

Service Quality Impact on B2B Customer Satisfaction: A Case of a Sri Lankan Telecommunication Services Provider

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Abstract – *'Satisfying customer expectations' in aftersales are high and hard to achieve. Telecommunications (Telco) industry heavily depends on after-sales service quality due to customer retention. Much research is available to assess the service quality of the Global System for Mobile Communication (GSM) and fixed-line users. However, no literature is available to evaluate service quality for customer services in call center operation systems (CCOS), call recording systems (CRS), and private automatic branch exchange (PABX) systems. The service provided for those is vital due to mission-critical applications. This research was conducted with a well-known telco service provider in Sri Lanka. It has 600+ active system users who are medium and enterprise-level companies. SERVQUAL model was used to develop the theoretical framework. SPSS was used to evaluate 308 responses collected through an online survey. Four key recommendations were designed to enhance the impact of service quality on customer satisfaction in CCOS, CRS, and PABX systems. Face-to-face interviews were conducted with ten subject matter experts to validate the research findings. Employee dress code, punctuality, access to the service with relevant tools and equipment, and establishing a proper communication channel with customers and service providers significantly impact the service quality.*

Keywords: *Customer satisfaction, Service quality, SERVQUAL model, Telecommunication*

1. INTRODUCTION

In a Business-to-Business (B2B) setting, the primary focus and goal is to ensure customer satisfaction. While achieving customer satisfaction is possible, it can become challenging when a company faces difficulty accurately rating and understanding the customers. Despite different studies, identifying customer requirements precisely is still a mystery (Jayaraman Munusamy, 2010). Much research has been carried out to improve the quality of the service provided for the customers in Global System for Mobile communication (GSM) and fixed-line users in the Telecommunication (Telco) industry. However, no research has been conducted to assess the impact of service quality on customers' services in call center operation systems, call recording systems, and private automatic branch

exchange (PABX) systems. The effect on GSM and fixed line users is negligible compared to the service provided for call center operation, call recording, and PABX systems, where they engaged in mission-critical applications. Therefore, identifying improvements for the service provided for such customers significantly impacts customer and vendor business. The research was conducted as a case-based study to fill this gap. A well-known Telco service provider in Sri Lanka (SL) was selected for the research. The company maintains 600+ active customers in a call center, call recording, and PABX system users who are medium- and enterprise-level companies. The company has provided Telco services for customers for over 40+ years in SL. For the mobile Telco industry, a mobile application has been implemented for customers to make complaints through social media to shorten the customer and vendor relationship and improve the service provided, an excellent mechanism to retain existing customers and gain new customers. Moreover, research has identified a correlation between customer satisfaction and service quality. (Lanka, 2019). However, existing studies highlighted that quantitative measuring of service quality, defined as customer's expectations in the research study, varies from country to country. Therefore, current research results cannot be directly used within SL (Dharmadasa, 2017). When comparing the SL market with other developed markets, customers' expectations are different in service delivery and quality of service (Administration, 2021).

The Telco industry is highly competitive in providing the best service for its customers. Research has been conducted to analyze customer expectations and identify service quality factors in the SL telco sector (Thirunavukkarasu, 2019). The Telco industry in SL could be best described as an industry in its growth stage with a 60% share of the Gross Domestic Product (GDP) and a 6.8% growth rate. It dominates the service sector and is one of the main contributors to national GDP (Fernando, 2009). Sri Lankan Telco sector has increased its revenue; according to the Telco Regulatory Commission of Sri Lanka (TRCSL), total fixed-line subscriptions rose from 1.2m in 2005 to 2.7m in 2007 and 3.5m in 2008, peaking at 3.6m in 2011 (oxfordbusinessgroup, 2020). All the providers try to keep their brand on top by introducing competitive services such as large data bundle packages and low call rate packages so as not to lose customers. Telco operators are constantly moving to capture new markets. Subsequently, capacity upgrades and network expansions are carried out rapidly (Fernando, 2009). Further, they provide low-cost solutions with low-cost call rates to keep expenses to a minimum per customer. Even though low-cost solutions attract new customers, low-cost capacity enhancements with cheap Telco hardware and software usually cause negative impacts on call quality in mobile communication (Fernando, 2009).

Much research has been carried out to understand the quality of the service provided for GSM customers and fixed-line users. However, unable to identify any research conducted to assess the impact of service quality on customer service in call center operation systems, call recording systems, and PABX systems. In the Sri Lankan Telco sector, few large companies dominate the market. A company may lose its customer base due to a Telco system failure. The Telco systems significantly impact call center operations, hospitality, education, and public services. People used to have information, problems, and complaints via the Telco system. All businesses are willing to provide quality service to their company. Hence, the quality of the service had a significant impact on customer satisfaction. Many customers want to manage service issues with minimal damage to their business impact. This can be done using redundancy to overcome downtimes, providing standby equipment on time, or the technical person's competence or attitude. The first author of this research is also working in the same Telco industry under the service provider group and has experienced the issues faced in day-to-day operations in customer handling. Most of the issues raised by the customers were due to lack of communication, lack of

engagement with customers, and delay in response. The effectiveness of communication and the quality of technical support depends on these factors.

In a customer call center for a Telco company, customer complaints about system issues lead to the creation of tickets assigned to technical personnel for on-site troubleshooting. Analysis of customer behavior reveals higher complaint rates at specific sites. Customer satisfaction is influenced by factors beyond service efficiency, including delays and technical issues. Despite service gaps, some customers remain satisfied. The company observed a 15% customer base reduction from 2016 to 2020, but the reasons for customer loss remain unidentified. Previous Telco industry studies lack research on the impact of service quality on call center systems. To fill this gap, this research explores the relationship between service quality dimensions and B2B customer satisfaction in the SL Telco sector. The central research question is: "How does service quality impact B2B customer satisfaction in the Telco Sector?"

A mixed-method approach was employed to answer the research question. Initially defined the research problem, scope, and objectives. A pre-survey and literature review was conducted to grasp service quality dimensions. The pre-survey involved Subject Matter Experts (SMEs) within the chosen company. Then, a conceptual framework was developed, and hypotheses were defined. After that, an online survey was administered to existing clients covering the identified areas. Subsequently, the data collected was analyzed using the SPSS tool. Results were reviewed by 10 SMEs, confirming that service quality positively influences customer satisfaction in the B2B SL Telco sector. Based on statistical analysis, four recommendations were formulated.

The remaining sections of the document are structured as follows. Section 2 represents the Literature Review, and Section 3 describes the Research Methodology. Sections 4 and 5 illustrate Data Analysis and Results, respectively. Finally, Section 6 covers the Recommendations, and Section 7 covers the Conclusion.

2. LITERATURE REVIEW

Sri Lanka's telecom market is dominated by a few major players, with the country often serving as a testing ground for new technologies. Etisalat, in particular, focuses on its primary customer base in the UAE while conducting smaller-scale tests in Sri Lanka (Oxford Business Group, 2020). Businesses dependent on telecom services, such as PABX and call centers, face significant disruptions due to service interruptions. The industry is integrating advanced technologies like speech recognition and chatbots to enhance consumer interactions. The mobile user base grew rapidly from 3.4 million in 2005 to 20.3 million in 2012, a 414% increase. By 2015, mobile penetration had reached 115%, highlighting the sector's fast-paced growth and increasing importance. B2B transactions involve enterprises supplying raw materials or services to other businesses, directly influencing their operations. Timely delivery and efficient production of goods or services are crucial in this exchange. Kotler (1997) defines a service as an intangible product provided by one party to another. Customers assess service quality based on Tangibles, Responsiveness, Assurance, Empathy, and Reliability (UK Essays, 2017). Alamgir (2013) emphasizes that service quality management aims to enhance customer satisfaction by improving service standards. Effective management requires alignment between the client and service provider, as perception gaps can impact service quality evaluation, particularly in industries like retail banking (Newman, 2001). Poor customer support costs UK companies an estimated £12 billion annually, with inadequate "contactable" standards being a significant factor (Robinson, 2018). Customer service plays a critical role in business

success, particularly in the highly competitive telecommunications sector, where customer experience is key to maintaining a competitive edge. A Forrester study highlights that improving customer experience positively impacts all Key Performance Indicators (KPI) (Thirunavukkarasu, 2019). A former telecom customer service consultant notes that customers expect seamless support, efficient problem resolution, and timely delivery of high-quality products by friendly and helpful representatives.

2.1 Methods of Measuring Customer Satisfaction

Adeel (2021) identified several techniques for measuring customer satisfaction, such as the Customer Effort Score (CES), Net Promoter Score (NPS), and Customer Satisfaction Score (CSS). With its simple methodology, CSS enables customers to readily respond to satisfaction questions ranging from 1 to 5, encompassing topics such as responsiveness, service speed, and knowledge. On the other hand, NPS uses a rating system ranging from 1 to 10 to determine how satisfied customers are by asking them if they would suggest the company to others. NPS divides respondents into three categories: Detractors (0-6), Neutrals (7-8), and Promoters (9-10), who stand for disgruntled consumers, prospective allies or rivals, and devoted patrons, in that order. The percentage of Promoters is subtracted from the rate of Detractors to arrive at the Net Promoter Score (NPS), a valuable indicator of overall customer satisfaction. The NPS equation is $NPS = (60/100 * 100) - (10/100 * 100) = 50$.

Customer Effort Score (CES) (Norouzi, 2024), beyond CSS and NPS, evaluates customer loyalty by asking about the work needed to find solutions, acquire services, or get information. Based on a rating system that ranges from 1 (very easy) to 7 (very difficult), CES determines the meaning by subtracting the proportion of easy answers from the difficult ones. Lower CES levels indicate customers who find tasks easier to perform. Evans (2016) stress that the final arbiter of quality is the customer. Crucial tactics include comparing customer satisfaction with competitors, learning from and effectively listening to customers, and adjusting to meet changing market demands. It is essential to comprehend statistics on happiness and dissatisfaction to adopt changes that result in happier, more devoted clients (UKEssays, 2018).

2.2 Different Service Models

The researchers identify different service models. Out of those, in 1988, American marketing gurus Valarie Zeithaml, A. Parasuraman, and Leonard Berry implemented the Service Quality Model, or SERVQUAL Model, illustrated in Fig.1. The model was used to record and evaluate the service levels provided to the customers. SERVQUAL model includes five dimensions (i.e., Reliability, Responsiveness, Assurance, TB, and Empathy) measuring service quality. The SERVQUAL Model had a significant influence on service quality improvement in the 1980s (Wider et al., 2024)).

After proposing the SEVQUAL Model, Grönroos has introduced another service quality model named the Grönroos model. The model has three dimensions, as illustrated in Fig. 2. Those are technical quality, functional quality, and Image (Wawak, 2019). Technical quality represents what the customer gets after the customer deals with the company. The feeling of the customer after interacting with the company. Functional quality explains how customers receive the output of the service provided by the company. Then, the image represents the service supply with better technical and functional quality.

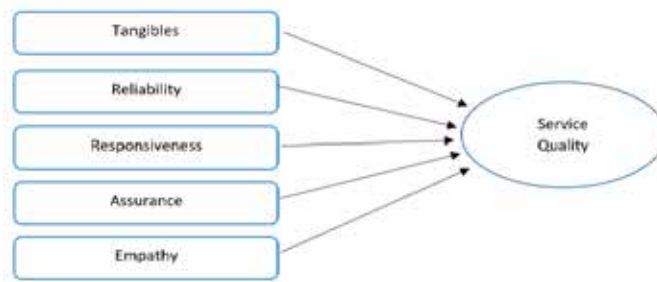


Fig. 1. The SERVQUAL Model by Parasuraman et al. (1985) illustrates the five key dimensions of service quality: Tangibles, Reliability, Responsiveness, Assurance, and Empathy.



Fig. 2. The Grönroos Service Quality Model highlights the interaction between technical quality, functional quality, and the image customers perceive in service delivery (Wawak, 2019).

Another model to evaluate service quality is the GAP Model of Service Quality illustrated in Fig. 3, which aids in distinguishing the gaps between what is perceived and what is anticipated. In the service delivery process, Dharmadasa (2017) identified five drawbacks. Those are the gap between customer expectation and management perception, service quality specification and management perception, service quality specification and delivery, service delivery and external communication, expected service and experienced service. (Dudovskiy, 2008).

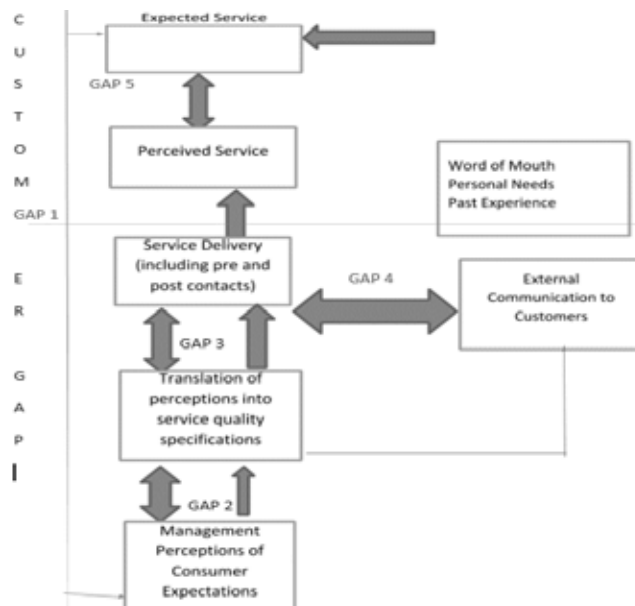


Fig. 3. The GAP Model of Service Quality by Parasuraman et al. (1985) illustrates the gaps between customer expectations and perceptions across five critical service dimensions, leading to service quality discrepancies.

3. RESEARCH METHODOLOGY

3.1 Research Method

A mixed-methods approach was used to conduct the research, combining qualitative and quantitative techniques. While quantitative methods were used to statistically establish the relationship between service quality dimensions and the services provided, qualitative methods were employed to understand customer perceptions of the company's services. Then, the problem was identified, and the scope and objectives were established to conduct the research. Then, a literature review was conducted on the dimensions of service quality. After that, a pre-survey was conducted to determine what factors affected customer satisfaction. A conceptual framework was developed by integrating the SERVQUAL model's factors, which were selected after a review of the literature. Based on the model, hypotheses were derived, and an online survey was developed. After that, using the 5-point Likert scale, the survey questionnaire was developed and shared with customers from various industries who use PABX systems and call centers. Once the responses were gathered, the IBM SPSS tool was used to analyze the data. Based on the study's findings, recommendations were given during in-person interviews with Subject Matter Experts (SMEs).

3.1.1 Conceptual Framework

The SERVQUAL model was used to develop the conceptual framework because it aligns with the company's business flow, and its service quality dimensions encompass most service aspects. The pre-survey results also support these dimensions, reinforcing their relevance to the study. Consequently, as illustrated in Fig. 4, the following hypotheses and conceptual framework were derived. Hypothesis derived: H1 - Tangibles have a positive influence on customer satisfaction. H2 - Reliability has a positive influence on customer satisfaction. H3 - Responsiveness has a positive influence on customer satisfaction. H4 - Assurance has a positive influence on customer satisfaction. H5 - Empathy has a positive influence on customer satisfaction.



Fig. 4. Conceptual Framework derived from the SERVQUAL Model, depicting the relationship between service quality dimensions and customer satisfaction, based on the five SERVQUAL dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy.

The hypotheses mentioned below were introduced and used to measure the results. **H1₁: Tangibles** positively impact Customer Satisfaction in the B2B Sri Lankan Telecommunication Industry, while **H1₀** States no positive relationship between **Tangibles** and Customer Satisfaction. **H2₁: Reliability** positively impact Customer Satisfaction in the B2B Sri Lankan Telecommunication Industry, while **H2₀** States no positive relationship

between **Reliability** and Customer Satisfaction. **H3₁: Responsiveness** positively impact Customer Satisfaction in the B2B Sri Lankan Telecommunication Industry, while **H3₀** States no positive relationship between **Responsiveness** and Customer Satisfaction. **H4₁: Assurance** positively impact Customer Satisfaction in the B2B Sri Lankan Telecommunication Industry, while **H4₀** States no positive relationship between **Assurance** and Customer Satisfaction. **H5₁: Empathy** positively impact Customer Satisfaction in the B2B Sri Lankan Telecommunication Industry, while **H5₀** States no positive relationship between **Empathy** and Customer Satisfaction.

3.2 Data Collection

The company maintains a customer base of approximately 600 active clients across various industries, including Healthcare, Call Centers, and Finance. Those industries' operations rely heavily on the Telco system, making service quality a critical factor for their business success. In Healthcare, Call Center, and Finance sectors, any disruptions or lapses in service could have severe operational and financial consequences for these companies. The focus on these industries ensures that the feedback gathered is from clients most impacted by service quality, thereby providing meaningful insights into the effectiveness of the Telco system. The survey was shared with 450 customers who interacted with the call center within the past seven days. This specific timeframe was intentional, ensuring the customers' recent experiences and feedback would reflect their current service interactions. This approach helped to capture the most relevant and timely data, allowing for a more accurate assessment of customer satisfaction and service quality.

4. DATA ANALYSIS

4.1 Data Preparation for Analysis

This study aims to identify the impact of Customer Satisfaction (CS) on the Telco sector. Tangibles, Reliability, Responsiveness, Assurance, and Empathy were used as independent variables, while CS was considered the dependent variable. Service Quality dimensions were measured with five attributes using a 5-point Likert scale. The 5-point scale is defined as "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly agree," denoting 1 to 5, respectively. Five hypotheses were introduced and analyzed with correlation coefficients to examine the relationship between variables. 308 (68.4%) responses were received out of 450 customers. At first, the collected data set was cleaned and formatted, and 21 entries were due to inappropriate answers.

4.2 Reliability Analysis

An online survey was used to collect data from respondents. Literature review and presurvey results were used in developing the survey. The survey was shared with clients using the call center, call recording, and PABX systems. Cronbach's Alpha is for internal consistency, and Table 1 illustrates the results received. For all the variables other than the Assurance, the Cronbach Alpha coefficient is more significant than 0.8, and only Assurance has 0.703 for the coefficient. Cronbach Alpha coefficient closer to 1.0 shows excellent stability.

4.3 Hypothesis Analysis

According to Table 2, Pearson Correlation values of the five main variables of this research were greater than ± 0.5 ; hence, it can be denoted that Tangible, Reliability, RS, Assurance, Empathy, and CS are highly correlated.

Table 1 Reliability Test results for the variables

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Tangible	0.865	0.865	3
Reliability	0.871	0.871	4
Responsiveness	0.819	0.826	3
Assurance	0.703	0.719	4
Empathy	0.876	0.876	5
CS	0.801	0.800	6

Table 2 Correlation Analysis of Variables, showing the strength and direction of relationships between key variables, with positive and negative correlations indicated by the corresponding coefficients

		Tangibles All Mean	Reliability All Mean	Responsiveness All Mean	Assurance All Mean	Empathy All Mean	Customer Satisfaction ALL Mean
Tangibles All Mean	Peason	1	.951**	.851**	.626**	.897**	.590**
	Correlation		.000	.000	.000	.000	.000
	Sig. (2-tailed)	287	287	287	287	287	287
Reliability All Mean	Peason	.951**	1	.904**	.677**	.933**	.661**
	Correlation	.000	.000	.000	.000	.000	.000
	Sig. (2-tailed)	287	287	287	287	287	287
Responsiveness All Mean	Peason	.851**	.904**	1	.788**	.906**	.738**
	Correlation	.000	.000	.000	.000	.000	.000
	Sig. (2-tailed)	287	287	287	287	287	287
Assurance All Mean	Peason	.626**	.677**	.788**	1	.732**	.951**
	Correlation	.000	.000	.000	.000	.000	.000
	Sig. (2-tailed)	287	287	287	287	287	287
Empathy All Mean	Peason	.897**	.933**	.906**	.732**	1	.706**
	Correlation	.000	.000	.000	.000	.000	.000
	Sig. (2-tailed)	287	287	287	287	287	287
Customer Satisfaction All Mean	Peason	.590**	.661**	.738**	.951**	.706**	1
	Correlation	.000	.000	.000	.000	.000	.000
	Sig. (2-tailed)	287	287	287	287	287	287

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

According to Table 2, the correlation analysis between the implementation of TB and CS is represented as + 0.590; This is a moderate-level correlation. The significant level is less than 0.05, and the significant level is 0.000. Therefore, the null hypothesis was rejected. The alternative Hypothesis represents a positive relationship between the CS dependent and TB independent variables. Further, Table 2 indicates the correlation analysis of Reliability and CS. The significance of the two variables is 0.000, which was less than 0.05. This rejects the null hypothesis. As mentioned in the literature, independent and dependent variables have a positive relationship with a 0.661 value, indicating a moderate level. Moreover, Table 2 elaborates on the correlation analysis of the CS and responsiveness variable with a 0.738 value. This was a good correlation value with a 0.000 significant value, less than 0.05. As per the significant level, the null hypothesis was rejected. These values represent the positive relationship between Responsiveness and CS. The correlation analysis between the Assurance independent variable and the dependent variable is +0.951, which is great. Between the two variables, the significance is less than 0.05 with a value of 0.000. Therefore, the Null hypothesis had been rejected. The alternate Hypothesis represents a positive relationship between CS and Assurance. The correlation analysis between the empathy independent variable and CS dependent variable significance is 0.000, less than 0.05. This rejects the null hypothesis and accepts the alternative hypothesis. As mentioned in the literature, independent and dependent variables have a positive relationship with a 0.706 value, indicating a moderate level. Further, Table 3 illustrates the summary of the researcher's hypothesis tests.

Table 3 Summary of the Hypothesis Test

Hypothesis Declaration	Null Hypothesis $H\{X\}_0$	Alternative Hypothesis $H\{X\}_1$	correlation level	Direction
There is a relationship between Tangles and customer satisfaction	Rejected	Accepted	Moderate	Positive
Reliability significantly impacted on the customer satisfaction	Rejected	Accepted	Moderate	Positive
There is a relationship between Responsiveness and customer satisfaction	Rejected	Accepted	High	Positive
There is a relationship between Assurance and customer satisfaction	Rejected	Accepted	High	Positive
There is a relationship between Empathy and customer satisfaction	Rejected	Accepted	High	Positive

4.3.1 Hypotheses testing using regression analysis.

This study used regression analysis to evaluate hypotheses and examine the relationships between independent variables – Tangibles, Responsiveness, Reliability, Assurance and Empathy – and the dependent variable, Customer Satisfaction (CS). Simple linear regression was chosen over multiple regression to isolate the individual effects of each independent variable without interference from others. By analyzing each predictor separately, the study ensured that the distinct contribution of each factor to CS was clearly identified. Multiple regression, while useful for evaluating all variables collectively, could

introduce multicollinearity, making interpretation more complex. To avoid this, single regression models were applied, allowing for straightforward and interpretable results. This approach aligns with the study's objective of assessing each hypothesis independently rather than considering the combined impact of all variables. The simplicity of single regression helps maintain clarity and ensures that the findings effectively highlight how each factor influences CS.

Testing for H1 (relationship between Tangibles and CS)

The analysis shows a significant relationship between Tangibles and Customer Satisfaction (CS). As summarized in Table 4 (Appendix A), the correlation coefficient ($R = 0.590$) indicates a moderate positive relationship, while the R^2 value of 0.348 suggests that 34.8% of the variance in CS is explained by Tangibles. ANOVA results (Table 5, Appendix A) show a p-value of 0.000, rejecting the null hypothesis at a 5% significance level, confirming a significant impact. The regression model, $CS = 1.47 + 0.5 \times \text{Tangibles}$, is visualized in Fig.5 (Appendix A), with minimal variance from the regression line. The standard error (0.040) from Table 6 indicates high accuracy in the estimates, reinforcing the model's reliability.

Testing for H2 (relationship between Reliability and CS)

The regression analysis for Reliability and Customer Satisfaction (CS) is summarized in Table 7 (Appendix A), showing a correlation (R) of 0.661 and an R^2 value of 0.437, indicating that 43.7% of the variance in CS is explained by Reliability. ANOVA results (Table 8, Appendix A) confirm the alternative hypothesis at a significance level of 0.000, highlighting a significant impact. Fig.6 (Appendix A) presents the regression line with minimal variance. The standard error (0.039) from Table 9 suggests high accuracy in predictions. The regression model is $CS = 1.3 + 0.58 \times \text{Reliability}$, demonstrating the effect of Reliability on CS.

Testing for H3 (relationship between Responsiveness and CS)

The regression analysis for Responsiveness and Customer Satisfaction (CS) is summarized in Table 10 (Appendix A), with a correlation (R) of 0.738 and an R^2 value of 0.545, indicating that 54.5% of the variance in CS is explained by Responsiveness. ANOVA results (Table 11, Appendix A) confirm the alternative hypothesis at a significance level of 0.000, showing a significant impact. Fig.7 (Appendix A) illustrates the regression line with minimal variance. The standard error (0.034) from Table 12 suggests high prediction accuracy. The regression model is $CS = 1.17 + 0.62 \times \text{Responsiveness}$, demonstrating the effect of Responsiveness on CS.

Testing for H4 (relationship between Assurance and CS)

The regression analysis for Assurance and Customer Satisfaction (CS) is summarized in Table 13 (Appendix A), with a correlation (R) of 0.951 and an R^2 value of 0.904, indicating that 90.4% of the variance in CS is explained by Assurance. ANOVA results (Table 14, Appendix A) confirm the alternative hypothesis at a significance level of 0.000, showing a strong impact. Fig.8 (Appendix A) illustrates the regression line with minimal variance. The standard error (0.018) from Table 15 suggests high prediction accuracy. The regression model is $CS = 0.28 + 0.95 \times \text{Assurance}$, demonstrating the significant effect of Assurance on CS.

Testing for H5 (relationship between Empathy and CS)

The regression analysis for Empathy and Customer Satisfaction (CS) is summarized in Table 16 (Appendix A), with a correlation (R) of 0.706 and an R² value of 0.499, indicating that 49.9% of the variance in CS is explained by Empathy. ANOVA results (Table 17, Appendix A) confirm the alternative hypothesis at a significance level of 0.000, showing a strong impact. The standard error (0.039) from Table 18 suggests high prediction accuracy. The regression model is $CS = 1.11 + 0.66 \times \text{Empathy}$, highlighting the significant effect of Empathy on CS. Fig.9 (Appendix A) illustrates the regression line, with minor variances in some data points.

4.4 Demographic Data Analysis

Demographic analysis was conducted to identify the respondents and their characteristics. Out of all respondents, 90% used PABX systems for their company. Respectively, 5% and 4% used fixed direct lines with service providers and mobile phones. 80% of the respondents only use the company-provided system, and 20% use the company-provided system with another vendor. 60% percent of the respondents' companies' IT/Technical staff are handling the Telco system. Those technical staff members are knowledgeable about the technology and the system. In the technical aspect, when a customer has issues, it is easy to persuade a technical person rather than a non-technical person. The administration staff of the respective company handles 20% of the respondents' Telco systems. The administration department handles all the administrative tasks in a company, especially in non-technical companies. 16% of the respondents are customer relation officers (receptionists), the contact persons to handle the complaints with the vendor.

57% of the respondents were under 30, and 84% of the customer base was in the Colombo area. The male percentage is relatively high (67%) compared to the female staff. According to the Telco expenditure scale, Rs. 100,000 – 500,000 range for 35% of respondents, while 25% despondence expenditures are above Rs. 1,000,000. 23% of the respondent's Telco expenditures in the Rs. 0-50,000 range, 11% in Rs. 50,000 – 100,000 and 5% in Rs. 500,000 – 1,000,000 range. When handling the customer, the service provider must focus on each sector without considering the price factor. This keeps existing customers happy and supports expanding the customer base with positive recommendations from existing customers. 40% of the businesses are in the IT/Telco sector. Therefore, particular focus and attention must be given to the IT/Telco sector as their business depends more on the Telco system. To expand their business to other target segments, Telco service providers must increase their business in the hospitality, health, finance, and Telco sectors.

Correlation analysis was conducted on the factors identified in the literature, as mentioned in the data analysis section. All the factors had a positive correlation with customer satisfaction.

5. RESULTS

This research discusses the influence of service quality on B2B customer satisfaction within the SL Telco sector. The focus was on Tangibles, Reliability, Responsiveness, Assurance, and Empathy dimensions. The study employs hypothesis testing to investigate the relationships between these service quality facts and CS. Tangibles has a medium-level positive correlation (+0.590), i.e., employee attire, equipment modernization, and B2B customer satisfaction. While significant at 0.000, the findings highlight the importance of aesthetic and infrastructural improvements for enhanced customer satisfaction. Moving to Reliability, the study identifies a moderate-level positive correlation (+0.661) and a

significant level of 0.000. Recommendations emphasize punctuality, delivering on promises, and proactive communication as pivotal elements to bolster reliability, subsequently elevating customer satisfaction. The Responsiveness dimension demonstrates a good-level positive correlation (+0.738) with a significant level of 0.000. Timely provision of information and a proactive approach to customer needs emerge as critical drivers for heightened customer satisfaction in the telecommunication sector. Assurance emerges as a standout factor, revealing a superb-level positive correlation (+0.951) with the highest correlation value among all variables and a significant level of 0.000. The findings underscore the critical role of technical knowledge enhancement through training, coupled with confidence-building measures, in fostering customer satisfaction. Empathy, the final dimension under scrutiny, unveils a strong positive correlation (+0.706) and a significant level of 0.000. The ability of service providers to understand and connect with customers on an individual level emerges as a pivotal factor influencing customer satisfaction.

In conclusion, the research highlights the multifaceted impact of service quality on B2B customer satisfaction in the Sri Lankan Telco sector. Tangibles, Reliability, Responsiveness, Assurance, and Empathy collectively enrich customer experience. Practical recommendations from these findings can guide Telco providers in tailoring their services to meet and exceed customer expectations, thus fostering long-term satisfaction and loyalty in the B2B domain.

6. RECOMMENDATION

The data collected was analyzed statistically, and customer satisfaction factors were identified. Moreover, four recommendations were provided to improve customer satisfaction in the Sri Lankan B2B Telco sector with identified service quality factors.

Recommendation 1: Update the technical team with the latest equipment and keep all technical equipment well organized within the company.

Telco companies need to focus more on Tangibles, which score the lowest in correlation values. If customers feel the equipment is not up to date or too old to use, it leads to a negative impression. Therefore, the first recommendation was to update the Telco equipment at least within two years. Laptops for these tasks can be used for at least five years, but crone tools, multi-meters, and other heavily used equipment must be updated minimally within two years. The physical environment must be well organized when a customer visits the Telco company for a system demo. Even though Telco companies are used to working with messy technical environments, especially the technical field staff, it makes a wrong impression on customers' minds. Therefore, all equipment and cables must be organized and neat if a demo system is presented for a new sale. It creates a positive image in customer's minds. Moreover, the physical environment affects customers more deeply. Sometimes, the customer's first impression might be the demo setup they have witnessed. Therefore, the Telco industry must focus on the Tangibles more. Keep updated with the latest technologies/equipment, focus on new methods that Telco service companies use, and keep the company aligned with those strategies to increase customer satisfaction. Some customers do not mind the physical things if their job is done smoothly. However, the majority of the customers expect a peaceful, appealing environment. By implementing the strategies mentioned above, more possibilities exist for Telco companies to increase the value of Tangibles, leading to better customer service.

Recommendation 2: Enhance punctuality and sincere interest in solving customer issues.

Reliability represented a moderate correlation to the dependent variable CS. Further,

reliability enhances customer trust. Therefore, a Telco provider needs to focus on reliability.

Customers always expect magic to happen and complete the job on time. Even though the issue has not been resolved at the expected time, attendance for the job should happen on time. Punctuality is a significant factor in service quality. To achieve punctuality, it is better to arrange daily jobs based on the critical order of the call center and to categorize and identify team members with skill levels. It would be easy to distribute jobs accordingly, leading to proper technical team management. Moreover, it would help enhance the punctuality of skilled team members. To improve these skills in employees, employee training programs in customer handling skills, communication skills, and other soft skills should be better arranged. Workshops should change the employees' attitude towards customer handling. Further, the employee should be a reliable person to a customer to improve customer satisfaction.

Recommendation 3: Information on the availability of the products/services and customer job status.

According to the results obtained from the data analysis, responsiveness is one of the factors with the highest impact on customer satisfaction, with the second highest correlation being 0.738.

Customers want information transparency with the service provider. Though the highest percentage of the employee category is technical, they wanted to know about the product in and out (i.e., what the most usable features are and if there are any alarms in the system that they can check and confirm with the provider). This information must be provided to the customer regarding the new installation and renewal of the service contract. Moreover, that information should be provided to the customer at the call center when the customer makes requests. Further, customers should update the real-time status of the complaint after an issue is reported (i.e., whether the task is completed or needs a standby unit, replacement, etc.). Therefore, the suggestion is to use a proper management software tool to enhance customer satisfaction by providing information about products/services and job complaint status. The Telco company can introduce any Android app or Short Message Service (SMS) alert system to update the customer and provide real-time updates on the issue. Introducing such a system would help the call center to provide valid and accurate details to the customer. Automated systems that update daily job status and Telco system information reduce communication gaps and keep customers and service providers updated with the latest information.

Recommendation 4: Improve the trust and confidence of the customer by getting feedback.

The highest correlation, 0.951, assurance showed the impact of building customer trust and confidence. To achieve this, the findings suggest conducting an annual survey with every customer to get feedback on the services they have received. By analyzing that feedback, the Organization can focus on the areas that need to improve and increase the trust and confidence of the customer. Further, the Organization can organize a product demo once a year with refreshments for the customer, which would significantly impact customer confidence. With a service contract, if the service jobs are relatively low, the Telco provider can offer free equipment like phones, cables, and other essential items. These methods would help win the customer's trust and confidence.

7. CONCLUSION

This study researched the impact of service quality in call center operation systems, call recording systems, and PABX systems. Though past studies have been conducted in the Telco service quality area for fixed line and GSM operators, the abovementioned aspects were not addressed. Therefore, a case-based study adhered to the mixed method approach to address the gap. For that, the SERVQUAL model was studied to develop the theoretical framework for the research. The online questionnaire was distributed among the customers connected with the company. The selected company has provided Telco service for over 40 years in SL. Once the data was collected, the SPSS tool was used to analyze the data. Regression analysis is used to identify the relationship between Reliability, Assurance, Tangibles, Empathy, Responsiveness, and CS. Of all respondents, 90% used PABX systems for their company, and 80% used the company-provided PABX system. Demographic analysis showed that more respondents are males (67%) and below 30 in age (57%). 24% of respondents are between age 31 and 40, and 18% are between 41 and 50. Of all the respondents, 42% were in the IT sector, 18% in hospitality, 15% in healthcare, 10% in finance, 7% in education, and 6% in textile. Most of the respondents (84%) are from Colombo. The remaining respondents are from Kandy (10%) and Galle (6%). As per the data analysis, it is confirmed that service quality positively impacts customer satisfaction in the B2B Sri Lankan Telco sector. Even though various kinds of research have been conducted on service quality in the Telco industry, this study focused on service quality dimensions of customer satisfaction. It provided four recommendations based on statistical data analysis. The 10 SMEs selected from the industry discussed and reviewed those recommendations. Finally, the research company agreed to develop the recommendations by uplifting the technical team with the latest equipment and acknowledging the technical team by conducting training covering the recommendations as the first step of initiation. Once the company executes the recommendations, another survey should be conducted to evaluate and assess service quality improvement for future research. Further, some steps of this research can be conducted after categorizing the product segments (i.e., call center, PABX Money Broker systems), which would help to identify how the different market segments behave with customer service.

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APPENDIX A

Table 4 Model Summary for Tangibles

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	Df1	Df2	Sig. F Change
1	.590 ^a	.348	.345	.54257	.348	151.839	1	285	.000

a. Predictors : (Constant) , Tangibles All Mean

Table 5 ANOVA result for Tangibles

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.699	1	44.699	151.839	.000 ^b
	Residual	83.899	285	.294		
	Total	128.598	286			

a. Dependent Variable: Customer Satisfaction b. Predictors: (Constant), Tangibles

Table 6 Coefficient Summary for Tangibles

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.467	.107		13.720	.000
	Tangibles	.497	.040	.590	12.322	.000

Table 7 Model Summary for Reliability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	Df1	Df2	Sig. F Change
1	.661 ^a	.437	.435	.50409	.437	221.072	1	285	.000

a. Predictors : (Constant) , Tangibles All Mean

Table 8 ANOVA result for Reliability

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.176	1	56.176	221.072	.000 ^b
	Residual	72.421	285	.254		
	Total	128.598	286			

a. Dependent Variable: Customer Satisfaction b. Predictors: (Constant), Reliability

Table 9 Coefficient result for Reliability

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.302	.100		13.005	.000
	Reliability	.585	.039	.661	14.868	.000

Table 10 Model Summary for Responsiveness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F	Df1	Df2	Sig. F Change
1	.738 ^a	.545	.543	.45317	.545	341.190	1	285	.000

a. Predictors :(Constant), Tangibles All Mean

Table 11 ANOVA results for Responsiveness

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	70.069	1	70.069	341.190	.000 ^b
	Residual	58.529	285	.205		
	Total	128.598	286			

a. Dependent Variable: Customer Satisfaction b. Predictors: (Constant), Responsiveness

Table 12 Coefficient Summary for Customer Interaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.174	.088		13.333	.000
	Responsiveness	.623	.034	.738	18.471	.000

Table 13 Model Summary for Assurance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F	Df1	Df2	Sig. F Change
1	.951 ^a	.904	.904	.20816	.904	2682.950	1	285	.000

a. Predictors :(Constant), Tangibles All Mean

Table 14 ANOVA results for Assurance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116.249	1	116.249	2682.950	.000 ^b
	Residual	12.349	285	.043		
	Total	128.598	286			

a. Dependent Variable: Customer Satisfaction b. Predictors: (Constant), assurance

Table 15 Coefficient Summary for Assurance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.280	.049		5.746	.000
	Assurance	.948	.018	.951	51.797	.000

Table 16 Model Summary for Empathy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F	Df1	Df2	Sig. F Change
1	.706 ^a	.499	.497	.47541	.499	283.970	1	285	.000

Table 17 ANOVA results for Empathy

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.182	1	64.182	283.970	.000 ^b
	Residual	64.415	285	.226		
	Total	128.598	286			

a. Dependent Variable: Customer Satisfaction b. Predictors: (Constant), Empathy

Table 18 Coefficient for Empathy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.114	.100		11.191	.000
	Empathy All Mean	.660	.039	.706	16.851	.000

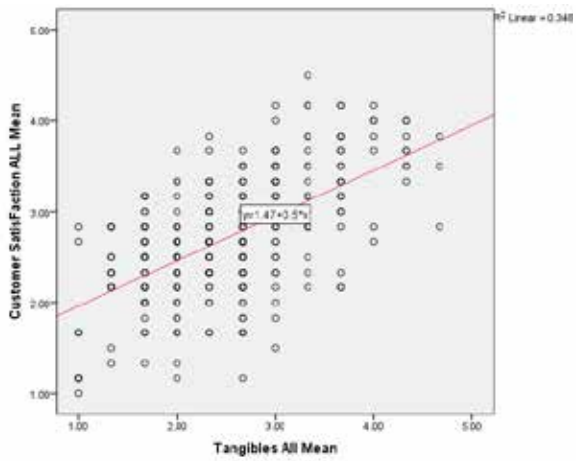


Fig. 5. Scatter Plot diagram for Tangibles

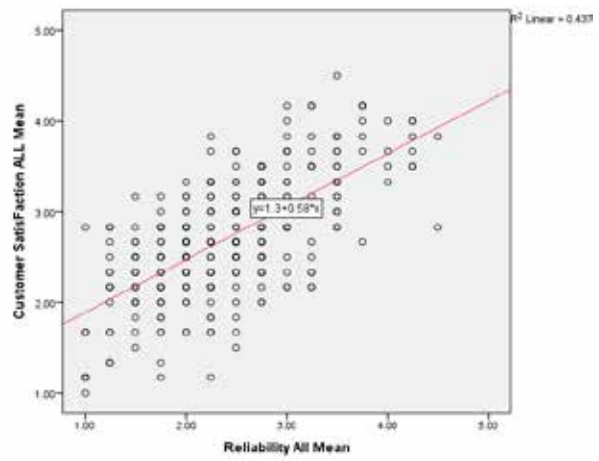


Fig. 6. Scatter plot for Reliability

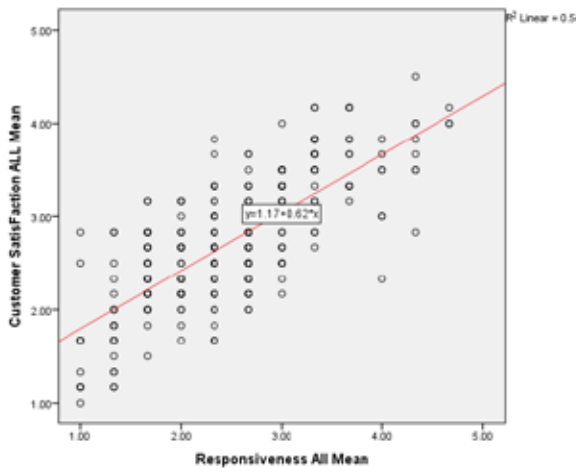


Fig. 7. Scatter Plot for Responsiveness

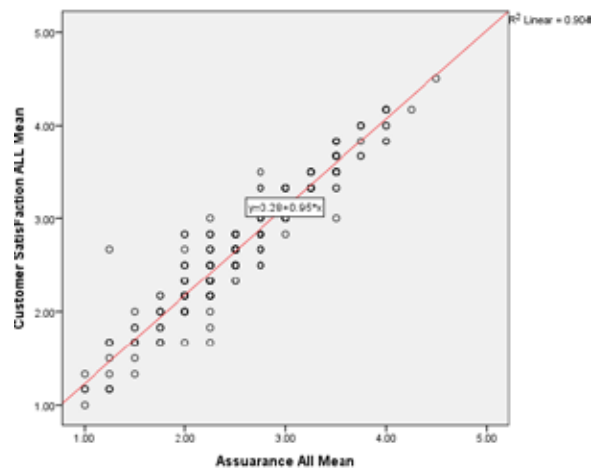


Fig. 8. Scatter Plot for Assurance

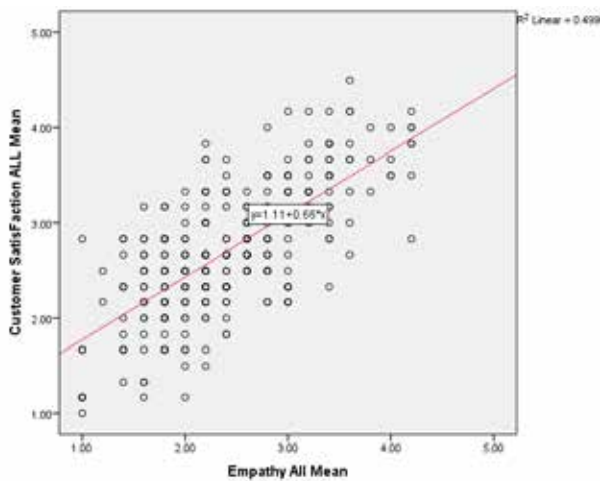


Fig. 9. Scatter Plot for Empathy