



From Service Quality to Brand Loyalty: The Mediating Effect of Student Satisfaction in Public Sector Universities

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ABSTRACT

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Consumers and brands are crucial concepts and compelling research areas in brand management. A decade ago, researchers have noted that the brand equity's concept is less explored in the education sector. Education system is too vital industries that are playing a major role in the society and growth of nation, thus highlighting its importance. Corporate industries prioritize customer satisfaction and loyalty, and some studies suggest that students should be considered customers. Consequently, universities need to enhance their understanding of brand equity-related concepts such as brand strength, brand image, and service quality. Providing high levels of service quality and cultivating a strong brand image leads to loyal customers. This study examines the mediating effect of student satisfaction on the relationships between brand strength, brand image, service quality, and loyalty. Using convenience sampling, we distributed 600 questionnaires to respondents from public sector universities in Pakistan. Service quality is identified as a multidimensional construct comprising interactional quality, outcome quality, and physical environment quality. These types are positively and significantly related to student loyalty. The study reveals that brand image and service quality show full mediation, while brand strength shows partial mediation. The results indicate that universities with a better understanding of their students, and those that share their plans and information effectively have more satisfied students. The findings regarding brand image suggest that universities should have a clear and definite vision to satisfy their students. Additionally, satisfied students feel honored to study at these institutions. Regarding service quality, the study suggests that universities with courteous, sympathetic, reassuring, and job-oriented administrative staff have more satisfied students. The perceived quality of the environment indicates that poor physical layouts, inadequate computer lab equipment, and insufficient campus facilities lead to student dissatisfaction. Furthermore, the results provide insights that can help university administrations develop strategies to enhance student satisfaction and retention. Current research paper contributes to the knowing of how universities can build and maintain brand loyalty by paying attention on mediating role of student's satisfaction.

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1. Introduction

Over the past three decades, the topic of brand equity has become increasingly prominent among researchers in the corporate sector. Consumers and brands are essential terms and captivating research areas in brand management, and discussions about brand management often lead to discussions about brand equity. Brand equity may be viewed from two viewpoints: accounting and marketing. In marketing literature, the most simplified and approachable definition of brand equity is presented by Feldwick, who asserts that brand equity consists of three aspects: brand strength, image of brand, and brand valuation (Feldwick, 1996). Brand Strength denotes to the total consumer attachment to the brand, while brand valuation represents the total financial value of a brand. Finally, brand image describes consumer beliefs and associations about the brand. Studies by Aaker and Keller have concluded that these three components are interrelated; for example, brand value is impacted by brand image on brand strength. Branding literature highlights the strategic significance of brand strength in Using brand management as a way to diagnose brand equity (Aaker, 1992; Keller, 1993). Attachment to a brand aids in measuring various aspects such as buying intentions, definite buying behavior, repurchase intentions, and brand choice (Hellier, Geursen, Carr, & Rickard, 2003; Priester, Nayakankuppam, Fleming, & Godek, 2004; Suh & Youjiae, 2006). However, aspects like satisfaction of consumers, quality of service, and loyalty of consumer are rarely addressed in the literature of the education sector. Furthermore, brand image in brand equity also plays a major part in measuring customer satisfaction. Marketing researchers suggest that brands with higher equity have strong associations (brand image) with customers, while the opposite holds true for brands with low associations (Krishnan, 1996). Moreover, the higher equity and premium prices of brands depend on brand associations (Faircloth, Capella, & Alford, 2001). Some theories suggest that individuals sometimes make choices based on perception or attitude rather than product quality or features, which contributes to the overall image of products and services (Aghaz, Hashemi, & Sharifi Atashgah, 2015). However, this aspect of brand equity lacks literature concerning brand satisfaction and loyalty.

Although there has been extensive investigation on brand equity in corporate branding, the educational sector has received comparatively less attention in this area. Around one and a half decades ago, there was limited examination on brand equity in the education sector, with researchers focusing on topics such as employee satisfaction, assessment review, distance education, and examination procedures. However, at the beginning of the twenty-first century, the globalization of businesses began to have a greater impact on higher education. Education started to be viewed as a service that could also be marketed. Consequently, researchers began to focus on measuring customer satisfaction and exploring perceptions such as service quality, university image, and brand equity in service organizations (Melewar & Akel, 2005). These shifts in the research focus of the education sector prompted universities to recognize the importance of branding and to adopt marketing strategies accordingly. The discussions above highlights that both brand strength and brand image have been relatively understudied in the literature concerning customer satisfaction and loyalty. In the early stages, researchers primarily concentrated on managing non product and product related attributes and attitudes, as well as exploring the benefits enjoyed by a brand when consumers develop attachments to it (Keller, 1993). Over time, researchers began to examine the attributes of brand equity individually and their connections with concepts like employee satisfaction, while also considering consumer attachments to companies (Rindell & Strandvik, 2010). More recently, however, there has been a shift towards exploring brand strength by analyzing customer relationships with businesses throughout time, going beyond marketing initiatives. While some researchers have addressed this concept in the education sector, there remains a need for further exploration (Casidy & Wymer, 2015).

A model of perceived quality of service was established by Grönroos (1984), who states that quality of service is determined by comparing perceived and expected services. This model also introduced technical and functional quality dimensions. However, this model was deemed insufficient for fully understanding the concept of service quality. Subsequently, Anantharathan Parasuraman, Zeithaml, and Berry (1985) introduced the SERVQUAL model to measure service quality, which has been extensively utilized for this purpose. Despite its widespread use, Some of the SERVQUAL, model's shortcomings have drawn criticism, especially in the context of present study (Anantharathan Parasuraman et al., 1985). In response to these limitations, the Service Environment Hierarchical Multi-level model was

adopted to measure the service quality construct. This model, conceptualized by Dabholkar, Thorpe, and Rentz (1996), consists of multiple stages and encompasses various facets and types of quality of service, thereby addressing the complexities of the concept. Customer satisfaction is demonstrated empirically before service excellence (Cronin Jr & Taylor, 1992). Additionally, Sureshchandar, Rajendran, and Anantharaman (2002) determined as the only factor that customer satisfaction depends on the quality of service. While service quality has traditionally been measured in the advanced schooling segment from the perspective of teachers (e.g., Student Evaluation of Teaching Effectiveness), it is now considered a rational decision to measure student satisfaction through the lens of the quality of service construct in the higher system of education.

Satisfaction is a focal concept in marketing research, serving as a metric to gauge the overall effective response to a university. It can be measured through two dimensions: attitudinal and process. The present research treats satisfaction as a distinct element from displeasure, as established by previous research, and is measured using a unipolar scale. Loyalty refers to the overall devotion of students to their university and is defined as the extent to which a person or organization believes committed to the brand. Initially, brand loyalty was primarily measured in the context of tangible goods. However, the concept of vendor loyalty spurred researchers to expand this construct. In 1971, Jacoby introduced the concept of brand loyalty in a different manner, combining the two elements of attitude and behavior in loyalty. In light of additional factors and for the objectives of this investigation, we focus solely on the dimension of attitudinal loyalty, that might be assessed employing several measures or just one scale. This research aim is to establish an extensive theoretical framework for analyzing the impacts of the strength of a brand, brand image, and perceived quality on student satisfaction and loyalty. Specifically, the study aims to establish a strong theoretical discussion on Ideas of branding in the light of college and university. There are three major objectives of the study. Firstly, to establish a valid construct for measuring the two main dimensions of brand equity (brand strength and brand image), which have been relatively under-researched together in a single study, especially in the light the sector of higher education. Secondly, to assess the impact of brand strength, brand image, and service quality on customer satisfaction, and subsequently, on brand loyalty. Lastly, the study aims to contribute to the limited research on university branding by fostering an understanding of branding in the higher education sector.

2. Review of Literature

2.1. Brand Loyalty

Loyalty is a longstanding concept in marketing literature, initially focused primarily on brand loyalty in the context of tangible goods. However, there has been relatively less research on loyalty in the service sector. Over time, the introduction of the concept of vendor loyalty by Foci (Caruana, 2002) expanded the perspective of marketing, attracting researchers' attention to the broader concept of loyalty. An examination of early literature reveals a focus on behavioral loyalty. Jacoby (1971), further confirmed this concept, arguing that researchers in that era tended to overlook other characteristics of loyalty. Behavioral loyalty encompasses three aspects: the sequence of purchases, the percentage of sales dedicated to a specific brand and the likelihood of making additional buying decisions (Brown, 1953; Cunningham, 1956; Frank, 1962; Lawrence, 1969; Maffei, 1960). In 1969, Day concluded that loyalty entails more than just the repeated purchase of the same brand. Building on Day's theory, Jacoby (1971) introduced the concept of brand loyalty, It encompasses loyalty in both behaviour and attitude. Behavioral loyalty refers to the proportion of purchases made of a single brand, while attitudinal loyalty can be measured using a single scale or multiple scales (Selin, Howard, Udd, & Cable, 1988).

Jacoby and Chestnut (1978), further delineated the definition of loyalty into five components, describing it as biased, a behavioral response stated over time, impacted by a unit that makes decisions and a result of mental processes. Significant contributions to loyalty constructs were made in the late 1970s and early 1980s (Goldberg, 1982; Lutz & Winn, 1974; Snyder, 1986) Lutz & Winn, 1974; Snyder, 1986). In 1994, Dick and Basu conceptual structure based on attitudes that proposed loyalty should encompass both attitudinal and behavioral aspects. Another noteworthy contribution to loyalty constructs came from Gremler and Brown (1996). They extended the idea of loyalty to include intangible products and introduced a new type of loyalty called cognitive loyalty. Cognitive loyalty refers to the brand that comes to a

customer's mind first when they consider rendering a service or purchasing a product (Bellenger, Steinberg, & Stanton, 1976). Some researchers describe cognitive loyalty as the client's top choice from the available options. Based on the above discussion, service loyalty can be described as the point at that a customer consents to use the provider of services again, expressing a positive attitude towards the service provider and intending to purchase only that service when the need arises. The literature underscores the importance of service loyalty in the service sector (Gremler & Brown, 1996) and emphasizes the need to define loyalty constructs in various service sectors as comprehensively as they are discussed in product manufacturing fields.

2.2. Customer Satisfaction

According to Tse and Wilton (1988) satisfaction is the reaction of the customer to the assessment of the perceived disparity between the good's actual effectiveness as perceived after consumption and their previous hopes (or some other efficiency benchmark). This definition is based on the disconfirmation paradigm, which numerous researchers have utilized to explain satisfaction, emphasizing its relationship to the extent and orientation of the sense of dissatisfaction (Oliver, 1981). Four components make up the reconfirmation model: expectations, achievement, fulfillment, and rejection. Expectations represent consumers' pre-utilization perceptions about a product or service, while Performance reflects their assessment of its actual performance. The difference between previous projections and actual outcomes is referred to as a bias of confirmation. However, satisfaction indicates how the consumer weighs the deal's cost and benefit in respect to expected outcomes after purchasing and using the product (Oliver, 1993). The degree of disconfirmation determines the degree of consumer happiness. These fall into three categories: confirmation, negative disconfirmation, and positive disconfirmation. Positive disconfirmation happens when the product or service performs as expected, exceeds customers' expectations, while Confirmation indicates that customer expectations align with the performance of goods/services, resulting in a neutral response. Negative disconfirmation occurs when customer expectations are high, but the performance of the product/service is poor. Satisfaction, when linked with experience, leads to customer loyalty. It is a crucial construct for marketers as it encourages loyalty in the end as well as buyback intents and favorable referrals from friends (Casidy & Wymer, 2015). Brand satisfaction is particularly influential in fostering loyalty. Caruana asserted that satisfaction significantly impacts loyalty (Caruana, 2002). Similarly, Selnes (1993) concluded that Brand satisfaction encourages brand loyalty among consumers. Dick and Basu (1994) also agreed with Selnes. Empirically, loyal customers are less likely to switch to another brand due to their high satisfaction levels (Taylor, Celuch, & Goodwin, 2004).

2.3. Brand Strength

In research on marketing, the strength of the brand is a widely recognized notion, comprising three main components: brand valuation, brand image, and brand attachment. Brand valuation represents the total financial worth of the brand as a resource for businesses, while brand image reflects consumer beliefs and associations with the brand. Brand strength, on the other hand, pertains to the level of brand loyalty among consumers. Within brand strength, three dimensions are typically considered: "brand remarkability, brand familiarity and brand attitude". Brand familiarity mentions to the extent of customers' knowledge about the brand, with well-known brands often perceived as stronger (Napoli). Brand remarkability measures the extent to which a brand is perceived by customers as exceptional or outstanding, particularly when compared to other brands. Strong brands are often distinguished by their remarkable qualities. Brand attitude assesses the favorability of customers' perceptions toward the brand, indicating their positive disposition towards it. Favorable brand attitudes are crucial for conceptualizing brand strength. Ha and Perks (2005) highlight that within the framework of their research, the knowledge of students have with the university serves as a basis for their evaluation. Earlier investigations show how customers connect with a brand affects their views, sentiments, and degree of satisfaction. Additionally, interactions with members of the brand or university community, among other factors, also impact satisfaction. Ha found that brand familiarity positively influences satisfaction. He suggests that sufficient search information and positive brand experiences affect brand familiarity and then it leads to satisfaction. Past researchers also found that universities with high profile have less rate of withdrawal that states the reputation of university. Bennett (2003), supports this argument, stating that university reputation affects student satisfaction. Additionally, Brakus et. al. concluded that a

prerequisite for contentment is a university education. Casidy and Wymer (2015), states that brand attitude has a significant effect on satisfaction. However, this literature shows that brand strength collectively and its determinants individually have an impact on satisfaction.

2.5. Service Quality

Service quality is essentially a contrast between consumer expectations about a quality of service and their perception of how a service is served. Studies argue that offering high-quality products leads organizations towards competitive advantages, which is a main pillar of organizational success. The service sector has expanded extensively during the past four decades, encouraging scholars to concentrate on challenges related to quality of service and consumer happiness in the services industry. Services possess distinctive attributes such as, heterogeneity, inseparability, perishability, lack of ownership, and intangibility. As a result, identifying and quantifying service quality and client satisfaction present difficulties for academics. In early stages, scholars primarily looked at the sector that manufactures physical commodities. Professionals believe that only difference between goods and services is tangibility and intangibility, so, that they use same marketing tools for services and goods. The strategies for goods cannot be treated for services, both are the different things, therefore, strategies for both should be different.

Due to above arguments, early studies of services marketing started to focus that services and goods are two different terms. Clemes, Mollenkopf, and Burn (2000) claims there are five unique attributes that differentiate products and services Inseparability, Intangibility, Heterogeneity, Parishability and lake of ownership. Previous literature shows that quality products make customers delight and give a competitive advantage to organization. Literature proves that services sector shows their interest in quality management after sixty years approximately, so, that the literature of good quality has combined in that study to check the satisfaction and loyalty relationship. Traditional definition of quality is "conformance of specifications" but quality in goods and services sector is entirely different. In goods sector, research depends upon measuring the cost of quality and basically technology driven and product oriented. This perspective of quality is called objective quality. However, most of the researchers conclude that objective quality only confirmed to manufactures' specifications instead of customers specifications. Customers' specification are also important, manufactures will be suffered if they did not focus on quality perceived by customer. This research introduced service quality should be viewed in subjective nature and called perceived service quality in service sector. Measurement of services should be based of experiences not on engineering terms. Some researchers suggest that customers' comments about services are different at different times. Therefore, these can be measure at that time when rendered. Furthermore, quality of service involves both process of delivery of service as well as outcome of service. But this complexity in service quality concept makes the most debated concept in service marketing. Researchers start focus on the concept and give different models to measure that concept easily because consumers find it harder to evaluate the standard of services than the quality of products.

First model that is introduced by Grönroos (1984) named as perceive service quality model. This model is defined as quality of service is comparison of predictable service and perceived service (experience with services). Dimensions of perceived service quality: technical quality as well as functional quality. Another model is SERVQUAL model that is represented by Anantharanthan Parasuraman et al. (1985). This model is little bit difference from Gronroos model. According to him, there is a difference between expected service and perceive service, smaller the gap results more perceived service quality. He ignores the technical and functional dimensions and claimed that the five aspects of service quality are assurance, responsiveness, empathy, reliability, and tangibility. Third model is three component models that is represented by Rust and Oliver (1994). They criticize the Gronos model and suggest that there is another important dimension of service quality that is service environment. Literature shows forth model to measure the quality of service is retail environment multi-level model. They criticize the SERVQUAL model and argued that this model is not fit for retail environment. Their models consist on multi stages and complicated various facts and elements of quality of service. The maximum order reflects the general opinion of clients regarding the caliber of services and another two measures fives dimensions of quality and sub dimensions respectively. The ultimate quality of service measurement approach is put forward by Brady, Cronin Jr, and Brand (2002). They appreciate Daholkar model and conclude that this model is not only fit for

retail service environment, it can be applied in generic service sector. They investigate the model and improve it for make it more applicable to general services. They mixed the concept of Rust and Oliver (1993) in their model. Initially, the framework illustrates the three primary aspects of quality of service known as Quality of interaction, quality of outcome, and quality of physical environment.

SERVQUAL framework is extensively utilized to examine the quality of service but these are some issues raised in SERVQUAL model; researchers raised some questions on its validity and reliability and divide it into theoretical and operational issues. So, that Cronin Jr and Taylor (1992) introduced SERPREF instruments instead of SERVQUAL instruments to measure service quality. He suggests that SERVQUAL follows disconfirmation paradigm where SERPREF utilize an attitudinal paradigm. As a result, researchers conclude their point that providing excellent service is a strategy for the future and recommend against adding a demand element to the assessment. Thus, the present study quantifies the customer's opinion of a company's achievements using a quality-of-service performance-based construct. Marketers often use both terms service quality and satisfaction as correspondence. Due to this there are some difficulties to represent their relationships clearly when differentiating them theoretically. Service quality as a form of attitude, and a long run overall evaluation, whereas satisfaction was seen as a transaction specific measure" (Anathanarayanan Parasuraman, Zeithaml, & Berry, 1988). According to this definition influence of quality of service and satisfaction is prove but Cronin Jr and Taylor (1992) totally disagree with Anathanarayanan Parasuraman et al. (1988). They conclude that studies show that attitude is a function of satisfaction (Cronin Jr & Taylor, 1992), Oliver stats that a person's mindset shapes their level of enjoyment (Oliver, 1981). These authors prove inverse relationship of quality of service as well as satisfaction that is totally opposite to Parasuramon concept. Researchers demonstrated that customer pleasure was a predicate of quality of service. They support their argument through their empirical research in different four services industries. Researchers went on to say that although both constructions influence intent to buy, satisfaction has major portion of that. Furthermore, in 2002, Sureshchander concluded that satisfaction and service quality shows strong correlation which proved that both are distinct constructs (Sureshchandar et al., 2002). The sole factor that determines customer pleasure is quality of service. Thus, research indicates that customer happiness and loyalty are positively impacted by the quality of service and its drivers.

2.6. University Image

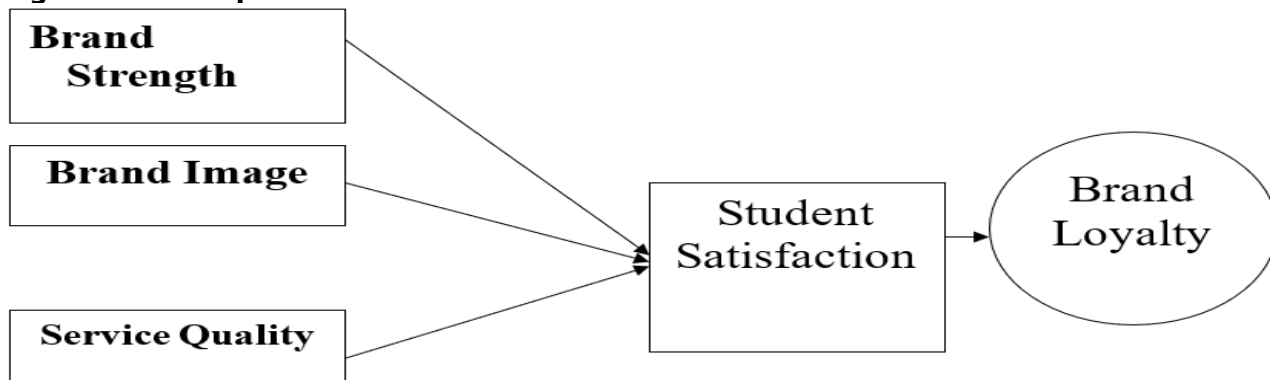
A university is an educational institution that offers postgraduate and under-graduate programs, as well as infrastructure for research and instruction, and comprising both teachers and students. Universities play a crucial role in addressing societal challenges via specialized education, cutting-edge research, and groundbreaking discoveries in science. Paulsen and Feldman (1995) suggest that the functions of a university can be categorized into service, teaching, academics, and research. Since the creation of information promotes both economic and social development and upholds the cultural and social framework of institutions of democracy, it is extremely important (Romer, 1986). Higher education institutions have two different views: the pragmatic, economical image and the old philosophical image. It is essential for universities to demonstrate cost-effectiveness and operate like businesses to ensure success and prosperity. Sharing both traditional and utilitarian functions with stakeholders and the media is necessary for cultivating a positive image. While, organizational image has been extensively studied in the corporate sector, its analysis in the field of services, particularly in universities, remains limited, with some studies focused on internal stakeholders (Treadwell & Harrison, 1994). Universities around the world can be broadly categorized into three types: American Universities, European Universities, and Universities in Asian. In the USA, private institutions are too many, benefiting from personal resources and providing grants and scholarships, with flexibility in course selection for students. In Europe, most universities are publicly funded, and education is nearly free for all students. Interestingly, there is little distinction between high-ranked and low-ranked universities in Europe, with private institutions being rare (Watson, 2003).

In Asia, higher education is viewed as an opportunity, and students take it very seriously, often competing for good grades. The Government Department of Education must authorize all written content. However, compared to European universities, Asian universities tend to prioritize teaching over research. Professors in Asian universities often receive lower

salaries, which may not be sufficient to cover their research expenses. Limited government funding exacerbates this situation, restricting access to academic research in Asian nations (Yee, 1986). Image is defined as psychological copy of an actual item which serves as its substitute. Whereas the majority of writers describe a picture as a collection of thoughts and emotions, typically approached cognitively, According to Martineau, "the way that stores are described in consumers' minds based on functional qualities and psychological attributes" is how people see commercial businesses (Martineau, 1958). There are two consensuses in the literature regarding the formation of an institution's image. Some researchers suggest that the image of any institution is constructed by its stakeholders. An image refers to how an organization sends signals about itself and how stakeholders perceive it. Avenarius (1993) concludes that the real image is formed by stakeholders. Another line of research argues that organizational image is formed by several elements, including the profitability and size of the company, the level of diversity, the extent to which each person is associated with the company, the perception of the caliber of the products and services, and the volume of marketing.

In the perception of brand image, various researchers decide that the company has shaped a certain set of mental pictures in the customer. These images can be positive, negative, or both, regarding various aspects of the organization, its products or services, and its reputation. Wilbor also confirms this concept. At the company level, image is related to customers' perceptions and associations with the brand name in a positive manner. Therefore, brand image significantly influences consumer behavior, increasing sales and stabilizing brand loyalty. Due to this advantage, brand image is highly regarded in corporate research. Universities are starting to work on creating a distinctive brand to stay successful in the marketplace. The literature represents different mechanisms of image. Kennedy (1997) divides image into two elements: functional image, consisting of tangible stimuli such as physical properties, range of goods, price, layout, etc., and emotional image, consisting of intangible stimuli such as feelings and emotions like a customer's sentiment of goodwill towards the brand, emotion of being part of something, and perception of excellent or unpleasant taste. Some literature concludes that link between image and pleasure is unclear. According to Nguyen and LeBlanc (1998) research, contentment does not have a discernible, direct impact on a company's reputation. It is not necessary that a satisfied customer have positive image about brand. On the other hand Giese and Cote claimed that image is a construct that effects the student satisfaction. When a consumer of service is satisfied, he has a positive image about brand and this image directly affect satisfaction (E. W. Anderson & Sullivan, 1993). One research conducted in 1997 claimed that company image influences customer satisfaction (Clow, Kurtz, Ozment, & Soo Ong, 1997). Furthermore, Brand image always make a great contribution in formation of satisfaction. Brand image has positive influence on student satisfaction. A study concluded that general perception of the university and its elements (affective & cognitive) significantly affect the student satisfaction (Azoury, Daou, & Khoury, 2014). So the literature suggests that customer loyalty and happiness are positively and significantly impacted by a brand's image.

Figure 1: Conceptual Framework



This study examines how brand strength, brand image, and service quality affect student satisfaction in the higher education sector, and it further explores the impact of satisfaction on loyalty. In the research model provided, brand strength, brand image, and service quality serve as independent variables, while customer satisfaction acts as a mediator

between these variables and loyalty. The independent variables are discussed along with their possible dimensions. brand remarkability, brand familiarity, and brand attitude are considered components of brand strength. Brand image encompasses factors such as university reputation and age, student life experiences, university-student relationships, classroom environment, tuition fees, educational quality, ease of admission, and admission requirements. Additionally, quality of service is defined by physical environment, interactional and quality of outcome of university services. Based on the details provided above, the following hypotheses have been proposed for further empirical investigation.

2.7. Hypothesis

- H1: Brand strength has positive and significant effect on student satisfaction.
- H2: Brand image has positive and significant effect on student satisfaction.
- H3: Service quality has positive and significant effect on student satisfaction.
- H4: Student satisfaction has positive and significant effect on Brand loyalty.
- H5: Brand strength has positive and significant effect on brand loyalty.
- H6: Brand strength has positive and significant effect on brand loyalty.
- H7: *Brand strength has positive and significant effect on brand loyalty.*

3. Research Methodology

In this study, the deductive research technique is used, and all data are collected through numeric-form questionnaires, indicating a quantitative research methodology. This study falls within the category of explanatory research, as it aims to elucidate cause-and-effect relationships between variables, explaining why and how these relationships exist. Specifically, the study investigates the impact of brand strength, brand image, and service quality on student loyalty. The population under study comprises students from various public sector universities, making interviews a costly and impractical method for data collection. Therefore, self-administered questionnaires are utilized to gather information from respondents. The unit of analysis in this study is individuals, targeting students from selected public sector universities. 600 surveys were delivered in total, following the guideline proposed by Hinkin (1998), which recommends multiplying ten times the number of items in the questionnaire to determine the sample size. With 61 items in the questionnaire, the calculated sample size is 610. The questionnaire items are distributed across various constructs: brand strength (9 items), brand image (5 items), service quality (41 items), satisfaction (3 items), and brand loyalty (3 items). Given the challenges associated with collecting data from university students, including administrative and technical obstacles and the dispersed nature of the population, convenient sampling is employed in this study.

4. Results and Discussion

4.1. Demographic Analysis

Demographic analysis is essential for understanding the characteristics of research population. Social sciences emphasize that demographic information provides significant insights into the observed population, by their gender, age, education level, income, and occupation. Such information varies on the type of the study being conducted. In this research, factor analysis will address several key questions, such as the percentage of male and female students, the age distribution of respondents, their education levels, and their employment status. Many researchers believe that in the comparison of new students other students who are more engaged with their studies have a better grasp university's image (Duarte, Alves, & Raposo, 2010). Table 1 presents demographic data from 568 respondents, collected from students across different universities. According to the table, there are 261 male respondents and 307 female respondents, indicating that female respondents outnumber males by 8 percent. Regarding age distribution, the majority of respondents (505 students) fall within the 21-24 years age bracket, followed by 47 students aged 25-29, 10 students aged 30-34, and 6 students aged 35 or above. In terms of education level, 41.72 percent of students are pursuing bachelor's degrees, with an additional 55.28 percent having completed their bachelor's degrees. Only 3 percent of students are pursuing or have completed a Master's or PhD degree. Lastly, the data reveals that 29.58 percent of students are employed, while 70.42 percent are not employed.

Table 1: Demographic Analysis

		Frequency	Percentage
Gender	Male	261	46
	Female	307	54
Age	21 to 24	505	88.9
	25 to 29	47	8.3
	30 to 34	10	1.8
	35 or above	6	1.1
Qualification	Graduation	237	41.72
	Masters	314	55.28
	MPhil/ PhD	17	3
Occupation	Employed	168	29.58
	Non-employed	400	70.42

4.2. Descriptive Analysis

Table no. 2 is representing the descriptive analysis of data. It is actually a precise summary of data that represent, how much variation is exists in data. This includes mean, median, standard deviation, skewness and kurtosis of data. Above given table is representing the minimum, maximum, mean, standard deviation, skewness and koutosis of data. Minimum and maximum values for all discussed variables BS, BI, IQ, PEQ, OQ, SAT and LOYL is 1 and 5 respectively which show minimum response value of all respondents is 1 and maximum is 5. Mean is the key measurement to check the central tendency of any data. Here the mean value of BS BI,IQ,PEQ,OQ,SAT and LOYL is 3.5,3.6,3.6,3.4,3.6,3.6, and 3.6 which shows that more respondents respond to Agree and strongly agree responses which is beneficial to prove the researchers hypothesis true. According to standard deviation column that measured the variability of BS, BI, IQ, PEQ, OQ, SAT and LOYL is 0.80423, 0.85995, 0.7199, 0.80539, 0.72783, 0.94199 and 1.08766. The standard value of skewness and kourtosis is lies between ±1 and ±3 respectively which shows the normality of data. The data of BS,BI,IQ,PEQ,OQ,SAT and LOYL is showing -0.713,-0.786,-0.59,-0.516 -0.755,-0.868, and -0.749 skewness values and same as the data of BS, BI, IQ, PEQ, OQ, SAT and LOYL is showing 0.176,0.417,0.073,0.004,0.836,0.422, and -0.21 kurtosis values correspondently which means the data is normal. Normality of data is necessary to run further statistics tools on that data. Those results show that the data is eligible to perform the further tests. On the basis of those results researcher can claim that the data is valid for proposed research.

Table 2: Descriptive of study statistics

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
BS	1	5	3.5415	0.80423	-0.713	0.176
BI	1	5	3.6053	0.85995	-0.786	0.417
IQ	1	5	3.6559	0.7199	-0.59	0.073
PEQ	1	5	3.4529	0.80539	-0.516	0.004
OQ	1	5	3.6126	0.72783	-0.755	0.836
SAT	1	5	3.6367	0.94119	-0.868	0.422
LOYL	1	5	3.642	1.08766	-0.749	-0.21

Valid N (list wise)

4.3. Confirmatory Factor Analysis

The measurement model was examined first under two step technique proposed by J. C. Anderson and Gerbing (1988). Confirmatory factor analysis is employed to measure the validity & fitness of framework. AMOS 20 is used to run the following test.

4.3.1. CFA model fit

CFA model fit test shows the fitness of model used in proposed study. It is describe that all the model fitness results are fulfilling the threshold values of CMIN/DF, GFI, AGFI, CFI, NFI, RMR and RMSEA. The standard values of CMIN/DF must be less than "3", GFI, AGFI, CFI and NFI should be greater than 0.9 and RMSEA should be less than 0.10. According to the results CMIN/DF and RMSEA is showing exactly fine values and GFI, AGFI, CFI and NFI are near to fit. RMR is the square root of the average or mean of the covariance residuals, and differences between observed & predicted covariance matrix's corresponding elements. Zero indicates a perfect fit, and maximum value is unlimited but in this case the value is 0.07. Measurement table showing the factor loadings, AVE'S, CR'S and Cronbach's alpha of brand strength, brand image and quality of interactional, physical environmental and loyalty. To check the internal consistency of data cronbachalpha is measured. This is the most common way to measure the

consistency of data. Cronbachalpha's of all variables are ranging from 0.76 to 0.90 which means with respect to this dimension data is fulfilling the standards. The suggested threshold limit is 0.5 and the factor loadings' values were found more than this limit which suggested by J. C. Anderson and Gerbing (1988) it were found in range of 0.50 to 0.92. Similarly average variance explained is fulfilling its threshold value which should be greater than 0.5. All the values of AVE is fulfilling the standard value or near to that value which is approximately look good and showing the goodness of data. In last the values of composite reliability must be higher than 0.7 which is fulfilled by data in very good manner. This value is found in range of 0.89 to 0.93.

Table 3: The Item Loadings, Cronbach's and The AVE

Constructs	Codes	Factor Loadings	AVE	CR	# of items	Cronbach Alpha
BS	<i>BS_1</i>	0.50	0.48	0.90	9	0.85
	<i>BS_2</i>	0.59				
	<i>BS_3</i>	0.56				
	<i>BS_4</i>	0.70				
	<i>BS_5</i>	0.68				
	<i>BS_6</i>	0.73				
	<i>BS_7</i>	0.80				
	<i>BS_8</i>	0.78				
	<i>BS_9</i>	0.80				
BI	<i>BI_1</i>	0.74	0.57	0.89	5	0.811
	<i>BI_2</i>	0.78				
	<i>BI_3</i>	0.70				
	<i>BI_4</i>	0.81				
	<i>BI_5</i>	0.75				
IQ	<i>IQ_1</i>	0.62	0.43	0.92	16	0.905
	<i>IQ_2</i>	0.66				
	<i>IQ_3</i>	0.68				
	<i>IQ_4</i>	0.68				
	<i>IQ_5</i>	0.67				
	<i>IQ_6</i>	0.70				
	<i>IQ_7</i>	0.56				
	<i>IQ_8</i>	0.70				
	<i>IQ_9</i>	0.66				
	<i>IQ_10</i>	0.63				
	<i>IQ_11</i>	0.61				
	<i>IQ_12</i>	0.60				
	<i>IQ_13</i>	0.70				
	<i>IQ_14</i>	0.68				
	<i>IQ_15</i>	0.65				
	<i>IQ_16</i>	0.54				
PEQ	<i>PEQ_1</i>	0.70	0.47	0.89	11	0.866
	<i>PEQ_2</i>	0.70				
	<i>PEQ_3</i>	0.63				
	<i>PEQ_4</i>	0.70				
	<i>PEQ_5</i>	0.70				
	<i>PEQ_6</i>	0.64				
	<i>PEQ_7</i>	0.67				
	<i>PEQ_8</i>	0.71				
	<i>PEQ_9</i>	0.70				
	<i>PEQ_10</i>	0.60				
	<i>PEQ_11</i>	0.60				
OQ	<i>OQ_1</i>	0.62	0.43	0.91	14	0.896
	<i>OQ_2</i>	0.65				
	<i>OQ_3</i>	0.61				
	<i>OQ_4</i>	0.66				
	<i>OQ_5</i>	0.63				
	<i>OQ_6</i>	0.67				
	<i>OQ_7</i>	0.65				
	<i>OQ_8</i>	0.65				
	<i>OQ_9</i>	0.61				
	<i>OQ_10</i>	0.72				
	<i>OQ_11</i>	0.70				
	<i>OQ_12</i>	0.68				

	OQ_13	0.69				
	OQ_14	0.62				
SAT	SAT_1	0.79	0.68	0.86	3	0.763
	SAT_2	0.84				
	SAT_3	0.84				
LOYL	LOYL_1	0.89				
	LOYL_2	0.91	0.80	0.93	3	0.873
	LOYL_3	0.89				
<u>CMIN/DF</u>	<u>GFI</u>	<u>AGFI</u>	<u>CFI</u>	<u>NFI</u>	<u>RMR</u>	<u>RMSEA</u>
2.717	0.762	0.742	0.721	0.744	0.070	0.055

4.4. Correlation

Table no. 4 is presenting correlation results. The Pearson’s correlation test is run to test the relationship among the brand satisfaction, brand image, service quality, student satisfaction and loyalty. It shows the relationship among both variables. This is a statistical tool using for measure liner relationship among two variables. It measure the strength or weakness of two variables between 0 to 1 more the results are close to 1 means the relationship is more strong and vice versa. If a variable has value higher than 0.7 means there is multicollinearity exist in data. According to the table relationships between BI and BS, SERVQ and BS, SERVQ and BI, SAT and BS, SAT and BI, LOYL and BS, and LOYL and BI are fine there values are close to 1 and less than 0.7 but there is multicollearity is exist between BI and BS, SAT and SERVQ, LOYL and SERQ, And LOYL and SAT relations. Table no. 5 is presenting the collinearity statistics. Collinearity diagnostic test is run to prove that this multicollearity is not affecting research results. Following liner regression test is proved that this multicollearity is not affecting the results of this data and coefficients are well calculated. Standard values of tolerance is should not less than 0.2 and VIF is note greater than 5 both the standards are met according to results.

Table 4: Correlation

	BS	BI	SERVQ	SAT	LOYL
BS	1				
BI	0.70	1			
SERVQ	0.68	0.69	1		
SAT	0.55	0.59	0.71	1	
LOYL	0.57	0.59	0.70	0.70	1

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

Table 5: VIF analysis

Collinearity Statistics	
Tolerance	VIF
0.43	2.31
0.41	2.44
0.34	2.91
0.48	2.10

4.5. Common Method Variance

CMV usually happens when you are collecting measures of two or more of the underlying variables with regard to personal behavior and mental state, or the perception of respondents to the external environment of the respondents (Podsakoff & Organ, 1986).

Table 6: CMV Analysis

Factor	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	20.487	33.585	33.585	19.922	32.660	32.660	4.542	7.446	7.446

Extraction Method: Maximum Likelihood

CMV helps to check the variation of data and provide an elegant picture of data. The standard value of CMV is 50 which mean the value of CMV should be less than 50. CMV table results showing a good and acceptable value, which are 33.585, which proves that the researcher collect the data with full devotion and carefully. It means the respondents respond the questions differently and also thinking different when they fill the questioners.

4.6. SEM (structural equation model) Model Fit

The evaluation the goodness of the model is initial step to testing that model. In the results of SEM, RMR is the square root of the average or mean of the covariance residuals, and differences between observed & predicted covariance matrix's corresponding elements. Zero indicates a perfect fit, and maximum value is unlimited but in this case the value is 0.07. CFI (Comparative Fit Index) signifies the ratio between the discrepancy of the target model and independence model. The value of CFI should be one which can be acceptable but according to research analysis the value is 0.721. NFI (Normal Fit Index) also known as Bentler Bonnet. It is acceptable when value fall among 0 to 1 and according to this research the value is 0.742. Which interprets that the model of interest enhance the fit by 74.4% comparatively to the null or independence model. The AGFI and GFI for structural model is 0.762 and 0.742 respectively almost meeting their threshold. So, the researcher can say that they are average fitted. RMR for the study is 0.070. RMSEA for the current study is .055 which is less than 0.10 meeting the requirement of threshold that the value for RMSEA should be less than 0.10 showing the good fitness of model.

Table 8: SEM model fit

CMIN/DF	GFI	AGFI	CFI	NFI	RMR	RMSEA
2.717	0.762	0.742	0.721	0.744	0.070	0.055

4.7. Hypotheses testing

The aim of this research to assess the impact of brand strength, brand image, and service quality on student satisfaction and loyalty and the effect of student satisfaction on brand loyalty as well. Out of the seven hypotheses tested, six were supported by the results, while one was rejected. The first hypothesis posited that brand strength and satisfaction have a positive and significant influence on the student satisfaction. Nevertheless, the findings did not support to this hypothesis as ($\beta=0.042$, $p=0.414$), leading to its rejection. It is suggested by findings that brand strength is not a solid predictor for student satisfaction. Conversely, the second hypothesis projected a positive relationship among the brand image and student satisfaction, was accepted with the results ($\beta=0.200$, $p=0.000$), indicating impact of brand image on student satisfaction is strong and significant. Similarly, the third hypothesis, indicating a positive association among service quality and student satisfaction, was upheld ($\beta=0.768$, $p=0.000$), demonstrating a significant relationship among these variables. The fourth hypothesis, asserting a relationship among student satisfaction and brand loyalty is positive, it was supported by the results ($\beta=0.809$, $p=0.000$), and indicates a strong and significant link between the two constructs. The fifth hypothesis, indicates a significant and positive relationship among brand strength and brand loyalty, it was also supported by the results ($\beta=0.159$, $p=0.008$), and confirming the hypothesis. Likewise, the sixth hypothesis generate a relationship between brand image and brand loyalty, positive and significant and it was accepted by the findings ($\beta=0.192$, $p=0.001$), that indicating a strong effect of brand image on the brand loyalty.

Table 1: Hypothesis testing

Relationship	HYP	Estimates	Results
BS → SAT	H1	0.042*	Not confirmed
BI → SAT	H2	0.0200***	Confirmed
SERVQ → SAT	H3	0.768***	Confirmed
SAT → LOYL	H4	0.809***	Confirmed
BS → LOYL	H5	0.159***	Confirmed
BI → LOYL	H6	0.192***	Confirmed
SERVQ → LOYL	H7	0.183***	Confirmed

Lastly, seventh hypothesis, suggesting a significant influence of service quality on loyalty, and it was also accepted by the results ($\beta=0.813$, $p=0.000$), and indicates relationship among these variables, strong and significant. Overall, the findings of the study validate the

hypothesized relationships among brand strength, brand image, service quality, student satisfaction, and brand loyalty.

5. Discussion

This study delves into various facets of brand management, with a focus on brand strength, brand image, and service quality. While some research has explored brand strength in the education sector (Casidy & Wymer, 2015), less focus has been placed on the relationship between the quality of service and the Image of the brand. This study aims to evaluate the degree to which brand strength, brand image, and service quality impact student satisfaction, and subsequently, brand loyalty. The results challenged the first hypothesis, revealing no direct correlation between brand strength and student satisfaction, although a strong connection with brand loyalty was evident. Thus, there appears to be no mediating effect between brand strength and student satisfaction. However, all other hypotheses in the study received support. The findings suggest that a university with a positive societal image and high regard among its students fosters greater student satisfaction. A favorable image leads to heightened student satisfaction (E. W. Anderson & Sullivan, 1993). The study underscores that when students perceive their university positively, with a clear vision, a sense of pride in their affiliation, and a strong societal reputation, it enhances student satisfaction both internally and externally. Service quality, a focus of this study was discovered to significantly and favorably affect the satisfaction of students. Three factors are used to analyze the quality of services: result quality, physical environment quality, and interactional quality. Each of these aspects affects total service excellence. The study affirms that service quality positively influences student satisfaction. Interactional quality, characterized by courteous, readily available, empathetic, and supportive administrative staff, heightens student satisfaction and loyalty. Physical environment quality, encompassing serene libraries, comfortable classrooms, and well-maintained campus facilities, also enhances student satisfaction. Outcome quality, which pertains to students' competence in their field, developed communication skills, and the caliber of education received, significantly shapes student satisfaction. The study concludes that universities delivering high levels of these services generally have more satisfied students compared to their counterparts.

5.1. Implications

After reviewing this research, policymakers will gain insight into the significance of brand strength, brand image, and service quality. This document proves invaluable for marketers, offering insights into enhancing brand remarkability and familiarity. The findings underscore that a robust university brand correlates with heightened student loyalty. In today's marketing landscape, universities must adopt comprehensive marketing strategies that transcend the traditional four P's of marketing. Internal stakeholders, particularly students, constitute the cornerstone of a university's marketing approach. This study elucidates the pivotal aspects of university image for marketing and management teams. Elevating admission standards is contingent upon enhancing the university's image and services. A superior university image attracts top-tier students. The research underscores the imperative of university image and delineates the factors contributing to cultivating a favorable perception. To bolster the university's image among students, administrations should furnish comprehensive insights into university activities, host seminars to elucidate the university's history and achievements, and prioritize the delivery of high-quality services. The study delves into three facets of service quality: interactional quality, physical environment quality, and outcome quality. Interactional quality hinges on knowledgeable and courteous lecturers, fostering student satisfaction. Physical environment quality encompasses well-designed layouts, amiable classroom atmospheres, and efficiently managed campus facilities, all of which enhance student contentment. Outcome quality necessitates effective course delivery by lecturers, ensuring students perceive meaningful learning experiences with practical applications. By attending to these elements, universities can markedly amplify their branding endeavors and fortify their appeal.

5.2. Limitations & future recommendations

Like all studies, this research also has some limitations. Certain variables were not included to narrow the study's focus. Each primary construct in this study—brand strength, brand image, and service quality—could be examined separately, as they are broad fields in their own right. Brand image, for example, has various antecedents that could be explored further within the same model. This research provides an initial framework for brand building

but does not encompass the full spectrum of concepts, from creating a brand to protecting it. The conceptual model focuses on the relationships between brand strength, brand image, and service quality, particularly examining the relationship between brand strength and student satisfaction as it relates to loyalty. Future research could further explore this relationship, potentially finding even stronger connections. Future researchers are recommended to expand on this work by exploring additional antecedents of brand image, such as reputation, age, university relationships, ease of entry, and preparation. These constructs, while related, are distinct and could offer further insights when compared and contrasted, thereby refining their conceptual domains and improving the validity of their scales. Additionally, these three scales could be useful in studying other outcomes, such as student retention. Research could investigate whether brand strength, brand image, or high-quality services improve student retention rates. Further studies could also examine the impact of these concepts on university admission ratios. Another important area for future research could be a comparative analysis of private and public sector universities concerning their brand image and service quality. By addressing these limitations and exploring these areas, future research could provide a more comprehensive understanding of brand management in the education sector.

6. Conclusion

This study investigates the three fundamental components of brand development—brand strength, brand image, and service quality—in public sector universities. The findings elucidate the influence of these components on student satisfaction. The results confirm that brand strength, brand image, and the diverse sub-constructs of service quality exert a positive and substantial impact on student satisfaction. Consequently, university administrations should prioritize the enhancement of these components in practice, recognizing their pivotal role in fostering student satisfaction and retention.

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