 0.720$, 4 items), and customer satisfaction ($\alpha = 0.790$, 6 items). These values are consistent with acceptable standards, confirming that the questionnaire is both reliable and valid for use in research.

Statistics on the demographic characteristics of the respondents

The study reveals that men constitute the majority of respondents (69.9%), with the typical age range being 20-26 years (46.6%). Most respondents hold a bachelor's degree (39.6%) and are students (50.7%), with 31% of respondents earning a monthly income below 18,000 AFN. Regarding mobile services, 23.6% of respondents prefer Etisalat as their service provider, and 34.1% have used their current SIM cards for 2 to 3 years. Monthly expenses for 33.1% of respondents fall between 200 and 450 AFN. Regarding network coverage, over half report occasional connectivity, 24.8% experience fast signals, and 24.2% face very slow network speeds. Geographically, data collection was distributed across Kabul's five regions: 23.2% from the center, 20.1% from the east, 19.5% from the north, 19.1% from the south, and 18.1% from the west.

S.N	Categories	Demographic	Frequency	Percentage
1	Gender group	Men	339	69.6%
1	Gender group	Women	148	30.4%
		20-26 years	227	46.6%
		27-32 years	164	33.7%
2	Age	33-40 years	65	13.3%
		41-49 years	22	4.5%
		50 & Above years	9	1.8%
		Primary school	34	7.0%
	Education	12 th Grade	60	12.3%
3		14 th Grade	163	33.5%
5	Laucation	Bachelor	193	39.6%
		Master	32	6.6%
		Other	5	1.0%
		Student	151	31.0%
		Teacher	53	10.9%
4	Employment	Gove employee	128	26.3%
	Own- business		92	18.9%
		Labour	36	7.4%

Tab	le 1	l: I	Demographic	Characteristics	of 1	the	Respondents
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		Others	27	5.5%
		Less than 18,000 AFN	247	50.7%
	Monthly Income	19,000 to 26,000 AFN	118	24.2%
5	A FN	27,000 to 36,000 AFN	59	12.1%
		37,000 to 46,000 AFN	36	7.4%
		47,000 AFN & above	27	5.5%
		AWCC Mobile Network	87	17.9%
	Mobile Service	Roshan Mobile Network	92	18.9%
6	Provider	MTN Mobile Network	109	22.4%
	TTOVIDET	Etisalat Mobile Network	115	23.6%
		Salaam Mobile Network	84	17.2%
		Less than 1 year	75	15.4%
	Selected SIM Card	2-3 year	166	34.1%
7		4- 5 year	101	20.7%
/		6-7year	69	14.2%
		More than7 year	76	15.6%
		50 to 100 AFN	106	21.8%
88	Monthly Charges	200 to 450 AFN	161	33.1%
00	AFN	500 to 700 AFN	120	24.6%
		More than 800 AFN	100	20.5%
	Network	Slow	118	24.2%
	Coverage	Sometime working	248	50.9%
	Coverage	Fast	121	24.8%
		Centre of Kabul	113	23.2%
		East of Kabul	98	20.1%
	Living Area	West of Kabul	88	18.1%
		North of Kabul	95	19.5%
		South of Kabul	93	19.1%

Scale Analysis of Tangibles

The scale value analysis of respondents' perceptions regarding the Tangibles dimension is presented in Table 2. The mean scores for the tangible variables range from 2.94 to 3.30, reflecting a moderately favorable evaluation. Specifically, the item assessing the availability of cutting-edge technology at the customer care counter received a mean score of 3.30, indicating a generally positive perception. In contrast, the variable pertaining to the visual appeal of the physical facilities received a lower mean score of 2.94. This range of means between 2.94 and 3.30 is statistically significant, providing a reliable indication of respondents' assessments of the tangibles.

The standard deviation for these variables ranges from 1.163 to 1.287, suggesting a moderate level of consensus among the respondents. Notably, the physical appeal of the telecom service provider's facilities exhibited a standard deviation of 1.163, which indicates a relatively lower level of variation in the responses. Conversely, the

evaluation of the customer service counter's modernity had a higher standard deviation of 1.287, reflecting a broader spread of opinions. This suggests that there is more variability in how respondents perceive the modernity of the service counter. The relatively consistent scores on the tangibles indicate that while the telecom provider is generally regarded as modern and well-equipped, there are areas, such as the physical appearance of the facilities that could benefit from further improvement. The responses were collected using a five-point Likert scale, where participants were asked to indicate their level of agreement with the statements. The scale ranged from '1' representing 'Strongly Disagree,' '2' for 'Disagree,' '3' indicating 'Neutral,' '4' for 'Agree,' and '5' representing 'Strongly Agree.'

c	Tangibles Statistics								
з. N	Scale values	5	4	3	2	1	N	Mean	Std.
	Respondents Opinion	SA	А	N	D	SD	Valid		Deviation
1	Customer counter is well equipped with latest technology	115	112	106	113	41	487	3.30	1.287
	%	24	23	22	23	8			
2	Physical facilities is visually attractive	57	96	143	143	48	487	2.94	1.163
	%	12	20	29	29	10			
3	All employees in a customer's centre are well dressed	95	140	120	77	55	487	3.29	1.263
	%	20	29	25	16	11			
4	Provides informative brochure regarding new packages	78	119	135	102	53	487	3.14	1.230
	%	16	24	28	21	11			

Table 2 : Scale Value Analysis of Tangibles

Source: Primary Data

Scale Value Analysis of Reliability

The scale value analysis of respondents' perceptions of Reliability is presented in Table 3 below. The reliability variables exhibit mean values ranging from 2.91 to 3.21. Notably, "*My telecom service provider delivers services on time as promised*" received the highest mean score of 3.21, while the statement "*My telecom service provider offers services on time as promised*" had a slightly lower mean of 2.91. These findings suggest that the overall perception of service reliability falls within this range, with a noteworthy average of 3.06.

Furthermore, the standard deviations of the reliability variables range from 1.172 to 1.319, with the telecom service provider's response to complaints exhibiting the highest level of variation (1.319) compared to the feelings regarding service, which had a standard deviation of 1.172. This implies that, while there is moderate variation in

the reliability perceptions across respondents, the data shows relatively consistent views about the service provider's performance in terms of reliability.

S	Reliability Statistics									
N	Scale values	5	4	3	2	1	N	Mean	Std.	
11	Respondents Opinion	SA	А	N	D	SD	Valid		Deviation	
1	offers the Services on time as promised	90	126	113	113	45	487	3.21	1.248	
	100%	18	26	23	23	9				
2	considers my Feelings towards service	51	105	137	138	56	487	2.91	1.172	
	100%	10	22	28	28	11				
3	Sincerely responds to complaints	71	105	113	111	87	487	2.92	1.319	
	100%	15	22	23	23	18				
4	Delivering voice messages, SMS and internet data on time	89	117	114	103	64	487	3.13	1.302	
	100%	18	24	23	21	13				

Table 3: Scale Value Analysis of Reliability

Source: Primary Data

Scale Value Analysis of Responsiveness

The responsiveness variables for the telecom service provider exhibit a mean range between 2.90 and 3.25, with the reported average usage of the service being 3.25. This suggests that the provider's personnel are generally available and responsive to customer requests. The mean responsiveness is particularly noteworthy, as it lies within the stated range of 2.90 to 3.25, indicating a consistent level of service. Furthermore, the standard deviation for the responsiveness variables ranges from 1.228 to 1.305, signifying relatively low variability in the responsiveness of the staff. The lower standard deviation of 1.228, specifically, implies that the provider's personnel exhibit a higher degree of consistency in addressing customer requests and are not overly burdened with excessive workloads. This suggests a high level of enthusiasm and readiness to resolve customer issues, as indicated by the relatively tight distribution of responsiveness scores.

	Responsiveness Statistics								
S.N	Scale values	5	4	3	2	1	N	Mean	Std.
	Respondents Opinion	SA	А	N	D	SD	Valid		Deviation
1	Provider update me about my service usage	94	137	109	90	57	487	3.25	1.284
	100%	19	28	22	18	12			
2	Provider is able to provide fast services to customers	84	104	125	123	51	487	3.10	1.253
	100%	17	21	26	25	10			
3	Provider staff are interested to solve my problems	62	128	123	113	61	487	3.03	1.228
	100%	13	26	25	23	13			
4	Provider staff do not appear busy to respond to a customer's request	71	94	119	119	84	487	2.90	1.305
	100%	15	19	24	24	17			

Table 4: Scale Value Analysis of Responsiveness

Source Primary Data

Scale Value Analysis of Assurance

The mean of the assurance variables falls within the range of 3.00 to 3.20. Specifically, the mean for the telecom service provider's employees' confidence in engaging with consumers is 3.20, while their behavior in delivering enhanced value to customers is scored at 3.00. This range of means underscores the relevance of the assurance variables. Furthermore, the standard deviation of these variables varies between 1.190 and 1.266. Notably, the standard deviation for employees providing greater value to consumers is 1.190, while the standard deviation for their behavior towards consumers is 1.266. This variation suggests a relatively lower level of variability in the assurance variables, indicating a more consistent performance in these areas.

Table 5: Scale Value Analysis of Assurance

S	Assurance Statistics								
N	Scale values	5	4	3	2	1	N	Mean	Std.
0	Respondents Opinion	SA	А	N	D	SD	Valid	Mean	Deviation
1	Staff behaviour is in confidence towards customers	86	136	104	109	52	487	3.20	1.266

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	100%	18	28	21	22	11			
2	Staff behaviour gives more value to customers	60	112	138	124	53	487	3.00	1.190
	100%	12	23	28	25	11			
3	I feels confidence while communicating with service provider	65	112	141	119	50	487	3.05	1.191
	100%	13	23	29	24	10			
4	service provider employees have enough knowledge to handle customer questions and complaints	73	129	118	108	59	487	3.10	1.251
	100%	15	26	24	22	12			

Scale Value Analysis of Empathy

The mean of the empathy factors for the telecom service provider ranges between 2.84 and 3.31. Specifically, the mean score for staff being friendly and considerate of customer rights is 3.31, while the mean score for employees and service quality preventing regret in utilizing the services is 2.84. These mean values highlight the significant role of empathy in the service experience. The standard deviation of empathy factors falls between 1.210 and 1.332, indicating varying levels of consistency. The lowest standard deviation, 1.210, corresponds to the availability of the service staff, while the higher value of 1.332 reflects the variability in staff treatment of customers' rights. The range in standard deviation suggests a more consistent empathy factor in staff availability compared to the variability in how staff treat customers' rights.

	Empathy Statistics									
S.No	Scale values	5	4	3	2	1	Ν	Mean	Std.	
	Respondents Opinion	SA	А	N	D	SD	Valid		Deviation	
1	Provider employees treat the customer well and consider it his right	126	104	100	109	48	487	3.31	1.332	
	100%	26	21	21	22	10				
2	My telecom service provider gives me special attention	59	100	127	134	67	487	2.90	1.228	
	100%	12	21	26	28	14				
3	Provider service staff are always present and accessible	60	103	117	152	55	487	2.92	1.210	

Table 6: Scale Value Analysis of Empathy

	100%	12	21	24	31	11			
4	Provider employees and Service quality will never make me regret by using its services	54	97	137	117	82	487	2.84	1.239
	100%	11	20	28	24	17			

Scale Value Analysis of Customer Satisfaction

The values on the customer satisfaction scale range from 2.50 to 2.84. The statement "*I am satisfied with the accessibility of customer service services*" recorded the highest mean score of 2.84, indicating a relatively higher level of satisfaction in this area. In contrast, the statement "*Overall, I am pleased with my telecom provider's performance*" had the lowest mean score of 2.50. These results illustrate that customer satisfaction with various aspects of telecom services falls within a moderate range. The mean values are considered meaningful in reflecting users' experiences with the service provider.

In terms of variability, the standard deviation for customer satisfaction variables ranges from 1.194 to 1.283. The lowest standard deviation (1.194) corresponds to satisfaction with the accessibility of customer care services, suggesting a higher degree of consensus among respondents. Conversely, the highest standard deviation (1.283) is observed in responses regarding satisfaction with On-net and Off-net service charges, as well as the phone packages and data bundles offered by the telecom provider. This indicates greater variability in user perceptions across these dimensions. Overall, the data reflects moderate satisfaction with notable variations in specific service areas.

	Customer Satisfaction Statistics								
S.N	Scale values	5	4	3	2	1	N	Mean	Std.
	Respondents Opinion	SA	А	Ν	D	SD	Valid		Deviation
1	Satisfied with the On-net and Off-net service charges	56	82	104	147	98	487	2.69	1.283
	%	11	17	21	30	20			
2	Satisfied with voice packages and data bundles	59	84	101	152	91	487	2.73	1.283
	%	12	17	21	31	19			
3	Satisfied with network quality	42	97	126	139	83	487	2.75	1.204
	%	9	20	26	29	17			
4	satisfied with the transparency of the billing	38	86	118	151	94	487	2.64	1.201
	%	8	18	24	31	19			
5	Satisfied with the accessibility of customer care services	47	107	121	146	66	487	2.84	1.194
	%	10	22	25	30	14			

Table 7: Scale Value Analysis of Customer Satisfaction

6	Overall, I am happy by the performance	23	99	110	122	133	487	2.50	1.220
	%	5	20	23	25	27			

Correlation

The correlation between Customer Satisfaction and the five SERVQUAL dimensions—Tangibles, Reliability, Responsiveness, Assurance, and Empathy—was examined, and the results are presented below.

Customer Satisfaction	Tangibles	Reliability	Responsiveness	Assurance	Empathy
1.000	.528**	.611**	.610**	.527**	.613**
.528**	1.000	.679**	.658**	.586**	.568**
.611**	.679**	1.000	.728**	.550**	.655**
.610**	.658**	.728**	1.000	.662**	.696**
.527**	.586**	.550**	.662**	1.000	.660**
.613**	.568**	.655**	.696**	.660**	1.000
	Customer Satisfaction 1.000 .528** .611** .610** .527** .613**	Customer SatisfactionTangibles1.000.528**.528**1.000.611**.679**.610**.658**.527**.586**.613**.568**	Customer SatisfactionTangiblesReliability1.000.528**.611**.528**1.000.679**.611**.679**1.000.610**.658**.728**.527**.586**.550**.613**.568**.655**	Customer SatisfactionTangiblesReliabilityResponsiveness1.000.528**.611**.610**.528**1.000.679**.658**.611**.679**1.000.728**.610**.658**.728**1.000.527**.586**.550**.662**.613**.568**.655**.696**	Customer SatisfactionTangiblesReliabilityResponsivenessAssurance1.000.528**.611**.610**.527**.528**1.000.679**.658**.586**.611**.679**1.000.728**.550**.610**.658**.728**1.000.662**.527**.586**.550**.662**1.000.613**.568**.655**.696**.660**

 Table 8: Correlations of Dependent and Independent Variables (N = 487)

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

All correlations are based on 487 respondents (N = 487).

Table 8 presents the relationships between service quality dimensions and customer satisfaction, based on the SERVQUAL model. The findings indicate statistically significant positive correlations (p < 0.05 at the 1% level) across all five dimensions: tangibles, reliability, responsiveness, assurance, and empathy.

Tangibles—referring to the physical appearance of facilities, equipment, personnel, and communication materials—show a moderate positive correlation with customer satisfaction (r = 0.528). Reliability exhibits a strong positive correlation (r = 0.611), suggesting it is a key driver of satisfaction. Responsiveness (r = 0.610) and empathy (r = 0.613) are also strongly associated with customer satisfaction, emphasizing the importance of prompt service and personalized care. Assurance, which includes knowledge and courtesy of employees, is moderately correlated (r = 0.527) but still significant.

Based on the p-values, all null hypotheses (H01–H05) are rejected in favor of the alternative hypotheses, confirming significant and positive associations between each SERVQUAL dimension and customer satisfaction.

Linear Regressions

The standardized coefficients indicate that empathy ($\beta = 0.196$), reliability ($\beta = 0.143$), and assurance ($\beta = 0.098$) positively influence customer satisfaction. In contrast, tangibles exhibit a slight negative effect ($\beta = -0.022$), suggesting they detract from overall satisfaction.

R	R Square	Adjusted R Square	Std. An error of the Estimate
.733	.537	.528	3.541

Therefore, the constructed regression equation is shown below:

Source: Primary Data

The regression model summary demonstrates a strong relationship between customer satisfaction and the independent variables, with a correlation coefficient (r) of 0.733. The R^2 value of 0.537 indicates that approximately 53.7% of the variance in customer satisfaction is explained by the model. The adjusted R^2 value of 0.528 further confirms that the model accounts for 52.8% of the variability in customer satisfaction, suggesting a good fit.

Table 9: Coefficients

	Un standardized Coefficients		Standardized Coefficients	Т	Sig.
	В	Std. Error	Beta		
(Constant)	.548	.732		.749	.454
Tangibles	031	.075	022	412	.680
Reliability	.191	.070	.143	2.719	.007
Responsiveness	.106	.077	.075	1.364	.173
Assurance	.136	.064	.098	2.126	.034
Empathy	.273	.070	.196	3.926	.000

Source: Primary Data

CONCLUSION

This study investigates the influence of service quality dimensions—tangibles, reliability, responsiveness, assurance, and empathy—on customer satisfaction. Descriptive analysis indicates high mean scores across all dimensions, suggesting low variation and consistent importance to customer satisfaction. Correlation analysis reveals significant positive relationships between service quality variables and customer satisfaction, with all alternative hypotheses supported at the 1% significance level (p > 0.05). Linear regression results identify empathy ($\beta = 0.196$), reliability ($\beta = 0.143$), and assurance ($\beta = 0.098$) as key positive predictors of customer satisfaction. In contrast, tangibles show a minimal negative effect ($\beta = -0.022$). Notably, 50.1% of customers report dissatisfaction with their networks. The findings underscore the need for service providers to enhance core service quality attributes—particularly empathy, reliability, and assurance—to foster greater customer satisfaction.

Limitations and Scope for Future Research

Researching the telecommunication sector in Afghanistan presents several challenges that may limit the comprehensiveness and accuracy of studies:

Security Concerns: Ongoing conflict and political instability can hinder data collection efforts, especially in regions with limited network coverage.

Infrastructure Limitations: The lack of a consistent power supply and underdeveloped infrastructure restricts access to modern technologies, making it difficult to gather reliable data.

Governance and Regulatory Issues: Weak institutional frameworks and inconsistent regulations can affect the reliability of available data and pose challenges to conducting systematic research.

Geographical Constraints: Afghanistan's rugged terrain and lack of access to submarine cables impede the expansion of telecommunication networks, limiting the scope of research to more accessible areas.

Recommendation/Suggestion

To enhance Afghanistan's telecommunications sector, the following recommendations are proposed:

Infrastructure Development: Invest in expanding and modernizing telecommunications infrastructure, especially in rural and underserved regions. This includes deploying additional towers and fiber optic networks to ensure nationwide coverage.

Regulatory Strengthening: Empower the Afghanistan Telecom Regulatory Authority (ATRA) to enforce policies that promote fair competition, protect consumer rights, and encourage private sector investment. A robust regulatory framework can attract both domestic and international investors.

Capacity Building: Implement training programs to enhance the technical skills of professionals in the telecommunications industry. This will ensure the effective operation and maintenance of advanced technologies. Public-Private Partnerships: Encourage collaborations between the government and private entities to share resources and expertise. Such partnerships can accelerate infrastructure development and service delivery.

Adoption of Emerging Technologies: Promote the integration of new technologies, such as 5G and satellite communications, to improve service quality and reach remote areas. For instance, Afghan Wireless launched the country's first 4G LTE service in 2017, demonstrating the potential of advanced technologies.

Digital Literacy Programs: Initiate educational campaigns to increase digital literacy among the population, enabling more citizens to utilize telecommunications services effectively.

Security Enhancements: Implement measures to protect telecommunications infrastructure from potential threats, ensuring uninterrupted service delivery.

Addressing these challenges can enable Afghanistan to enhance its telecommunications sector, thereby fostering broader social and economic development.

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