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***“THE AFFECT OF CUSTOMER SERVICE QUALITY ON OVERALL
STUDENTS’ SATISFACTION; A STUDY ON THE FOUR MAJOR FORCES
ADMINISTERED UNIVERSITIES (NUST, BU, AU, NDU)”***



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ON THE FOUR MAJOR FORCES ADMINISTERED UNIVERSITIES
(NUST, BU, AU, NDU)

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Abstract

In this consistently developing competitive higher educational outlook, understanding the affect of general customer service quality on students' fulfillment and reliability is the key to standout in the sector. Measuring perceptions among the students of the four major forces administered universities i.e. National University of Sciences and Technology (NUST), National Defense University (NDU), Bahria University (BU) and Air University (AU) is a yet to be explored dimension. The main purpose of this study is to fathom the impact of effective customer service quality on overall student satisfaction among the students of the aforementioned institutes. The information is to be organized through closed-ended questionnaires, taking into account the responses from 200-300 respondents of the diverse previously mentioned audience. Ordinary least square regression and panel regression are to be run in order to formulate a descriptive analysis pertaining to this study. The study aims to affirm the impact of elements of customer service quality through a modified SERVQUAL model. Moreover, the satisfaction of students implies students' citizenship and the students' loyalty towards the respective institute.

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1. Introduction

The role of customer service quality has become prominent aspect of overall customer satisfaction and loyalty. In today's ever-changing paradigms of modern business, customer service quality has become an emphatic area of interest for today's researchers. The main objective of the study is to give a detailed view of the interdependence between customer service quality and overall customer satisfaction, taking into account students of the four major higher educational institutes i.e. NUST, NDU, BU, and AU. This study aims to provide a holistic analysis of how changes in service quality can affect a customer's view of a business and their contentment, which in the end leads to their loyalty. Pakistan's higher education environment houses a diverse demographics ethos with distinct consumer behaviors, hence proving to be effective grounds for establishing a comprehensive and capacious analysis of the different aspects that impact customer satisfaction. Customer satisfaction is of utmost importance in order to build a long-lasting customer relationships which can equate to stable revenues for a business (Choi et al., 2013).

For businesses to remain relevant, sustainable, and competitive in today's corporate arena, a thorough understanding of the dynamics that affect customer satisfaction is required inclusive of the effects of customer service quality. Nowadays overall customer satisfaction has proven to play an important role for businesses to sustain themselves and remain competitive. Pakistan's higher education, with its blend of modernity and traditionalism provides an expansive base to study customer service dynamics. Pakistan's higher educational institutes is home to an aggregate of diverse consumer behaviors which helps elevate the quality of this study.

In today's contemporary competitive academic industrial outlook, where there are many options available to the students, it is of utmost importance to study factors that can enable educational institutions to acquire and retain students (Fitri et al., 2008). It is important for the higher educational institutions to come up with effective and innovative ways to compel and sustain stronger relationships with students and sustain their competitiveness in the ever-growing higher educational business outlook. The competition among the higher educational institutes to acquire and retain students i.e. potential customers has intensified (Chang, H. et al., 2009). A major reason for students' withdrawal out of an educational institute can be an unfulfilled expectation (Rowley & Aldridge, 2001). For the most part, among the higher educational institutions, the focus of branding efforts has been on aspects that are linked to business identity, effectiveness of communication and image building, studies on the use of students as customers for universities brand development has been scarce (Sharif & Sidi Lemine, 2021).

This study, through its individualistic and localized approach tries to explore the preferences and expectations of the students of aforementioned institutions regarding customer service quality, while complementing the already existing literature. By the categorization of the different aspects that majorly affect customer satisfaction and loyalty, the educational institutes of Pakistan and beyond can improve their strategies to cater to their customers' expectations in a more definitive and effective manner. This way businesses can maintain accommodating relationships and strengthen their stance in the market. This study aspires to provide value to businesses in the form of a detailed perceptive analysis of the varied academic audience of Pakistan's view of customer service quality. Hence this study can prove to be helpful in sculpting a discussion on effective customer management, offering worthy insights to academia, businesses, and customers alike.

1.1 Customer Service Quality:

Customer service quality is defined as the effectiveness and efficacy to which a business caters to the expectations and demands of the customers. It refers to the how well a business can cater to the needs and wants of the customer. It is a multidimensional concept that is comprised of different elements such as overall customer experience, efficiency of problem resolution, the accessibility of information, the courtesy of staff, etc. The criterion for exceptional service quality involves not only meeting customers' requirements but also fostering healthy interactions that can found recurring relationships and satisfy the customers.

1.2 Overall Customer Satisfaction:

This is a comprehensive measure that provides a yardstick as to how satisfied and gratified customers are with their encounters and experiences with certain products, services, or businesses as a whole. It takes into consideration various points of contact from purchase, engagement to ongoing support and service provided. Customer satisfaction is highly dependent on elements of customer service such as ease of use, reliability, responsiveness, assurance, security, product quality, etc. Excellent customer service quality results in customer satisfaction which in turn leads to loyalty of customer, resulting in revisits and advocacy.

1.3 Customer Loyalty:

Customer loyalty is the amalgamation of satisfaction and constructive experiences, over time resulting in a customer's inclination towards repeatedly coming back to a certain business or brand. Loyal customers are active advocates frequent visitors and exhibitors of swayed preferences towards a certain preferred brand or business. Trust fosters loyalty, consistency in delivering assured experiences and a sense of overlapping values among customers and businesses. The ambassadorship of a business and its long term financial stability is highly dependent upon these types of customers. Businesses looking to sustain themselves in the overly competitive market must develop and maintain a loyal customer base.

1.4 Research Problem:

In today's higher education outlook of Pakistan, the opinion of the students has often been downplayed. Due to adequate representation not being given to the student bodies, the problems of the students seldomly get surfaced. This consequently leads to a sense of dissatisfaction and resentment among the students. Students have been facing problems like these all over the world. These problems consist of the lack of skills of the lecturers, to handle tasks and failure to fulfil what is required out of a standard curriculum (Mohd Feroz Abu Bakar, 2004). Problems

1.5 Research Question:

1.5.1 RQ1

Study the effect of service quality factors and satisfaction among the students of four major forces administered higher education institutions.

1.5.2 RQ2

What are the most vital dimensions of service quality that affect the satisfaction of the student the most.

1.6 Research Objectives:

- To study the impact that service quality dimensions i.e. tangibility, responsiveness, reliability, assurance, empathy and overall service quality have on students' satisfaction.
- To factor what critical dimensions i.e. tangibility, responsiveness, reliability, assurance, and empathy contributes the most to satisfaction of the students.

1.7 Significance

This study cannot only provide enhancement measures for businesses in terms of customer service quality, but also perceptive analysis of overall customer satisfaction among the diverse students. This study can help educational institutions establish themselves in the industry and maintain a sustainable competitive advantage through effective customer management and maintenance of an aligned customer service quality strategy with student demands and perceptions. This study can provide a personalized and localized view that can help formulate strategies respective to students. This research aims to add to the already existing literature and expand on customer service quality and its effects on student satisfaction. Improved service quality attracts new customers and retains existing customers, hence alleviating the profitability of a business, its reputation, and the economy as a whole, with continuous business activities. This research aims to encourage businesses to formulate customer centric approaches towards overall customer satisfaction, hence enhancing customer relationships. Overall customer satisfaction is a global concept and is a key aspect for any business to expand nationally or internationally.

The evidence of enhancement in service quality can be found among numerous industries, service quality can prove to be a competitive differentiation that can help various educational institutions sustain their competitiveness in this particular sector, service quality can be construed as a vital additional advantage for the students in order for an educational institution to differentiate themselves from others in this specific industry (Fitri et al., 2008). In today's rapidly evolving higher education paradigm, it is important to inculcate students in brand building, and value creation process (Sharif & Sidi Lemine, 2021). Service promotion and institutional development should not be ignored in order to create value for the students (Sultan & Yin Wong, 2012).

2. Literature Review

The definition of service quality is based on the perspective of how users or consumers of a particular service gauge the service based on their experience with it (Onditi & Wechuli, 2017). The achievement of service quality depends on the exceeded or equated level of customer expectation (Grubor et al., 2009.), various support this notion based on the significant relationship between perceived service quality, different dimensions and overall satisfaction of consumers (Çerri, 2012; Van Truong et al., 2016; Jhandir, 2012; Qadeer, 2014). The probability of increasing of enhanced customer satisfaction is highly reliant on enhancements in service quality, also studying service quality with a multi-faceted approach gives valuable information for institutions, managers and decision-making entities as well (Zarei et al., 2014). Service quality is considered to be a key measure of performance among higher education institutions (Sibai et al., 2021). In higher education institutions, service quality has been evaluated based on vast dimensions which include competence of staff, the institution reputation, styles of delivery by tutors and lecturers, reliability, tangibles, responsiveness, adequacy of resources, administrative services, attitude support services, etc. (Onditi & Wechuli, 2017). Service quality plays a vital role in sustaining and establishing coherent relationship with customers hence it is said to be vital variable for establishing a relationship with satisfaction (Sibai et al., 2021). This proves a direct relationship between service quality and student's satisfaction (Mestrovic, 2017). Service quality plays a vital role in forecasting student satisfaction and consequently governing their behavioral intentions (Prakash and Muhammed 2016). In the vastly competitive higher education paradigm, service quality has become a motivator that governs students' decision in choosing an institute (Bhuiyan, 2016). Service quality has now become a prominent measure of educational excellence (Sibai et al., 2021). Success in today's competitive higher education industry is highly dependent upon service quality, service quality has now become the essence of higher education (Bala et al., 2011). Service quality is a critical evaluator of any higher educational institutions' success (Landrum et al., 2007). The gap between the actual service provided and customer's expectations prior to receiving the service is considered to be a viable measure of the consumers assumption of service quality. For an educational institutions, the student satisfaction can be examined by the quality and number of service encounters experienced by the student, these encounters can range from experiences with the administrative staff, to the interaction with lecturers, librarians or security staff, consistency in these aspects of service provision can lead to achieving or exceeding the customers level of expectations regarding the quality of services (Onditi & Wechuli, 2017). Student satisfaction is not just a function of the interaction of students with just the lecturers or guidance by the tutors during consultations, but it also is affected by the experience might have while he/she encounters the non-academic staff, the physical infrastructure or other non-academic aspects of higher education which might include involvement extracurricular activities such as sporting events (Anantha et al, 2012).

Numerous studies have applied the SERVQUAL model, which assesses service quality based on tangibles, reliability, responsiveness, empathy, and assurance, to educational settings. Researchers have found that these dimensions are relevant in understanding students' perceptions of service quality in universities. There's a growing body of literature focusing on the relationship between customer service quality and overall satisfaction among students in higher education institutions. Studies have shown that students who perceive higher levels of service quality are more likely to be satisfied with their educational experiences. Some recent studies have explored the link between

service quality and student retention and loyalty. They suggest that universities that prioritize customer service and meet students' needs effectively are more likely to retain students and foster loyalty among them. Comparative studies across different universities, such as NUST, BU, AU, and NDU as mentioned in your study, provide valuable insights into variations in service quality and student satisfaction levels among institutions. These studies often highlight areas of strength and areas needing improvement in each university's service delivery. Recent literature also delves into the factors influencing service quality in universities. This includes organizational culture, leadership, staff training, communication strategies, and the use of technology in service delivery. Understanding the dissonance between students' expectations and their actual perceptions of service quality is another focus area. Studies have investigated how universities can bridge this gap to enhance student satisfaction and improve overall service delivery. Additionally, there's a growing recognition of the influence of service quality on a university's reputation and brand image. Positive experiences with customer service contribute to a university's attractiveness and competitiveness in the higher education market.

Satisfaction, according to Kotler and Clark (1988) is stated as a sense of fulfillment provided by an experience or has resulted from an expected encounter. Satisfaction is a measure of a comparison between expected performance and customers' level of perception (Fitri et al., 2008). It is vital to the researchers to examine and gauge what students expect before entering the university, the students' expectations may even arise before they enter into the higher education (Fitri et al., 2008). (Carey, 2002) state, in contrast, that satisfaction is actually a product of students' exceptions, perceptions and experiences amidst the college years. Satisfaction or dissatisfaction can be factored on the basis of notion a customer might have post-purchase, this notion is generated by the positive or negative differentiation between the customer's expectations and what they have actually experienced (Setó-Pamies, 2012). Most students' satisfaction studies are based on customer's perspective; hence researchers find it problematic to set a standardized definition for students' satisfaction, which entails a need for a modified model that takes into account students' satisfaction (Hom, 2002). In the current outlook of higher education sector, a new notion has risen that students as fee payers should be considered customers and their demands be acknowledged and worked up on (William, 2002).

There exist two models provided by business entities that assist in gauging service quality. The first one is a two dimensional model that factors in the technical and functional quality of service delivered, and the second one is a five factor SERVQUAL which factors in the tangibility, the reliability, assurance, empathy and responsiveness of the service that has been delivered (Ananda & Devesh, 2019), this is the model that has been adapted to accommodate the higher education paradigm that has been endorsed in this study. Numerous studies have factored in the efficacy of service quality by contrasting customers' expectations with the businesses' performance in providing the service (Angelova & Zekiri, 2011). Numerous research studies have defined service quality as a multi-faceted concept; however the composition of service facet may change with the variance in the contexts of different services. The examination of service quality is subjective among different service groups and also among circumstances (Ladhari, 2008). Despite criticism, SERVQUAL model has been widely used to gauge the perceived service quality (Arasli et al., 2005; Brahmabhatt & Panelia, 2008.; Kumasey, 2014; Nadiri & Hussain, 2005), as it comprehensively recognizes gaps in quality of service and identifies paradigms of customer satisfaction (Ananda & Devesh, 2019). A thorough interpretation of the predecessors and factors

of customers satisfaction can have a high monetarily value for service organizations in a competitive domain (Lassar et al., 2000). Overall service quality has a significant relationship with satisfaction as found by Bigné, Moliner, and Sanchez (2003). Also in the higher educational outlook positive relatability between perception of service quality and students' satisfaction has been substantiated by Ham & Hayduk, (2003). It was obtained by Elliott & Shin (2002) that customer satisfaction with university performance was directly impacted by certain variables i.e. superiority of instruction, availability of desired classes, advisors' knowability, faculties' knowability, instruction quality, valued tuition paid, approachable staff, safety and security, reasonable requirements, advisors' availability, sufficient computer labs, non-prejudiced faculty and information accessibility.

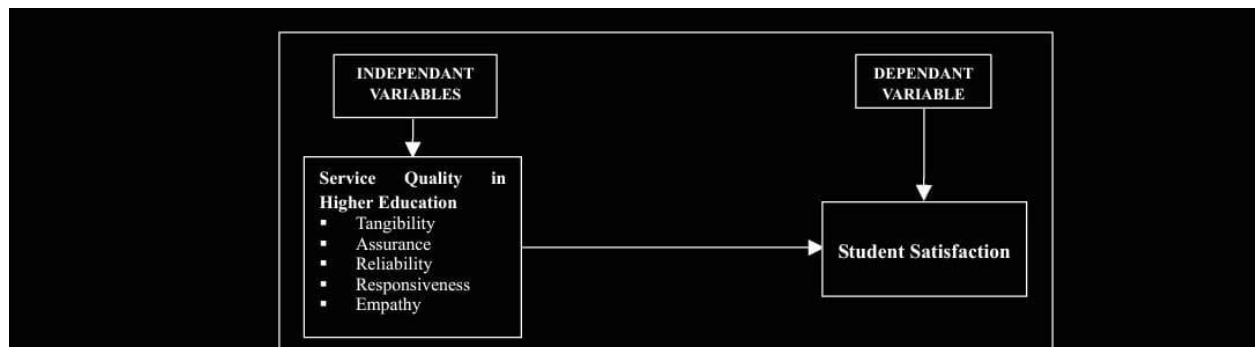
Service quality is the result of a customer assessment of the assumed performance of a particular characteristic of this service in comparison with their preformed expectations (Howat & Crilley, 2007). The gap between expectations of the customer and the assumed performance is often termed as expectancy disconfirmation paradigm, as advocated by the Servqual design (Parasuraman et al., 1988). All individual encounters provide grounds for measuring the association between the expectations of performance and quality of service (Grönroos, 2000).

The primary objective of this study is to apply existing customer service quality concepts and estimate the effect of varying service quality measures on customer satisfaction and consequently their loyalty towards a certain venture. This study aims to provide a particular outlook of this paradigm among the four major higher educational institutions under the forces administration, i.e. NUST and NDU being affiliated with Pakistan Army, Bahria University and Air University being affiliated with Pakistan Navy and Pakistan Air Force respectively. Because of its complex and multifaceted nature, customer service literature emphasizes on the challenges of defining customer service quality (Abdullah, 2006). The perceived service quality from an organization's influences customer's subjectivity regarding customer service quality (Parasuraman et al., 1988). Customer service quality is subjective to business, industry, or institution, for example, in an educational institution, many scholars have argued that access to the institution's facilities and services is a function of customer service quality (Abdullah, 2006; Ling et al., 2010). Also, customer service is related to elevate a services consumption (Jelena, 2010). Most importantly, frontline employees, the first point of contact are responsible for enhancing service access, they are responsible for the positive influence on customer's perception during service encounter (Fedorikhin et al., 2008). The service environment's favorability or unfavorability is highly dependent on these service agents' conduct (Anderson & Gerbing, 1988). Customer's feelings and constantly developing behavior have been found to be influential towards a consumer's brand association (Schmitt et al., 2009; Hashim et al., 2020). The customer involvement and advocacy help in cultivating loyalty towards a brand along with promoting positive experiences (Zarantonello & Schmitt, 2013). Since service quality ensures a high level of customer satisfaction, this makes it a key element in sustaining a competitive advantage (Almossawi, 2012). The coherence between customer's expectations and service provision proves to be a measure of service quality, which provides conclusive evidence of undifferentiated service performance (Ayinaddis et al., 2023).

In Ethiopia, Zelalem and Beshir (2020) explored the effect of online banking administration quality on consumer loyalty and unwaveringness. They concentrated on involved consumer loyalty as a reliant variable and found efficiency viewed as significant indicator of consumer loyalty.

The SERVQUAL scale was developed in 1988 by (Parasuraman et al., 1988) is an efficient and proven tool used for examining the gap between perceptions and expectations among consumers taking into account service quality (Marshall & Murdoch as cited by Pena et al., 2013). This model has been used by many researchers to study and evaluate service gaps in various service sectors (Nadi et al., 2016; Al-Momani, 2016). SERVQUAL is comprised of multiple items scaled to measure the five dimensions of service quality developed by (Parasuraman et al. 2002). Previously, the SERVQUAL model has been widely used internationally and has been applied in the higher education setting to examine how institutions could enhance perceptions of service and also improve their program designs (Chopra et al., 2014; Shekarchizadeh et al., 2011; Soares et al., 2017; Yusoff et al., 2015), despite of their existing critiques about this model i.e. the five dimensions being tangibles, reliability, responsiveness, empathy and assurance being too common and not being as comprehensive as other models in regards to measuring service quality and students' satisfaction (Yusoff et al., 2015). The applications of SERVQUAL in the higher education paradigm extend from examining which among the five aspects is most important to students' satisfaction, which ranges to acquiring an enhanced understanding the effect of demographic factors on SERVQUAL (Teeroovengadum et al., 2016, Yusoff et al., 2015).

H1: The service quality provided to a student in an educational institution has a positive effect on students' satisfaction.



3. Methodology

Dimension	Definition from (Gregory, 2019)	Short Form
Tangibles	Equipment, appearance and physical features and facilities	T
Assurance	Ability of the employees to create a feeling of trust and confidence among the students, and employee's knowledge	AS
Reliability	Dependability and accuracy of the staff and their ability to perform tasks as promised	REL
Responsiveness	Providing prompt services, availability and willingness to help	RES
Empathy	Care and personalized attention the institution provides to its students	EMP

3.1 Research Framework

This particular paper works on an adaptation of the SERVQUAL i.e. service quality model. Overall students' satisfaction is considered as the dependent variable in this study, which is calculated by the overall satisfaction with the forces administered higher education institutions, consequently, the independent variable in this study is service quality among the mentioned institutions which measures the degree of satisfaction with service attributes. Service quality in this study is measured in the light of the following five dimensions i.e. tangibility, assurance, responsiveness, reliability and empathy.

In this research, overall student satisfaction is considered as the dependent variable. This variable represents the aggregate level of satisfaction that students have with their respective institutions. The measure of overall student satisfaction is derived from students' perceptions and experiences across various aspects of the university environment. Consequently, the independent variable in this study is service quality among the mentioned institutions. This variable measures the degree of satisfaction students have with specific service attributes provided by their universities.

Service quality in this study is measured through the lens of the five dimensions defined by the SERVQUAL model: tangibility, assurance, responsiveness, reliability, and empathy. Each of these dimensions plays a crucial role in shaping the overall service experience for students and is elaborated upon as follows:

1. **Tangibility:** This dimension pertains to the physical aspects of the service, including the appearance of facilities, equipment, personnel, and communication materials. In the context of higher education, tangibility includes the quality and modernity of classrooms, libraries, laboratories, and other physical resources. It also encompasses the professional appearance of staff and the clarity and accessibility of informational materials provided to students.

2. **Assurance:** Assurance refers to the competence, courtesy, credibility, and security of the service provider. For universities, this dimension involves ensuring that faculty and administrative staff are knowledgeable, courteous, and able to instill confidence in students. It also includes the perceived safety and security within the campus, which contributes to a conducive learning environment.
3. **Responsiveness:** This dimension measures the willingness and readiness of the service provider to assist customers and provide prompt service. In a university setting, responsiveness reflects how effectively and swiftly the institution responds to student inquiries, complaints, and service requests. It is indicative of the institution's commitment to addressing students' needs in a timely manner.
4. **Reliability:** Reliability involves the ability to perform the promised service dependably and accurately. For educational institutions, this means consistently delivering on commitments related to academic scheduling, administrative processes, and support services. Reliability is crucial for building trust and ensuring that students can depend on the institution to meet their academic and administrative needs.
5. **Empathy:** Empathy denotes the provision of caring, individualized attention to customers. In higher education, empathy is demonstrated through personalized support and understanding of each student's unique needs and concerns. It involves creating an environment where students feel valued and supported, both academically and personally.

By evaluating these five dimensions, the study aims to identify which aspects of service quality most significantly impact overall student satisfaction. The findings from this research will provide valuable insights for university administrators and policymakers in the forces administered higher education institutions, enabling them to enhance service quality and thereby improve student satisfaction. The adaptation of the SERVQUAL model in this context underscores its versatility and relevance in assessing service quality across diverse service environments, including higher education.

3.2 Sample

The sample in this study were students of the higher education institutions administered by the forces in Pakistan. Four major institutions i.e. National University of Sciences and Technology, Bahria University, Air University, and National Defense University were chosen to conduct this study. The sample consists of respondents of aged 18 till 25 and above. Hence, this study takes into account current and former students of these institutions. For this study, we managed to get 301 responses, majorly through online forums i.e. Google Forms and also with some help from social media connections.

3.3 Instrumentalization

This paper uses questionnaire with closed-ended questions as a mode to obtain the required data. This questionnaire consists of three parts i.e. first that factors in the demographic data, second for the measurement of service quality in the aforementioned target economy and the third which takes into account the student satisfaction. In the first section, four questions have been presented that cover the aspects such as gender, age, semester and the particular institution. The second section measures the service quality in the aforementioned institutions through a series of questions

respective to the dimensions that measure service quality. As for the third part, it measures the students' satisfaction level with their respective institutions. The instrument used for this research paper is an adaption taken from Fitri et al., 2008 with dimensions for measuring service quality i.e. tangibility, assurance, reliability, responsiveness, and empathy using the five-point Likert scale with options i.e. Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree. A similar pattern has been used for the measurement of students' satisfaction.

3.4 Data Analysis Procedures

The data collected in this study was analyzed with the help of SPSS (Statistical Package for Social Science) Software. This study tests the data based on reliability, co-relation and Anova regression test.

Reliability analysis was conducted to ensure that the measurement instruments used in the study were consistent and dependable. This typically involves calculating Cronbach's alpha, a statistic that measures internal consistency. A high Cronbach's alpha value (usually above 0.7) indicates that the survey items used to measure service quality dimensions (tangibility, assurance, responsiveness, reliability, and empathy) are reliable and provide consistent results over multiple administrations. By confirming the reliability of the scales, the study ensures that the data collected are trustworthy and accurately reflect the constructs being measured.

Correlation analysis was performed to examine the relationships between the various dimensions of service quality and overall student satisfaction. Pearson's correlation coefficient was used to determine the strength and direction of these relationships. A positive correlation indicates that as the quality of a particular service dimension improves, overall student satisfaction also increases. This analysis helps identify which specific aspects of service quality have the strongest associations with student satisfaction, thereby highlighting key areas for improvement.

ANOVA (Analysis of Variance) regression tests were utilized to assess the significance of the relationships between the independent variables (the five dimensions of service quality) and the dependent variable (overall student satisfaction). The regression analysis helps in understanding how much variance in student satisfaction can be explained by each dimension of service quality. By using ANOVA, the study can determine whether the differences in student satisfaction levels are statistically significant across different levels of service quality. This test also helps in identifying the relative importance of each service quality dimension in predicting overall student satisfaction.

3.5 Steps in Data Analysis

Before conducting the analyses, the data underwent a meticulous preparation process. This involved cleaning the dataset by checking for and addressing missing values, identifying and managing outliers, and ensuring that the data met the necessary assumptions for statistical testing. These preparatory steps were crucial to ensure the accuracy and reliability of the subsequent analyses.

Initial descriptive statistics were generated to provide a summary overview of the data. This included calculating means, standard deviations, and frequencies for both the demographic

variables and the main constructs of interest. Descriptive statistics offered a foundational understanding of the data distribution and characteristics, setting the stage for more detailed analyses.

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The results from the reliability analysis showed high reliability coefficients across all dimensions, indicating that the measurement scales were consistent and dependable. This reliability is crucial for ensuring that the findings are based on stable and accurate measures.

In the correlation analysis, significant positive correlations were found between each of the service quality dimensions and overall student satisfaction. These positive correlations suggest that improvements in service quality are associated with higher levels of student satisfaction. Specifically, dimensions such as empathy and reliability showed particularly strong correlations with student satisfaction, highlighting their critical role in shaping students' overall experiences.

The ANOVA regression analysis provided deeper insights by revealing that certain dimensions of service quality had the most substantial impact on overall student satisfaction. The regression model indicated that empathy and reliability were particularly influential predictors of satisfaction. The ANOVA test confirmed that these relationships were statistically significant, validating the overall model used in the study. This significance implies that enhancements in these key areas can lead to notable improvements in student satisfaction.

By conducting these detailed analyses, the study provides robust evidence of the impact of service quality on student satisfaction within the context of higher education institutions administered by the forces. The insights gained from this analysis can guide university administrators in strategically enhancing service quality to improve student experiences and satisfaction. This comprehensive approach ensures that the study's conclusions are based on solid empirical evidence, supporting informed decision-making for educational institutions.

4. Findings and Discussion

Gender, age, semester and institution are considered as demographic indicators to help in this study. Out of the 301 respondents in this study, 205 (68%) are male students and the rest 96 (32%) are female students. The mean age as calculated of the respondents comes out to be approximately 21 years old with the majority of the students being 19 years old (23.6%). Majority of the students considered in this study were students of 4th semester (30.2%). Similarly, there were 6% students from 1st semester, 29.6% from 2nd semester, 12% from 3rd semester, and 22.3% were 5th semester and above.

Total Responses: 301

Variables	Frequency (n)	Percentage (%)
University		
NUST	50	16.6%
Bahria University	81	26.8%
Air University	98	32.6%
NDU	72	23.9%
Gender		
Male	205	68%
Female	96	32%
Age		
18	34	11.3%
19	71	23.6%
20	44	14.6%
21	42	14%
22	56	18.6%
23	27	9%
24	16	5.3%
25	3	1%
Above 25	8	2.7%

Mean Age = 20.74		
Semester		
1 st	18	6%
2 nd	89	29.6%
3 rd	36	12%
4 th	91	30.2%
5 th and above	67	22.3%

Variable Type	Variable Name	Short Name	No. of item	Actual Test (α)
Dependent Y	Student Satisfaction	STS	5	0.622
Service Quality				
X1	Tangibility	T	16	0.713
X2	Assurance	AS	6	0.706
X3	Reliability	REL	5	0.664
X4	Responsiveness	RES	4	0.667
X5	Empathy	EMP	3	0.749

These outcomes of the reliability tests suggest that most of the dimensions of the customer service quality i.e. tangibility, assurance, and empathy are valid and internally consistent. Their respective Cronbach's alpha values are above 0.70, i.e. 0.713, 0.706, and 0.749. This infers that these dimensions have been measured reliably. On the other hand, the dimensions of reliability and responsiveness have a slightly lower alpha value i.e. 0.664 and 0.667 respectively. This implies moderate internal consistency. Students' satisfaction also depicts a moderately reliable consistency within an alpha of 0.622. Although these are somewhat lower values, the overall reliability of the measures emboldens the hypothesis that customer service quality has a positive impact on students' satisfaction. Tho additional refinements in the items for reliability and responsiveness could improve the assessment. These results are found to be consistent with Fitri et al., 2008 and Ananda & Devesh, 2019.

	Correlations					
	T	AS	REL	RES	EMP	StS
T	1					
AS	.690**	1				
REL	.259**	.022	1			
RES	.542**	.617**	.068	1		
EMP	.143*	-.044	.559**	.065	1	
StS	.404**	.239**	.549**	.297**	.560**	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

This correlation test results infer that all aspects of service quality i.e. tangibility, assurance, reliability, responsiveness and empathy correlate positively with students' satisfaction. This affirms the hypothesis that customer service quality has a positive impact of the students' satisfaction. Precisely reliability with the value of 0.549 and empathy with a value of 0.560 demonstrate the strongest positive correlation with students' satisfaction. After these, tangibility with a value of 0.404 and responsiveness with a value of 0.297 are dimensions that correlate the most with the students' satisfaction, with assurance being smallest positive correlator with a value of 0.239. These results imply that enhancements in these service quality aspects are related with more satisfied students, with reliability and empathy specifically being of a higher influence.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695 ^a	.484	.475	2.67919

a. Predictors: (Constant), EMP, AS, REL, RES, T

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1983.491	5	396.698	55.265	.000 ^b
	Residual	2117.526	295	7.178		
	Total	4101.017	300			

a. Dependent Variable: StS

b. Predictors: (Constant), EMP, AS, REL, RES, T

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.548	.717		.764	.446
	T	.072	.026	.171	2.727	.007
	AS	.037	.047	.051	.779	.436
	REL	.283	.051	.289	5.527	.000
	RES	.150	.063	.129	2.373	.018
	EMP	.490	.068	.368	7.234	.000

a. Dependent Variable: StS

The regression analysis for this study infers that customer service quality considerably affects students' satisfaction with the model describing 48.4% of the variance with $R^2 = 0.484$. The coefficient of correlation R of 0.695 implies a cohesive positive relationship between the dimensions and students' satisfaction. Particularly tangibles (T) have a coefficient of 0.072 ($p = 0.007$), reliability (REL) has a coefficient of 0.283 ($p = 0.000$), responsiveness (RES) has a coefficient of 0.150 ($p = 0.018$) and empathy (EMP) has the highest coefficient of 0.490 ($p = 0.000$), all signifying positive effects on students' satisfaction. However, assurance (AS) has a positive coefficient of 0.037, it is statistically not significant ($p = 0.436$). The overall model is highly significant ($F = 55.265$, $p < 0.05$) affirming that betterments in tangibles, reliability, responsiveness and empathy are likely to enhance students' satisfaction, while assurance does not significantly play its part. This refers to the importance of these dimensions regarding customer service strategies to embolden students' satisfaction levels.

The first research question RQ1 infers to five service quality dimension, tangibility, responsiveness, reliability, assurance and empathy and overall service quality having a strong relationship with student's satisfaction. The findings of this paper are found to be consistent with the findings by Ananda & Devesh, 2019 and Setó-Pamies, 2012. An investigation of the effect of service quality on students' satisfaction in higher education institutions of the Pakistani province, Punjab, was conducted by Muhammed et al., 2011 which proved that the studied aspects i.e. tangibles, assurance, reliability and empathy to be found satisfactory among the students. Similar results were deduced in a study conducted in Bangladesh which comprised of 550 business students, which was also based on the SERVQUAL model with similar dimensions and results (Hossain et al., 2014).

5. Conclusion

The results of the study have distinctly revealed that service quality has a positively significant relationship with student satisfaction, which is in line with the already available literature. The existing literature suggests that the betterment in service quality potentially leads to improvement in students' satisfaction and should be prioritized by all the higher education institutions not only in Pakistan but all over the world. This is necessary in order for the higher education institutions to sustain their competitive advantage in the industry and garner interest from the students to study there.

The main objective of the study was to evaluate the interdependence service quality and students' satisfaction. In the higher education sector, particularly the institutions that are affiliated with the forces. The results of this study have reaffirmed the proposed hypothesis, the results have confirmed that the customer service quality has a definite impact on students' satisfaction, hence being a valid dimension of measurability of students' satisfaction. This paper also confirms that the SERVQUAL model is applicable to the higher education sector and can help to examine the impact of service quality on students' satisfaction with its five-dimensional approach based on aspects such as tangibles, reliability, responsiveness, assurance and empathy. This adds to the recurring debate on the scalability of the service quality. Most of the studies until now have stressed on the importance of focus on achieving customer satisfaction, in our study, we have motivated companies to make efforts in improving conditions that could result in higher level of students' satisfaction. Some studies (Ananda & Devesh, 2019) have suggested satisfaction to be a necessary dimension in order to obtain customer loyalty. The ramification of our research also expands to managerial implications. It is necessary for the educational institutions to cater to students' needs in order to retain students, be competitive and sustain their competitive advantage in the industry. The institutions should work emphatically towards optimization of every aspect that affects customer satisfaction; they have to make their customers believe that every aspect of their satisfaction is being dealt with optimally. It should always be considered that a student when taking admission into a higher education institute expects for his/her rational along with emotional needs to be met effectively. The higher education institutions should make adequate efforts to optimize their consultative functions looking towards a higher degree of interaction with the students and providing a highly specialized service.

The comprehensive analysis of the data, including regression, correlation, and reliability tests, provides substantial evidence that customer service quality significantly impacts student

satisfaction. This evaluation synthesizes the findings from these different statistical analyses to draw a holistic understanding of the factors influencing student satisfaction and the robustness of the measures used.

The comprehensive analysis of the data, encompassing regression, correlation, and reliability tests, provides substantial evidence that customer service quality significantly impacts student satisfaction. By leveraging regression analysis, we can quantify the relationship between customer service quality and student satisfaction, determining the extent to which variations in service quality predict changes in satisfaction levels. The positive correlation found between these variables further supports this relationship, indicating that improvements in customer service are associated with increased student satisfaction.

Additionally, reliability tests, such as Cronbach's alpha, were conducted to ensure the consistency and dependability of the measurement instruments used. These tests confirm that the data collected are reliable and that the instruments used to gauge customer service quality and student satisfaction are stable and produce consistent results over time.

This evaluation synthesizes the findings from these different statistical analyses to draw a holistic understanding of the factors influencing student satisfaction and the robustness of the measures used. The combined use of regression, correlation, and reliability tests not only highlights the significant impact of customer service quality on student satisfaction but also validates the strength and consistency of the data collection and analysis methods. Consequently, the evidence presented offers a compelling argument for institutions to prioritize and enhance customer service quality as a means to improve overall student satisfaction.

The regression analysis is a critical component of this study, revealing that customer service quality explains a significant portion of the variance in student satisfaction ($R^2 = 0.484$). This indicates that 48.4% of the changes in student satisfaction can be attributed to the variables representing customer service quality, highlighting the substantial impact of these factors.

The correlation coefficient (R) of 0.695 suggests a strong positive relationship between the predictors (Tangibles, Reliability, Responsiveness, Assurance, Empathy) and student satisfaction. This strength of association underscores the relevance of the SERVQUAL dimensions in understanding student satisfaction. Specifically, Tangibles (T) have a coefficient of 0.072 ($p = 0.007$), indicating that tangible aspects of service, such as physical facilities and equipment, have a statistically significant positive effect on student satisfaction. Reliability (REL), with a coefficient of 0.283 ($p = 0.000$), is a strong predictor, showing that consistent and dependable service is crucial for student satisfaction. Responsiveness (RES) has a coefficient of 0.150 ($p = 0.018$), also significantly contributing to student satisfaction by ensuring prompt and helpful responses to student needs. Empathy (EMP) stands out with the highest coefficient of 0.490 ($p = 0.000$), indicating that understanding and caring for students' individual needs are highly influential on their satisfaction. Although Assurance (AS) has a positive coefficient of 0.037, it is not statistically significant ($p = 0.436$), suggesting that the perceived competence and courtesy of staff, while important, may not be a primary driver of student satisfaction in this context.

The overall model is highly significant ($F = 55.265, p < 0.05$), confirming that the combined effect of these dimensions is substantial. The strong significance and positive coefficients for most predictors validate the hypothesis that improvements in Tangibles, Reliability, Responsiveness, and Empathy are likely to enhance student satisfaction.

The correlation analysis further supports the regression findings by demonstrating positive relationships between all dimensions of service quality and student satisfaction. This analysis provides insight into the relative strength of these relationships. Reliability (0.549) and Empathy (0.560) exhibit the strongest correlations with student satisfaction, indicating that students place high value on consistent, dependable service and personalized, empathetic interactions. Tangibility (0.404) and Responsiveness (0.297), while also showing positive correlations, are less critical than reliability and empathy but still important. Assurance (0.239) shows the smallest positive correlation, aligning with the regression analysis results and indicating it is the least influential of the dimensions studied. The positive correlations across all dimensions reaffirm that improvements in these areas are associated with higher student satisfaction, with reliability and empathy being particularly influential.

The reliability analysis, measured using Cronbach's alpha, assesses the internal consistency of the constructs used to measure customer service quality and student satisfaction. Tangibility, Assurance, and Empathy have Cronbach's alpha values above 0.70, suggesting these constructs are measured reliably. This indicates reliable measurement of the physical aspects of service, staff competence and courtesy, and personalized, caring service, respectively.

Reliability and Responsiveness have slightly lower alpha values (0.664 and 0.667, respectively), indicating moderate internal consistency. While Reliability is a strong predictor, the measurement items for this dimension may need refinement to enhance consistency. Similarly, the items measuring Responsiveness could be refined for better reliability. Student satisfaction shows a moderate reliability with an alpha of 0.622, indicating that while the measure is generally consistent, there is room for improvement in the items used to assess overall satisfaction.

Despite the slightly lower reliability values for some constructs, the overall reliability supports the hypothesis that customer service quality positively impacts student satisfaction. Further refinement of the items measuring Reliability and Responsiveness could enhance the robustness of these constructs.

Combining these results, it is clear that customer service quality is a significant determinant of student satisfaction. The regression analysis demonstrates that key dimensions of the SERVQUAL model—Tangibility, Reliability, Responsiveness, and Empathy—significantly contribute to student satisfaction, with Empathy being the most influential. The correlation analysis corroborates these findings, particularly highlighting the strong positive relationships between Reliability, Empathy, and student satisfaction.

The reliability test results affirm that most constructs are measured with good internal consistency, though there is a need for refinement in measuring Reliability and Responsiveness. This suggests that while the current measures are valid, improving their reliability could lead to even more robust findings.

Universities should prioritize enhancing Empathy and Reliability in their customer service strategies, as these dimensions have the most significant impact on student satisfaction. Improvement in Tangibility and Responsiveness: Continued efforts to improve the physical aspects of service and Responsiveness will also contribute positively to student satisfaction. Refinement of Measurement Tools: Refining the measurement items for Reliability, Responsiveness, and overall satisfaction can improve the accuracy and consistency of these constructs. Training and Development: Staff training programs should emphasize the importance of empathetic interactions and consistent service delivery to boost student satisfaction. Technology Integration: Incorporating technology to streamline processes and enhance Responsiveness can further improve student experiences.

In addition to prioritizing Empathy and Reliability, universities should continue their efforts to improve Tangibility and Responsiveness. Tangibility refers to the physical aspects of service, such as facilities, equipment, and the appearance of staff. Enhancing these tangible elements can create a more inviting and professional atmosphere that positively influences student perceptions. Responsiveness, the promptness and willingness to help students, is crucial in addressing issues and providing timely assistance. Improving responsiveness can significantly enhance the overall student experience by ensuring that students' concerns are addressed swiftly and effectively.

Refining measurement tools is another critical aspect that universities need to focus on. By refining the measurement items for Reliability, Responsiveness, and overall satisfaction, institutions can improve the accuracy and consistency of these constructs. This refinement involves developing precise and comprehensive survey items that capture the nuances of each dimension, allowing for more reliable data collection and analysis. Accurate measurement tools enable universities to better understand and address the specific factors that influence student satisfaction.

Staff training and development programs play a vital role in enhancing customer service quality. Universities should implement training programs that emphasize the importance of empathetic interactions and consistent service delivery. These programs can include workshops, seminars, and role-playing exercises to help staff develop the necessary skills and attitudes to engage with students empathetically and reliably. Continuous professional development ensures that staff members are equipped to provide high-quality service consistently, which in turn boosts student satisfaction.

Incorporating technology into customer service strategies can also significantly improve student experiences. Technology can streamline processes, making them more efficient and reducing wait times. For example, universities can implement online portals for service requests, automated response systems, and real-time chat support to enhance responsiveness. Technology can also facilitate better communication between students and staff, providing a platform for quick and easy resolution of issues. By leveraging technological advancements, universities can create a more responsive and convenient service environment that meets the expectations of tech-savvy students.

In summary, by prioritizing Empathy and Reliability, continuing to improve Tangibility and Responsiveness, refining measurement tools, emphasizing staff training and development, and integrating technology, universities can significantly enhance their customer service strategies.

These improvements will lead to higher levels of student satisfaction, fostering a positive and supportive educational environment that benefits both students and the institution as a whole.

5.2 Future Research Objectives, Limitations and Recommendations

Competitiveness of a service-based organization is highly dependent on customer satisfaction, hence overlooking this aspect of the service design may sabotage the competitiveness of any particular organization, service quality has been widely regarded as a significant dimension of satisfaction. Moreover, a deep critical focus on the dimensions of service quality can lead to an institution's way to a better satisfactory assessment. This study in the context of respondents is limited to only four higher educational institutions of Pakistan, Pakistan hosts a vast array of higher education institutions which in future can be considered as marginal contributors to a similar type of study. In the future, a comparative study can also be conducted which takes into account the differences that might be present between public sector institutions, private sector institutions or forces administered institutions, etc. in Pakistan. For future studies, an emphatic data collection campaign should be conducted as in terms of this research, reluctance by the students to provide essential information, to fill out surveys has been faced.

Future research could benefit from conducting longitudinal studies to understand how changes in customer service quality over time impact student satisfaction. By tracking student satisfaction and service quality metrics over multiple semesters or academic years, researchers can observe trends and long-term effects of service improvements or declines. This dynamic approach would offer a comprehensive view of how consistent efforts in improving service quality contribute to sustained student satisfaction, highlighting the importance of continuous evaluation and adaptation of customer service practices.

Another valuable direction for future research is to conduct comparative studies across different types of universities, such as public versus private or large versus small institutions. Expanding the study beyond the four major forces-administered universities to include a diverse range of institutions can provide insights into unique factors that contribute to student satisfaction in varying contexts. By identifying these differences, universities can tailor their customer service strategies to better meet the specific needs of their student populations, enhancing overall satisfaction and engagement.

Exploring the impact of digital customer service platforms and tools on student satisfaction represents a significant area for future study. As universities increasingly integrate technology into their operations, assessing the role of digital tools such as online help desks, mobile apps, and social media engagement becomes crucial. Understanding how these tools enhance or detract from service quality can guide institutions in effectively incorporating technology to improve student experiences, ensuring that digital innovations are aligned with the goal of fostering student satisfaction.

Future research should also consider the influence of cultural and demographic differences on perceptions of customer service quality and student satisfaction. By conducting surveys and focus groups with students from diverse cultural and demographic backgrounds, researchers can uncover

how these factors affect satisfaction levels. This understanding can help universities develop more inclusive and culturally sensitive customer service practices, ensuring that all student groups feel valued and supported, ultimately leading to higher overall satisfaction.

Investigating the correlation between perceived service quality and academic performance or student retention rates is another promising area for future research. By analyzing academic records and retention statistics alongside service quality survey data, researchers can explore how improvements in customer service contribute to better academic outcomes. Demonstrating a link between service quality and academic performance can underscore the importance of investing in high-quality customer service, providing a compelling case for universities to prioritize these efforts.

Delving deeper into specific dimensions of the SERVQUAL model, such as reliability and responsiveness, can provide detailed insights into their unique impacts on student satisfaction. Future research could focus on conducting in-depth analyses of individual dimensions using mixed-method approaches, combining quantitative surveys with qualitative interviews. This detailed examination can help universities prioritize areas for improvement and allocate resources effectively, ensuring that efforts are focused on the dimensions that most significantly enhance student satisfaction.

Assessing the impact of faculty and administrative staff interactions on student satisfaction is another important area for future research. Including measures of faculty and staff service quality in satisfaction surveys can reveal their specific contributions to overall satisfaction. Highlighting the importance of faculty and administrative staff interactions can lead to targeted training and development programs aimed at enhancing their service delivery, fostering a more supportive and satisfying environment for students.

Studying how the physical campus environment and learning resources contribute to perceptions of service quality and satisfaction is essential for future research. By including questions related to campus facilities, library services, and learning resources in satisfaction surveys, researchers can gain insights into how these elements impact student experiences. This information can guide universities in making informed infrastructure and resource investment decisions, creating a more supportive and satisfying environment that enhances student satisfaction and overall academic success.

Future research could examine how different communication channels, such as email, in-person interactions, phone calls, and social media, affect student satisfaction with customer service. By analyzing the effectiveness of these various communication methods through surveys and student feedback, universities can determine which channels are most preferred and effective. This understanding can help streamline communication strategies, ensuring that they align with student preferences and enhance overall satisfaction.

Exploring the role of extracurricular services, including clubs, sports, and counseling, on student satisfaction is another valuable research direction. Surveys and focus groups can be used to gather student opinions on these services. Insights into how extracurricular activities contribute to overall

satisfaction can guide universities in enhancing the holistic student experience, ensuring that non-academic aspects of university life are well-supported and enriching.

Future studies could also examine how students' perceptions of administrative efficiency impact their satisfaction. Detailed surveys can assess student views on various administrative processes, such as registration, financial aid, and academic advising. Identifying bottlenecks and areas for improvement in these processes can help universities streamline their administrative services, leading to more efficient and satisfying student experiences.

Evaluating the impact of peer support services, such as mentoring programs, on student satisfaction offers another research opportunity. By surveying students who participate in these programs and comparing their satisfaction levels to those who do not, universities can gain insights into the value of peer support. Understanding the benefits of these programs can guide the development and expansion of mentoring initiatives, ultimately enhancing student satisfaction.

Future research could focus on determining the impact of staff training programs on customer service quality and student satisfaction. Implementing and evaluating targeted training programs, followed by satisfaction surveys and performance assessments, can demonstrate the effectiveness of professional development. This can justify investments in training and lead to improved service quality, fostering a more supportive environment for students.

Investigating how the implementation of student feedback systems affects customer service quality and satisfaction is another important research area. By comparing satisfaction levels before and after introducing robust feedback mechanisms, such as suggestion boxes, online surveys, and focus groups, universities can understand the impact of these systems. Effective feedback systems can help universities develop responsive and adaptive service strategies, leading to improved student satisfaction.

Exploring how social integration within the campus community affects student satisfaction with customer service is a valuable research direction. Conducting surveys and interviews to assess students' sense of belonging and its correlation with satisfaction levels can provide insights into the importance of social integration. These findings can help universities foster a more inclusive and connected campus environment, enhancing overall student satisfaction.

Assessing how effective crisis management and communication during emergencies, such as pandemics or natural disasters, influence student satisfaction is another critical area for future research. Analyzing responses to crises through student surveys and case studies can provide valuable insights. Understanding the importance of effective crisis management can guide universities in developing robust plans to maintain high service quality during challenging times, ensuring continued student satisfaction.

Future studies could examine how personalized services, such as tailored academic advising and individualized support, impact student satisfaction. Conducting surveys and case studies on the implementation of personalized services can provide insights into their benefits. Understanding the value of personalized approaches can help universities enhance their service offerings to better meet individual student needs, leading to higher satisfaction levels.

Research could also focus on how the accessibility of customer services, including the availability of help desks and online resources, affects student satisfaction. Surveys assessing student perceptions of service accessibility can reveal its impact on overall satisfaction. Identifying and addressing accessibility issues can ensure that all students can easily obtain the support they need, improving satisfaction levels and enhancing the overall university experience.

While the study on the impact of customer service quality on overall student satisfaction in the four major forces-administered universities (NUST, BU, AU, NDU) provides significant insights, it also exhibits several limitations that need to be considered.

The study bases its results on 301 responses. While this sample size is sufficient for many types of statistical analysis, it may not be large enough to fully represent the entire student population of the four universities. The limited sample size can affect the generalizability of the findings to all students within these institutions. Additionally, the representativeness of the sample is not discussed, which could further limit the ability to generalize the results to broader populations or other universities.

The study uses a cross-sectional design, which captures data at a single point in time. This design limits the ability to establish causality between customer service quality and student satisfaction. Longitudinal studies, which collect data over time, would provide more robust evidence of the causal relationship between these variables.

The study relies on self-reported data from students, which can be subject to biases such as social desirability bias and recall bias. Students may have provided responses they believe are expected or may not accurately recall their experiences, leading to potential inaccuracies in the data.

The reliability test results indicate that the constructs of reliability and responsiveness have Cronbach's alpha values of 0.664 and 0.667, respectively, which are slightly below the commonly accepted threshold of 0.70 for good internal consistency. The student satisfaction construct also shows a moderate reliability with an alpha of 0.622. These lower reliability values suggest that the measurement items for these constructs may need further refinement to improve their accuracy and consistency.

The study focuses on the five dimensions of the SERVQUAL model but may overlook other factors that can influence student satisfaction, such as academic quality, extracurricular activities, campus environment, and peer relationships. Including a broader range of variables could provide a more comprehensive understanding of the determinants of student satisfaction.

The study is confined to four forces-administered universities in a specific geographical and institutional context. Cultural, administrative, and policy differences between these institutions and other universities may limit the applicability of the findings to other settings. The unique characteristics of forces-administered universities may not reflect the experiences of students in civilian universities.

While the dimension of assurance showed a positive coefficient, it was not statistically significant ($p = 0.436$). This suggests that assurance may not have a substantial impact on student satisfaction in this context. Further research could explore why assurance is less influential and whether this finding holds in other contexts or with different populations.

The study heavily relies on quantitative data and statistical analysis, which may not capture the full depth of students' experiences and perceptions. Incorporating qualitative methods, such as interviews or focus groups, could provide richer insights into the nuances of customer service quality and student satisfaction.

While the study provides valuable insights into the relationship between customer service quality and student satisfaction, these limitations highlight the need for caution when interpreting the results. Addressing these limitations in future research could enhance the robustness and applicability of the findings, providing a more comprehensive understanding of the factors influencing student satisfaction in higher education institutions.

Questionnaire

Tangibility

1. The appearance of the lecturers is bearable
2. The layout of classrooms is welcoming
3. The lighting in the classroom is adequate
4. The appearance of the grounds and the buildings is attractive
5. The overall cleanliness is plentiful
6. The classrooms and study areas are adequately comfortable
7. The decoration and atmosphere is welcoming
8. The appearance of personnel is bearable
9. The availability of parking is ample
10. The curriculum is up to date
11. The number of courses offered are adequate
12. The computers provided in the lab are adequate
13. The computers are up to date
14. The software used in computers are up to date
15. There is an easy access to internet and email
16. The organizational culture, beliefs and values are aligned in the university

Assurance

1. The university staff is friendly and courteous
2. The lecturers are efficient and productive in their research
3. The lecturers are innovative and agents of change
4. The university involves itself in major capacity with the community
5. The university staff has adequate knowledge on the rules and procedures of the university
6. The communication skills courses are well taught by the lecturer in the university

Reliability

1. The registration is timely and error-free
2. The university keeps its records accurately
3. The staff shows sincere interest in solving students' problems
4. The university provides its services at the time it promises to do so
5. The lecturers show sincere interest in solving students' problems

Responsiveness

1. The lecturers are adequately available to assist you
2. The lecturers are adequately capable of solving problems when they arise
3. I seldom get a run around when seeking information in this university
4. The staff is adequately capable of assisting you

Empathy

1. The access to computer facilities is accommodated with students' convenience
2. The staff is willing to give students individual attention
3. The opening hours to the computer rooms to the students are adequately convenient

Student Satisfaction

1. I am satisfied with my choice to attend this university
2. My choice to enroll in this university is a wise one
3. I am happy on my decision to enroll in this university
4. I made the right decision when I decided to enroll in this university
5. I am happy that I enrolled in this university

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