

# The Impact of Service Quality on Student's Loyalty: The Mediating Role of Satisfaction

**Aayed Qasem** (1)  
**Saeed Bahafi** (2)

Received: 12 August 2024  
Revised: 13 August 2024  
Accepted: 10 November 2024

© 2024 University of Science and Technology, Aden, Yemen. This article can be distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

© 2024 جامعة العلوم والتكنولوجيا، المركز الرئيس عدن، اليمن. يمكن إعادة استخدام المادة المنشورة حسب رخصة مؤسسة المشاع الإبداعي شريطة الاستشهاد بالمؤلف والمجلة.

(1) Management Associate Professor; Taiz University, & University of Science and Technology, Yemen.

(2) University of Science and Technology, Yemen, Aden, E-mail: [s.bahafy@had.ust.edu](mailto:s.bahafy@had.ust.edu).

\* Corresponding Author Address: [aayedalmansory@gmail.com](mailto:aayedalmansory@gmail.com)

## The Impact of Service Quality on Student's Loyalty: The Mediating Role of Satisfaction

### ABSTRACT

The objective of this study is to examine the impact of student's satisfaction (as a mediating variable) on the relationship between service quality and the student's loyalty to achieve student satisfaction. The questionnaires were handed out to 377 students representing six different university level students enrolled within the Governorate of Hadramout. Descriptive analyses, mean scores, one-way ANOVA, correlation and regression analyses were conducted using SPSS21. The results of this study show that there was a notably positive relationship between service quality and the student's loyalty. All five dimensions of higher education service quality (SERVQUAL) left an outstanding positive impact on the students' loyalty, which in turn influenced the students' satisfaction. The students' satisfaction, by far, positively influenced the relationship between service quality and the students' loyalty at the universities' level. This study offers an insight to the targeted university management officials to concentrate on the factors that influence their students' satisfaction and loyalty. This insight is expected to help them adapt certain strategic decisions that will increase their students' satisfaction, their loyalty, and to carry on operating profitably with a successful proficiency, while focusing on improving the quality service for their students and maintain a prosperous future for all concerned.

**Keywords:** *Service Quality, Student's Satisfaction, Student's Loyalty, Higher Education, Hadramout Universities.*

## أثر جودة الخدمة على ولاء الطالب: الدور الوسيط للرضا

عائد قاسم<sup>(١)</sup>

سعيد باحفي<sup>(٢)</sup>

### الملخص:

يهدف هذا البحث إلى تقييم وقع وأثر رضا الطالب (كمتغير وسيط) على العلاقة بين جودة الخدمة وولاء الطالب في سبيل تحقيق رضا الطالب، الأمر الذي سيضمن بالتالي تزايد وتعاضل ولاء الطلاب. لقد تم توزيع عدد 377 استمارة على طلاب من ست جامعات على مستوى التعليم العالي في محافظة حضرموت. ثم أخضعت البيانات المتحصل عليها للتحليل الدقيق باستخدام وسائل التحليل المختلفة مثل: التكرارات، تحليل الانحدار، وتحليل بيرسون، باستخدام برنامج SPSS21. وأظهرت نتائج هذه الدراسة وجود علاقة إيجابية بين جودة الخدمة وولاء الطالب. وأظهرت الأبعاد الخمسة لجودة خدمات التعليم العالي (SERVQUAL) أثراً إيجابياً ملحوظاً على ولاء الطلاب، مما أثر بدوره على رضا الطلاب. وإلى حد بعيد كان لرضا الطلاب تأثير إيجابي على العلاقة بين جودة الخدمة وولاء الطلاب على مستوى الجامعات. وبناءً على نتائج هذه الدراسة، قدم الباحث إلى المسؤولين الإداريين في الجامعات المستهدفة مجموعة من التوصيات التي ستساعدهم بالتعرف على العوامل المؤثرة على رضا وولاء الطلاب؛ وتقودهم إلى تبني بعض القرارات الإستراتيجية التي من شأنها تحسين جودة الخدمة لطلابهم وضمان المستقبل الباهر لجميع المعنيين بالأمر.

الكلمات المفتاحية: جودة الخدمة، رضا الطلاب، ولاء الطلاب، التعليم العالي، جامعات حضرموت.

<sup>(١)</sup> أستاذ مشارك في الإدارة؛ جامعة تعز، وجامعة العلوم والتكنولوجيا، اليمن

<sup>(٢)</sup> جامعة العلوم والتكنولوجيا، اليمن - عدن - الإيميل: [s.bahafy@had.ust.edu](mailto:s.bahafy@had.ust.edu)

\* عنوان المراسلة: الإيميل: [aayedalmansory@gmail.com](mailto:aayedalmansory@gmail.com)

## INTRODUCTION:

Service quality differs significantly from product quality, as it is intangible and not visible to the customer. Therefore, it is challenging for any company to identify the key features or metrics of its service quality that customers value most, and to devise strategies to meet the service quality requirements of its sellers (Qasem and Baharun, 2011).

The competition between universities and institutions in terms of service quality takes a comprehensive approach, encompassing various higher education (HE) processes, with the aim of meeting the needs of students and other stakeholders while maintaining expected quality values. Superior service quality in the education system depends on the support of top management. Thus, service quality must also cover the planned and process organization and measuring and monitoring follow-up system that interacts with each other to foster the organization's services and lead to improving its procedures. Thus, educational institutes and institutions in HE placed more stress on meeting the expectations and requirements of their clients' "students" (Thomas, 2011).

Today, the educational environment has created a fantastic opportunity for students. Teo (2001) asserted that universities must adopt competitive strategies in the future and devise innovative and dynamic methods to manage the daily affairs of students. Iwa (2007) noted that students serve as the primary source of income for most universities, as they are the primary source of financial resources. Kwek et al. (2010) suggested that universities should implement a comprehensive strategy that prioritizes customer satisfaction, as this positively impacts students' willingness to utilize university services. Therefore, it is crucial to discuss student satisfaction, as it significantly influences their level of contentment. Letcher and Neves (2010) noted that psychologists have demonstrated that student satisfaction aids in the development of self-confidence, the acquisition of necessary skills, and the acquisition of knowledge. Furthermore, student dissatisfaction may manifest as an unfavorable reaction, such as a poor grade or a negative relationship between the student and their teacher, college, or classmates (Letcher and Neves, 2010).

In addition, Austin and Pervaiz (2017) stated that universities, firstly, are faced with a seriously challenged competitor in the market to offer the best quality work to attract new students, and secondly, how they could convince them to continue with. The university's managers will need to devise a new strategy to maintain student loyalty. According to Giner and Peralt Rillo (2016), students' loyalty extends beyond their university studies and continues even after they graduate. Taecharunroj (2014) added that loyalty enhances students' desire to remain enrolled in one university for many years.

Furthermore, a number of researchers have conducted numerous studies over the past periods to explore the relationships between service quality, satisfaction, and loyalty (Cronin et al, 2000). Researchers aim to enhance the understanding of service quality, satisfaction, and their successful relationship with loyalty. In fact, the development of theoretical working model relationships among service quality, satisfaction, and loyalty leads to the development of future study directions (Rust and Oliver, 1994).

Fecikova (2004) asserts that customer loyalty plays a significant role in a firm's performance, as it contributes to periodic purchases and referrals to other clients, thereby generating additional revenue from the firm's goods and services (Fecikova, 2004; Bowen and Chen, 2001). Therefore, it is crucial to gather evidence that accurately gauges the client's perceptions about service purchases, particularly when there is clear evidence indicating the customer's assessment of service quality, satisfaction, or dissatisfaction in relation to repurchase, loyalty, and the desire to maintain a long-term relationship (Athanasopoulos et al., 2001).

Furthermore, Kasper et al. (2006) suggested that service quality is a crucial factor that significantly influences a student's satisfaction. Therefore, to remain competitive, universities should strive to satisfy students and adhere to strict regulations to ensure they provide the services they need. Successful universities should emphasize two conditions: satisfaction and loyalty among students. Moreover, a good service quality is what drives a student's satisfaction and loyalty.

One of the most fundamental issues in the comprehensive quality system for universities is the quality of services and the students' satisfaction with these services. Several scholars have explored this issue, including AbuHasan et al. (2008), Martensen et al. (2000), Helgesen and Nettet (2007), Butt and Rehman (2010), Thomas (2011), and Gyamfi et al. (2012).

Therefore, the purpose of this study is to investigate how service quality influences student satisfaction and loyalty within the environment of universities. The focus of this study is on identifying the mediating role of student satisfaction between the independent variable (i.e., service quality) and the dependent variable (i.e., student loyalty), if any.

## **LITERATURE REVIEW:**

### **Higher Education in Yemen**

Academic institutions in the Arab world have experienced significant advancements on an international scale, including the establishment of both public and private universities, which now serve thousands of students. Indeed, the private and public sectors have expressed their eagerness to invest in the academic field, encompassing various disciplines and departments. As a result, businessmen in the sector have recognized the critical need to provide a high-quality education to the public academic field, working together to support and develop education in the country in accordance with international high-quality standards in Higher Education (Bashour, 2005).

Yemen, as an Arab state, is one of the poorest nations on the planet. As a country located in the middle of a conflict area, it contributes to escalated poverty and living levels due to the insecurity of life, the rising value of goods and inadequacy of basic needs, and the fast decline in public services, especially health care and education (MFA, *et al.*, 2012).

The World Bank (2014) reported that Yemen's education quality remains poor, making it the poorest in the world and ranking at the bottom. Furthermore, UNESCO (2011) stated that Yemen requires significant and committed support to enhance the quality of life for its population. To put it another way, Karaman and Tochon (2008) pointed out that Yemeni universities, which have the potential to be better academic institutions, face numerous challenges. Therefore, every year, 300-400 students seek high-quality education abroad to improve their learning experience. The

USA, the UK, and other European countries are considered attractive destinations for many students. Thus, the National Strategy of HE in 2006 aimed to present various trails in the education sectors.

Yemen still has a long way to go. Even though there have been significant investments at this level, there is still much work to be done. But the level of relationship between the staff and students was not promising, in addition to the extreme lack of equipment and learning resources, the brain drain of professionals' minds as professors, experts, and specialized technicians, the weakness of systematic procedures to evaluate and update the curricula, and the shortage of computers and laboratories.

Therefore, this study comes as an addition to support universities level to do an analysis survey of the HE environment, and that certainly will help in developing the service quality to raise students' satisfaction and loyalty towards the universities environmental context. Moreover, higher institutions could recognize the ranking of a student's satisfaction and loyalty. Table 1 shows the numbers of universities in Hadramout Governorate.

Table 1: Numbers of Universities at Hadramout Governorate

No.	Name of University	Year of established	No. of Students
1	Hadramout University	1993	11168
2	Seiyun University	2017	2635
3	Al-Ahqaff University	1994	1486
4	University of Science and Technology – Hadramout Branch	1994	567
5	AL-Rayan University	2010	632
6	Holy Quran and Islamic science university- Hadramout Branch	2008	215
<b>Total of Students</b>			<b>16703</b>

### Service Quality:

People view service quality as a fundamental component of competitiveness. It revealed the real option that one should deal with. It aids in positioning universities as genuine players with a competitive advantage. People experience high service quality as a significant determinant of the long-term profitability and stability of partnership. Besides, the service quality is the cornerstone of the linkage between the service provider and the client. Therefore, the more quality you have, the more trust you get, which leads to the success of the provider and ensures customer confidence.

Service quality has long been a major field of study to understand clients' service assessment (Qasem and Alhakimi, 2019). Researchers have often confirmed the significance of identifying and evaluating the notion of service quality, as long as its theoretical and practical application is

well defined (Chen, 2016). Accordingly, service quality is one of the few differentiation techniques to attract fresh clients and gain market share and competitive advantage for companies (Mohammed, Ibrahim, & Ali, 2017). Table 2 shows some customer service facts and explains why service quality is essential for organizations.

Table 2: Customer Service Facts

No	The Customer Service Facts
1-	If 20 clients are dissatisfied with your service, 19 will not say you. 14 of the 20 will take their industry away.
2-	Dissatisfied clients say an average of 10 other people about their bad experience; 12 percent tell up to 20 people.
3-	Satisfied clients will say an average of 5 people about their confident experience.
4-	It costs five times more money to entice a new client than to save the current one.
5-	Up to 90 percent of dissatisfied clients will not purchase from you again, and they will not say you why.
6-	In many businesses, the quality of service is one of the insufficient variables that can differentiate a business from its competition.
7-	Providing high-quality service can save your business money. The similar skills that lead to augmented client satisfaction also lead to augmented worker efficiency.
8-	Clienteles are willing to pay more to obtain better service.
9-	"95 percent of dissatisfied clienteles will become loyal clienteles again if their grievances are handled well and quickly."

*Source: Statistics compiled by Mattson and Associates from service sector companies in the USA. Source: CMC Partnership Ltd. (1991), cited in Dale (2003, p.13).*

The service quality in the universities' environmental context is most important and vital. It is a well-known truth that confident perceptions of service quality have an important effect on students' satisfaction (Alves and Raposo, 2010).

According to Parasuraman, Zeithaml, and Berry (1985), quality of service is defined as the degree to which the normative service expectations of clients differ from the perceptions of service performance. SERVQUAL, a well-known scale created by Parasuraman *et al.* (1985; 1988) and Parasuraman, Zeithaml, and Berry (1994), is the most common tool used to evaluate the quality of service. SERVQUAL contains five service dimensions: tangible, reliability, responsiveness, assurance, and empathy. Table 3 shows the service quality dimensions (SERVQUAL).

Table 3: The Service Quality Dimensions (SERVQUAL)

No	Dimension	Definition
1-	Tangibles	The appearance of the university's facilities, employees, equipment and communication materials
2-	"Reliability"	"Delivering the promised performance dependably and strictly"

3-	Responsiveness	The willingness of the university to provide immediate service and aim customers
4-	"Assurance (combination of competence, courtesy, credibility, security)"	"The ability of a university's employees to fill with trust and dependability in the university out of their information, and friendliness"
5-	Empathy (combination of access, communication, understanding the customer)	Personalized attention given to a client

*Source: Parasuraman et al. (1988), Zeithaml et al. (1990) and Parasuraman et al. (1991).*

Over the past two decades, scholars have extensively explored service quality, transforming it into a widely accepted concept. The conceptualization and service quality dimension have become a crucial aspect of services marketing studies. Parasuraman et al. (1985; 1988) and Parasuraman, Zeithaml, and Berry (1994) developed the five-factor SERVQUAL model, which is the most widely used tool for evaluating service quality (Qasem and Alhakimi, 2019). However, other models, such as the three-dimensional model by Gronroos (1984, 1990), a multilevel service quality model by Dabholkar et al. (1996), and the recent hierarchical model by Brady and Cronin (2001), assist in this area with their theoretical and operational elements. However, these models have faced criticism regarding their applicability across various sectors.

Despite facing criticism, the SERVQUAL model remains a widely used model for evaluating service quality across various industries and service sectors, including universities (Emari, Iranzadeh, & Bakhshayesh, 2011). Previous studies (Cronin, Brady, & Hult, 2000; Wallace, Giese, & Johnson, 2004) investigated the impact of service quality on various factors, including student satisfaction, buying intention, and loyalty.

### **Student Satisfaction:**

Customer satisfaction could be defined as the overall attitude that individuals have toward a product or service after they possess and utilize it (Osman et al., 2016). The marketing concept suggests that when buyers are satisfied, their behavior and intention to repurchase will be aroused (Qasem and Alhakimi, 2019).

One could view student satisfaction as aligning with their shared expectations. If customers are pleased with the service, they will look for more quality if they believe they could get better value, suitability, or quality elsewhere. Student satisfaction relies on a moderate degree of predictability and observable behavior. The predictors may influence student satisfaction even before they enrol in the university; therefore, it is crucial for investigators to meet the expectations of students before they enrol (Palacio et al., 2002). On the other hand, some argue that satisfaction actually encompasses issues related to students' perspectives and experiences throughout their university tenure (AbuHasan et al., 2008).

In recent years, the higher education sector has also expanded the concept of student satisfaction. Many researchers propose that student satisfaction is a complex concept,



encompassing various aspects (Marzo- Navarroet et al., 2005; Richardson, 2005). Elliott and Shin (2002) define students' satisfaction as the favorability of a student's subjective assessment of various outcomes and experiences connected with education.

Furthermore, marketing studies continue to discuss the association between a student's satisfaction and service quality (Anderson, Fornell, and Lehmann, 1994). "Many researchers show that quality of service has a direct impact on satisfaction (Akbar & Parvez, 2009; Sureshchandar, Rajendran, & Anantharaman, 2003). Latest studies have confirmed the same impact in terms of service quality and students' satisfaction in the universities' environmental context (Teddy Chandra, 2018; Bangun, 2017; Dora, 2017; Meštrović, 2017; Subrahmanyam, 2016; Wu, 2011; Afzal *et al.*, 2010).

In general, satisfaction resulted from meeting students' expectations. The literature suggests a strong correlation between students' satisfaction, service quality, and loyalty (Wu, 2011). Furthermore, the client's perception of service quality plays a crucial role in shaping their knowledge and practice. As a consequence, most service sectors regularly evaluate their quality of service to improve the satisfaction of the customer (Bamfo, Dogbe, & Osei-Wusu, 2018).

### **Student Loyalty:**

According to Mohammed et al. (2017), loyalty generally refers to a customer's intention to exclusively use a particular good or service over an extended period. Qiu, Ye, Bai, & Wang (2015) described customer loyalty as the ratio of complete client sales for the product brand concerned. Oliver (1997) has depicted a student's loyalty as "a deeply held commitment to rebuying or patronizing a preferred product or service consistently in the future. Duffy (2003) defined a student's loyalty as their willingness to maintain a relationship with a university and continue to use its services.

Zeithaml, Berry, and Parasuraman (1996) assert that the recommendation of other students to accept services influences a student's loyalty and increases future satisfaction. Thus, we can explain a student's loyalty as the strength of the association between an individual's relative behaviour and repeat support. Any institute's primary focus is on enhancing, maintaining, and fostering students' loyalty to its products or services (Dick and Basu, 1994).

Kotler and Keller (2006) have established a pattern of customer loyalty by outlining the key indicators: Repeat purchase denotes that a customer displays preference for the purchase of a particular service; retention signifies sticking to the brand and resistance to change despite negative influence or awareness of the product or service; and referrals imply recommending and providing reference to others for the purchase of specific products and services. In this context, Oliver (1997) viewed customer loyalty as "a deeply held commitment" to regularly purchasing or endorsing a preferred product or service in the future, even in the face of favorable circumstances like situational impacts and marketing efforts that aim to influence client decision and cause behavior switching.

According to Archakova (2013), loyal students can provide institutes with numerous diverse benefits.

- Loyal students are less price sensitive because they are accustomed to the institute's benefits and prices; loyalty does not prevent them from using any benefits the institute supports, regardless of the cost, as they are delighted and content with these benefits.
- Due to their repeated purchases and the institute's prior recognition of their requests, needs, and demands, loyal students are inexpensive to serve; as a result, the institute will consistently provide benefits that align with their needs.
- Faithful students dedicate more time to the institute to ensure their satisfaction and happiness, which becomes a part of their conduct towards the institute and influences their behavior.
- Loyal students actively promote the institute by sharing their positive experiences with others. When pleased students tell other stakeholders how much they would like the institute and its services, it is one of the most rational forms of advertising for the organization. Thus, if the university meets its students' needs, they will be pleased with the services, and if they are satisfied, they will remain loyal to the organization, indicating that you have achieved one of the most important factors of success.
- Loyal students contribute significantly to an organization's market share and have the ability to demand higher prices than their competitors. When a student remains loyal to the organization, it can help the organization gain a competitive advantage and increase its market share, which are crucial components of any organization's objectives.

Several studies (Anderson & Sullivan, 1993) have found that factors like switching, recommendations, and repurchase intentions serve as measures of loyalty. Furthermore, the advantages of customer loyalty to service providers, such as the cost of attracting and persuading new purchasers and the appeal of word of mouth, are significant (Xu, Goedegebuure, & Heijden, 2007). Besides, Izogo (2017) has stated that a positive client relationship is crucial for the creation of a loyal client.

Furthermore, Dado (2011) noted that there are two aspects to a student's loyalty: behavioral and attitudinal. Behavioural loyalty was noticed from the student accepting the behavior. The focus is on the student's value to the product or service, and for any university, the significance of a student's loyalty only increases when it manifests as an acceptance of behavior. Students demonstrate loyalty when they consistently accept, as the term "behavior" refers to the student's actions related to a particular service or product. Finally, we define behavioural loyalty as the student's repeated and consistent acceptance of the university's services. Conversely, attitudinal loyalty refers to the buyer's desire to maintain the relationship, even in the face of lower prices from competitors, as well as their willingness to recommend friends and their intention to continue patronizing the university.

### **Student Satisfaction and Student Loyalty:**

Many scholars, including Ryu et al. (2012), Helgesen and Nettet (2011), Alves and Raposo (2010), and Douglas et al. (2008), have clarified that a student's satisfaction is one of the most significant determinants of loyalty. People often propose customer satisfaction as the primary loyalty determinant (Lam & Burton, 2006).

Several authors have concentrated on the significance of client behavior, particularly with reference to the customer satisfaction structure and the link between satisfaction and loyalty (Pullman & Gross, 2004; Ramanathan & Ramanathan, 2010). For instance, Helgesen and Nasset (2011) discovered that students primarily perceive their loyalty as a crucial aspect of their overall satisfaction. Johnson *et al.* (2001) stated that there is a strong correlation between a student's satisfaction and repeat acceptance. The student's loyalty is contingent upon their satisfaction with the services provided. Universities have confirmed the correlation between student satisfaction and loyalty (Helgesen and Nasset, 2011; Palacio et al., 2002).

Overall, studies have shown a strong positive link between student satisfaction and loyalty, and the higher education sector commonly recognizes student satisfaction as a student loyalty indicator (e.g., Arif and Ilyas, 2013; Alves and Raposo, 2007; Helegesen and Nasset, 2007).

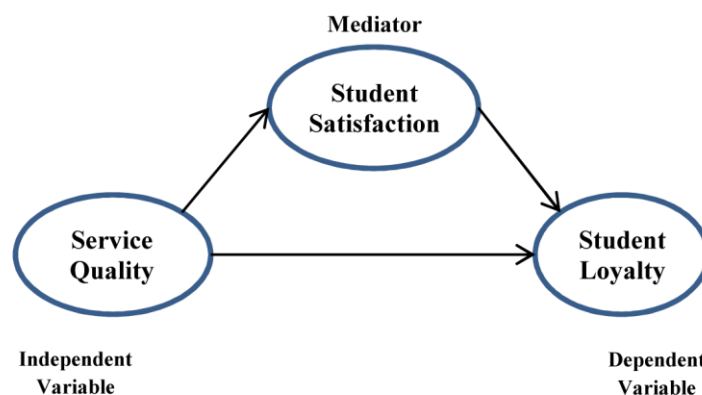


Figure 1: The Research Model

### The Research Model and Hypotheses Development:

The research model for this study is shown in Figure 1. The model proposes that service quality is observed as a key determinant of student satisfaction with a potential consequence of loyalty, while the mediator between the independent variable (i.e., service quality) and dependent variable (i.e., student loyalty) is student satisfaction.

The research model for this study was derived from previous models and a critical review of relevant literature, including works by Arif and Ilyas (2013), Ryu et al. (2012), Helgesen and Nasset (2011), Alves and Raposo (2010), Douglas et al. (2008), Alves and Raposo (2007), Helgesen and Nasset (2007), and Lam & Burton (2006). This study seeks to fill the gap by investigating the impact of service quality dimensions (i.e., tangible, reliability, responsiveness, assurance, and empathy) on student satisfaction and loyalty. The findings of the present study provide the foundation for the future higher education studies of Yemen.

Based on the discussion above, various prior studies examined the role of mediators in satisfaction. Conversely, limited research has explored the role of student satisfaction as a mediator between service quality and student loyalty. Currently, there is a dearth of information regarding student satisfaction and university loyalty in less-developed countries

have rarely investigated ways to create and maintain a long-term relationship with the higher education sector and student satisfaction/loyalty in countries.

The current study highlights and examines the effects of service quality on student satisfaction and loyalty in the universities' environmental context. The focus of this study is on identifying the mediating role of student satisfaction between the independent variables (i.e., service quality) and the dependent variable (i.e., student loyalty). Based on the preceding discussion, the purpose of this study is to accomplish the following objectives:

- Determining the levels of service quality components (i.e., tangible, reliability, responsiveness, assurance, and empathy) perceived by Yemeni students at the university level in Hadramout Governorate, Yemen. Yemeni students at the university level in Hadramout Governorate, Yemen, also perceive high levels of satisfaction and loyalty.
- We need to gain a deeper comprehension of how service quality variables affect students' satisfaction and loyalty.
- We are proposing and testing an integrated model that examines the influences between the independent variable, service quality, and the dependent variable, student loyalty, through the mediating variable, student satisfaction.

Accordingly, the following hypotheses were suggested:

H1: Service quality has positive influences on a student's loyalty in the context of the higher education sector.

H2: Student satisfaction has a positive influence on student loyalty in the context of the higher education sector.

H3: Student satisfaction mediates the relationship between the independent variable (i.e., service quality) and the dependent variable (i.e., student loyalty) in the context of the higher education sector.

### **RESEARCH METHODOLOGY:**

Three variables in this study test the hypothesized connections within the suggested research model: service quality, student satisfaction, and student loyalty. This study seeks to investigate the nature and the importance of the relationships across service quality, satisfaction, and loyalty in the context of the higher education sector. Particularly, this study aims to examine the influence of the independent variable (i.e., service quality) on the dependent variable (i.e., student loyalty) through the mediating effect of student satisfaction.

For all measurements of the study scale, Cronbach's alpha values ranged from 0.705 to 0.840. Sekaran and Bougie (2010) regarded these values as acceptable and reliable for inner consistency, as they exceeded the limit value of 0.70.

We modified the questionnaire's items and scales using several sources from current literature to enhance its effectiveness. The SERVQUAL scale was adapted from Parasuraman *et al.* (1988); student satisfaction was adapted from Nettet and Helgesen (2007b), Annamdevula and Bellamkonda (2016a and 2016b), and student loyalty was adapted from Harsandaldeep Kaur and Harmeen Soch (2012), and the scaling adopted in this study was the 5-point Likert scale: (1-strongly disagree; 2-disagree; 3-neutral; 4-agree; and 5-strongly agree).

The study focused on students from various universities in the Hadramout Governorate over the past five years. The six universities in the Hadramout Governorate have been selected as the place of this study. Five aspects of the favour goodness were covered in this study: "Tangibles," "Reliability," "Responsiveness," "Assurance," and "Empathy," which have important implications to evaluate the effect of favour goodness on students' contentment and loyalty at the university level of the Hadramout Governorate with student satisfaction as the mediator for these variables. For data-gathering purposes, this research gathers information directly from students in classrooms and hostels who still study at six different universities in the Hadramout Governorate, Yemen, for the academic year 2017-2018 (i.e., two government universities and four private). We used the cluster sampling method, a self-administered technique, to gather data from 377 students (Sekaran, 2003). After employing a widely used technique and investigation for ignored data and outliers, the analysis was based on 377 usable questionnaires.

We used several data analysis techniques, including frequencies and correlation coefficients, in SPSS21 to define the nature and significance of the correlation between the variables. Traditionally, the simple regression approach has been used to analyse the mediation and moderation in a stepwise approach. However, the process regression method allows us to conduct both mediation and moderation in one single analysis (Hadi *et al.*, 2019). Therefore, the study uses simple and hierarchical regression techniques, following Baron and Kenny's (1986) recommendations, to test the hypotheses and explore the mediating impact of customer satisfaction between variables.

## RESULTS:

### Reliability and Validity Test:

To enhance the measurement's validation, two necessary tests were conducted: firstly, (KMO) Kaiser Meyer Olkin and Bartlett's examination of Sphericity; secondly, the examination of Cronbach's alpha. A high Kaiser Meyer Olkin percentage (almost to unity) is preferred and must be more than 0.70 (Leech, Barrett, & Morgan, 2014). Besides, Bartlett's examination of Sphericity should be significant (more than 0.05) (Leech *et al.*, 2014). Table 4 indicates that the Kaiser Meyer Olkin for the questionnaire elements got a percentage of 0.90 and the Bartlett's examination of Sphericity indications to be significant with percentage less than 0.000.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.90
Bartlett's Test of Sphericity"	"Approx. Chi-Square"	1365.202
	"Df"	21
	"Sig."	.000

According to Peterson (1994) the considered value of coefficient rate between 0.5 and 0.6 was also satisfactory. Table 5 reports the examination Cronbach's alpha coefficients for all measurements ranged from 0.705 to 0.840., indicating that the questionnaire and the variables were a reliable instrument for measuring student loyalty.

Table 5: Cronbach's Alpha for Variables

"Number of Items"	Variable	"Alpha"
Independent variables (Service Quality) 25 items		
5	Tangibility	70.5%
5	Reliability	74.5%
5	Responsiveness	74.2%
5	Assurance	79.4%
5	Empathy	75.4%
Dependent variable		
5	Students' Loyalty	83.6%
Mediator variable		
5	Students' Satisfaction	84.0%
35	Average of Cronbach's Alpha	77.4%
35	All items	93.2%

### Descriptive Analysis:

It includes the means and standard deviations of the independent variable (i.e., service quality); as well as the dependent variable (i.e., student loyalty) and the mediating variable (i.e., student satisfaction). The 5-point Likert scale was utilized for measuring all the variables. The interpretation of a likert scale is shown in Table 6.

Table 6: Verbal Interpretation

"How to calculate the verbal interpretation"		
"If the average verbal interpretation"	"Verbal appreciation"	"If the ratio"
Less than <b>1.8</b> "	"Strongly Disagree"	"Less than 36%"
From <b>1.8</b> and less than <b>2.6</b>	Disagree"	"From 36% and less than 52%"
From <b>2.6</b> and less than <b>3.4</b>	"Neutral"	"From 52% and less than 68%"
From <b>3.4</b> and less than <b>4.2</b>	"Agree"	"From 68%and less than 84%"
From <b>4.2</b> to <b>5</b> "	"Strongly Agree"	"From 84% to 100%"

### Tangibility:

The findings of descriptive statistics of the Tangibility which measured by 5 items was shown in the Table 7, the results of (Tang4) paragraph (Employees at my university are neat and appear well-dressed) showed that it got the first level with a mean of (3.63) and a standard deviation of (0.989). The highest percentage (72.6%) of respondents is agreed. The (Tang1) paragraph (My university has up-to-date equipment) ranked last with a mean of (2.55) and standard deviation of (1.129) with a degree of 51%. The overall average of the variable is (2.94) and the standard deviation is (0.825) with the degree 58.8%.

Table 7: The Mean Scores of the Tangible Variable

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
1	377	Employees at my university are neat and appear well dressed.	3.63	.989	72.6%	Agree
2	377	My university buildings and courtyards are clean and attractive.	3.10	1.295	62.0%	Neutral
3	377	My university has Parking space.	2.85	1.274	57.0%	Neutral
4	377	The appearance of the physical facilities of my university is in keeping with other types of educational services sectors.	2.58	1.364	51.6%	Disagree
5	377	My university has up-to-date equipment.	2.55	1.129	51.0%	Disagree
<b>Tangibility</b>			<b>2.94</b>	<b>0.825</b>	<b>58.8%</b>	<b>Neutral</b>

### Reliability

There were 5 items of Reliability was measured. The findings of the descriptive statistics of the Reliability were shown in Table 8, the results of (REL3) paragraph (My university keeps accurate records) showed that it got the first rank with a mean of (3.83) and a standard deviation of (1.015). The highest percentage (76.6%) of respondents is agreed. The (REL2) paragraph (My University responds to student's educational problems quickly) ranked last with a mean of (3.06) and a standard deviation of (1.214) with the degree 61.2%. The overall average of the variable is (3.46) and the standard deviation is (0.773) with the degree 69.2%.

Table 8: The Mean Scores of the Reliability Variable

"Rank"	"N"	"Items"	"Mean"	"Std. Deviation"	"Percent"	"Verbal Result"
1	377	My university keeps accurate records.	3.83	1.015	76.6%	Agree
2	377	My university is committed to providing the best educational services promised by a certain time.	3.72	1.135	74.4%	Agree
3	377	My university is committed to provide the educational service	3.36	.994	67.2%	Neutral

"Rank"	"N"	"Items"	"Mean"	"Std. Deviation"	"Percent"	"Verbal Result"
		correctly from the first time.				
4	377	The behaviour of the employees is characterized by transparency, clarity and provides the educational service with fairness.	3.33	1.118	66.6%	Neutral
5	377	My university responds to students' educational problems quickly.	3.06	1.214	61.2%	Neutral
<b>Reliability</b>			<b>3.46</b>	<b>0.773</b>	<b>69.2%</b>	<b>Agree</b>

### Responsiveness

There were 5 items of Responsiveness was measured. The results of the descriptive statistics of the Responsiveness were shown in Table 9. The results of (RES1) paragraph (my university tells students exactly when services will be performed, I am somewhat disorganized I am better able to adjust to unexpected events) show that it got the first rank with a mean of (3.75) and standard deviation of (0.957). The highest percentage (75%) of respondents is agreed. The (RES3) paragraph (My university employees respond to student's educational problems quickly) ranked last with a mean of (2.88) and a standard deviation of (1.107) with the degree 57.6%. The overall average of the variable is (3.21) and the standard deviation is (0.757) with the degree 64.2%.

Table 9: The Mean Scores of the Responsiveness Variable

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
1	377	My university tells students exactly when services will be performed."	3.75	.957	75.0%	Agree
2	377	My university employees are always willing to help students."	3.53	1.047	70.6%	Agree
3	377	My university is providing an effective communication channels between students and employees.	3.02	1.156	60.4%	Neutral



Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
4	377	My university is committed to providing educational services in line with the students' abilities.	2.90	1.118	58.0%	Neutral
5	377	My university employees respond to students' educational problems quickly.	2.88	1.107	57.6%	Neutral
<b>Responsiveness</b>			<b>3.21</b>	<b>0.757</b>	<b>64.2%</b>	<b>Neutral</b>

### Assurance

There were 5 items of Assurance was measured. The results of the descriptive statistics of Assurance were shown in Table 10. The results of (ASS2) paragraph (1-foot safe with university employees) shown that it ranked last with a mean of (4.05) and standard deviation of (0.865) with the degree 81% of respondents was agreed. The (ASS4) paragraph (My university employees get adequate support from the university in order to do their jobs well) got the first rank with a mean of (3.29) and standard deviation of (1.054). The highest percentage (65.8%). The overall average of the variable is (3.6) and standard deviation is (0.743) with the degree 72%.

Table 10: The Mean Scores of the Assurance Variable

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
1	377	1 foot safe with university employees.	4.05	.865	81.0%	Agree
2	377	I can trust university employees.	3.65	1.016	73.0%	Agree
3	377	My university employees are polite, positive and courteous.	3.61	1.000	72.2%	Agree
4	377	My university has Security measures.	3.40	1.072	68.0%	Agree
5	377	My university employees get adequate support from the university in order to do their jobs well.	3.29	1.054	65.8%	Neutral
<b>Assurance</b>			<b>3.60</b>	<b>0.743</b>	<b>72.0%</b>	<b>Agree</b>

### Empathy

There were 5 items of Empathy was measured. The results of the descriptive statistics of Empathy were shown in Table 11, the results of (EMP3) paragraph (My university employee's office hours are appropriate to students) shown that it ranked last with a mean of (3.63) and standard deviation of (1.069) with the degree 72.6% of respondents is agreed. The (EMP2) paragraph (University employees knew what student's needs is) got the first rank with a mean of

(2.82) and standard deviation of (1.104). The highest percentage (56.4%). The overall average of the variable is (3.15) and standard deviation is (0.752) with the degree 63%.

Table 11: The Mean Scores of the Empathy Variable

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
1	377	My university employee's office hours are appropriate to students.	3.63	1.069	72.6%	Agree
2	377	My university is fair and unbiased in their treatment of individual's students.	3.28	1.274	65.6%	Neutral
3	377	My university offers an opportunity for graduation parties and trips.	3.19	1.258	63.8%	Neutral
4	377	My university employees give personal attention to each student	2.84	1.083	56.8%	Neutral
5	377	University employees knew what student's needs is.	2.82	1.104	56.4%	Neutral
<b>Empathy</b>			<b>3.15</b>	<b>0.752</b>	<b>63.0%</b>	<b>Neutral</b>

### Student's Satisfaction

There were 5 items of student's satisfaction was measured. The results of the descriptive statistics of student's satisfaction were shown in Table 12, the results of (SAT3) paragraph (I am satisfied with the educational level of the academic staff) shown that it ranked last with a mean of (3.29) and standard deviation of (1.185) with the degree 65.8% of respondents are agreed. The (SAT4) paragraph (I feel that the educational service provided exactly matches my expectations) got the first rank with a mean of (2.74) and standard deviation of (1.177). The highest percentage (54.8%). The overall average of the variable is (2.97) and standard deviation is (0.940) with the degree 59.4%.

Table 12: The Mean Scores of the Student Satisfaction Variable

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
1	377	I am satisfied with the educational level of the academic staff.	3.29	1.185	65.8%	Neutral
2	377	I feel that the educational service provided is ideal and	3.03	1.214	60.6%	Neutral

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
		provides me with new knowledge.				
3	377	I am satisfied with the education service quality at the University.	2.91	1.252	58.2%	Neutral
4	377	I am satisfied n with the quality of student services at university.	2.87	1.187	57.4%	Neutral
5	377	I feel that the educational service provided exactly matches my expectations.	2.74	1.177	54.8%	Neutral
<b>Students' Satisfaction</b>			<b>2.97</b>	<b>0.940</b>	<b>59.4 %</b>	<b>Neutral</b>

### Student's Loyalty

There were 5 items of student's loyalty was measured. The results of the descriptive statistics of student's loyalty were shown in Table 13. The results of (LOY4) paragraph (I contribute to preserving the reputation of my university in the community) showed that it ranked last with a mean of (4.02) and standard deviation of (0.947) with the degree 80.4% of respondents is agreed.

The (LOY1) paragraph (If I had the choice again; Hadramout University is my first choice to study in the future) got the first rank with a mean of (3.12) and standard deviation of (1.361). The highest percentage (62.4%). The overall average of the variable is (3.61) and standard deviation is (0.914) with the degree 72.2%.

Table 13: The Mean Scores of the Student Loyalty Variable

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
1	377	I contribute to preserve the reputation of my university in the community.	4.02	.947	80.4%	Agree
2	377	I say positive things to others about my university.	3.74	1.015	74.8%	Agree
3	377	I consider my university the best for me in comparison with other universities at Hadramout Governorate.	3.73	1.298	74.6%	Neutral
4	377	I strongly recommend my university for friends and acquaintances and others	3.44	1.204	68.8%	Agree

Rank	N	Items	Mean	Std. Deviation	Percent	Verbal Result
		seeking my advice about tertiary studying.				
5	377	If I had the choice again, Hadramout University is my first choice to study in the future.	3.12	1.361	62.4%	Agree
<b>Students' Loyalty</b>			<b>3.61</b>	<b>0.914</b>	<b>72.2 %</b>	<b>Agree</b>

### The Overall Variables:

Table 14: The Mean Scores of the Variables

Rank	Rank	N	Mean	Std. Deviation	Percent	Verbal Result
1	Students' Loyalty	37 7	3.61	0.914	72.2%	Agree
2	Assurance	37 7	3.60	0.743	72.0%	Agree
3	Reliability	37 7	3.46	0.773	69.2%	Agree
4	Responsiveness	37 7	3.21	0.757	64.2%	Neutral
5	Empathy	37 7	3.15	0.752	63.0%	Neutral
6	Students' Satisfaction	37 7	2.97	0.940	59.4%	Neutral
7	Tangibility	37 7	2.94	0.825	58.8%	Neutral

Overall, the average mean scores of the seven variables indicated that the level ranges from (Neutral- from 52% and less than 68) to (Agree- from 68%and less than 84%). Student gave a better evaluation to; loyalty, assurance, reliability, responsiveness, empathy, satisfaction, and tangibility respectively. The results were shown in Table 14.

### Correlation Matrix:

Correlation was an indication of the nature of the link between two variables. The relationship can be positive, negative, weak, moderate, strong or any logical combination. Table 4.16 was showed that the rules of thumb that needed to be used in interpreting the R-value obtained from inter correlation analysis.

Hair, Anderson, Tatham, & Black (1998) have recommended the thumb rule used for interpreting the inter-correlation testing R-value as shown in Table 15.

Table 15: Interpreting the "R-value for Correlations"

"Relationship"	"R-value Relationship"
"Very strong relationship"	"Above 0.70"
"Strong relationship"	"0.50- 0.69"
"Moderate relationship"	"0.30- 0.49"
"Low relationship"	"0.10- 0.29"
"Very low relationship"	"0.01- 0.09"

Table 16, shows the correlation coefficients' matrix across the variables. All variables were statistically significant and positively correlated with loyalty and each other (range of  $r = .274$  to  $r = .839$ ,  $P\text{-value} < .01$ ). Thus, loyalty was showed to be statistically significant and positively correlated to satisfaction ( $r = .588$ ,  $P\text{-value} < .01$ ), service quality ( $r = .553$ ,  $P\text{-value} < .01$ ), reliability ( $r = .509$ ,  $P\text{-value} < .01$ ), empathy ( $r = .459$ ,  $P\text{-value} < .01$ ), assurance ( $r = .441$ ,  $P\text{-value} < .01$ ), responsiveness ( $r = .427$ ,  $P\text{-value} < .01$ ) and tangibility ( $r = .353$ ,  $P\text{-value} < .01$ ).

Table 16: Correlation Coefficients Matrix for the Variables

Variables	Loyalty	Satisfaction	service quality	Tangible	Reliability	Responsiveness	Assurance	Empathy
Loyalty	Correlation 1 Sig.							
Satisfaction"	Correlation .588** Sig. .000	1						
Service Quality	Correlation .553** Sig. .000	.727**	1					
Tangible"	Correlation .353** Sig. .000	.442**	.612**	1				
Reliability"	Correlation .509** Sig. .000	.618**	.837**	.330**	1			
Responsiveness"	Correlation .427** Sig. .000	.592**	.868**	.391**	.710**	1		
Assurance"	Correlation .441** Sig. .000	.610**	.839**	.375**	.653**	.679**	1	
Empathy"	Correlation .459** Sig. .000	.621**	.805**	.274**	.631**	.672**	.634**	1

This implies that the dimensions of service quality (i.e., tangibility, reliability, responsiveness, assurance, and empathy) have a strong positive correlation on student loyalty. The results of student satisfaction has the same strong impact on student loyalty.

### Hypotheses Testing:

#### Hypothesis 1:

Service quality has positive influences on student's loyalty in the context of the higher education sector.

For the purpose of testing hypothesis 1, a simple regression results for hypothesis 1 was performed. Table 17 presents the simple regression results.

Table 17: Simple Regression Results for Hypothesis 1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.553 <sup>a</sup>	.306	.304	.76224

a. Predictors: (Constant), Service Quality

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.978	1	95.978	165.192	.000 <sup>b</sup>
	Residual	217.878	375	.581		
	Total	313.856	376			

a. Dependent Variable: Loyalty

b. Predictors: (Constant), Service Quality

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.886	.215		4.116	.000
	Service Quality	.831	.065	.553	12.853	.000

a. Dependent Variable: Loyalty

The simple regression findings showed that:

- In the model-summary table: As the value of the Pearson correlation coefficient (R) is .553, the relationship was a positive correlation between the quality of service and student's loyalty. The correlation result was according to the value of  $R^{\text{Square}} = (0.306, p\text{-value} \leq 0.05)$  the result indicates that there was a significant effect between the quality of service and student's loyalty.
- The ANOVA table shows how well the model fit. The result indicates that, P-values are less than .01, which means that it is a very good consistent model.

- In the coefficients table: The (B) value for the constant model 1 indicates that, when all the predictive variables are zero; the student's loyalty is (.886). Every percentage of service quality provided will add about (.831) for the student's loyalty. The probability levels for the variables are statistically significant (P-value < .000).

These results supported that, service quality has positive influences on student loyalty in the context of the higher education sector. Thus hypothesis (H1) is accepted.

### Hypothesis 2:

Student's satisfaction has a positive influence on student's loyalty in the context of the higher education sector.

For the purpose of testing hypothesis 2, a simple regression analysis was performed. Table 18, presents the simple regression results.

Table 18: Simple Regression Results for Hypothesis 2

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.588 <sup>a</sup>	.346	.345	.73969

a. Predictors: (Constant), Satisfaction

#### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	108.677	1	108.677	198.625	.000 <sup>b</sup>
	Residual	205.179	375	.547		
	Total	313.856	376			

a. Dependent Variable: Loyalty

b. Predictors: (Constant), Satisfaction

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.909	.126		15.095	.000
	Satisfaction	.572	.041	.588	14.093	.000

a. Dependent Variable: Loyalty

The simple regression findings showed that:

- In the model-summary table: As the value of the Pearson correlation coefficient (R) is .588, the relationship was a positive correlation between the satisfaction and student's loyalty. The correlation result was according to the value of  $R^{\text{Square}} = (0.346, p\text{-value} \leq$

0.05) the result indicates that there was a significant effect between the satisfaction and student's loyalty.

- The ANOVA table shows how well the model fit. The result indicates that, P-values are less than .01, which means that it is a very good consistent model.
- In the coefficients table: The (B) value for the constant model 1 indicates that, when all the predictive variables are zero; the student's loyalty is (1.909). Every percentage of service quality provided will add about (.572) for the student's loyalty. The probability levels for the variables are statistically significant (P-value < .000).

These results supported that, satisfaction has positive influences on student's loyalty in the context of the higher education sector. Thus hypothesis (H2) is accepted.

### Hypothesis 3:

Student's satisfaction mediates the relationship between the independent variable (i.e., service quality) and the dependent variable (i.e., student's loyalty) in the context of the higher education sector.

Finally, for the purpose of testing hypothesis 3, a hierarchical regression analysis was performed by following Baron and Kenny's (1986) suggestions. The programs entered service quality first in the equation; and then entered student's satisfaction in the second equation. This allowed the researcher to see the impact of both independent variable (i.e., service quality) and mediating variable (i.e., student's satisfaction) when they were included in the model. Table 19, provides the hierarchical regression.

Table 19: Hierarchical Regression Results for Hypothesis 3

Model Summary						
Model	R	R Square	Adjusted Square	RStd. Error of the Estimate		
1	.553 <sup>a</sup>	.306	.304	.76224		
2	.616 <sup>b</sup>	.379	.376	.72163		

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.978	1	95.978	165.192	.000 <sup>b</sup>
	Residual	217.878	375	.581		
	Total	313.856	376			
2	Regression	119.095	2	59.547	114.349	.000 <sup>c</sup>
	Residual	194.761	374	.521		
	Total	313.856	376			

- a. Dependent Variable: Loyalty
- b. Predictors: (Constant), Service Quality
- c. Predictors: (Constant), Service Quality, Satisfaction



		Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	.886	.215		4.116	.000
	Service Quality	.831	.065	.553	12.853	.000
2	(Constant)	1.160	.208		5.577	.000
	Service Quality	.399	.089	.265	4.473	.000
	Satisfaction	.384	.058	.395	6.663	.000

a. Dependent Variable: Loyalty

The hierarchical regression results indicated that:

- In the model-summary table: The (R) values = (.553) & (.616) show how positively strong is the correlation coefficients between the variables. The (R<sup>2</sup>) for model 1 shows that about (.306) percent of variance for student's loyalty can be predicted by the independent variable (i.e., service quality). As well as, the (R<sup>2</sup>) for model 2 shows that about (.379) percent of variance for student's loyalty can be predicted by both; the independent (service quality), and then the mediating variable (student's satisfaction).
- The ANOVA table shows how well the model fits. The result indicates that P-values are less than .01, which means that it is a very good consistent model.
- In the coefficients table: The (B) value for the constant model 2 indicates that when all the predictive variables are zero, the loyalty is (1.160). Every percentage of service quality provided will add about (.399) for the student's loyalty. Besides, every percentage of student's satisfaction will add about (.384) for the student's loyalty.

The F statistic for the second model (i.e., when, satisfaction involved) is 114.349 with a P-value of less than .01, representing a significant model. Regarding the explanatory contributions for mediating effects, the hierarchical regression results in the second model propose that satisfaction adds about 7.4% unique clarification of the overall variance as shown by the change in R<sup>2</sup>.

These results supported that student's satisfaction mediates the relationship between the independent variable (i.e., service quality) and the dependent variable (i.e., student's loyalty) in the context of the higher education sector. Thus hypothesis (H3) is accepted.

## DISCUSSION AND CONCLUSION:

The focus of this study is to investigate the nature and the importance of the relationships across service quality, student satisfaction, and student loyalty in the context of the higher education sector. Particularly, this study aims to build up the mediating effect of understanding student satisfaction on the independent variable (i.e., service quality) and the dependent variable (i.e., student loyalty). We developed the model based on previous findings, which revealed a positive and significant direct influence of service quality on students' satisfaction. The same model also showed that service quality has a positive and significant direct influence on a student's loyalty. The model then presented the mediating relationship, positioning the student's satisfaction as a

mediator between the independent variable (service quality) and the dependent variable (student's loyalty).

The analysis of mean scores, which include service quality and its dimensions, student satisfaction, and student loyalty, has yielded significant findings. The majority of Yemeni students express satisfaction with the service quality and its dimensions offered by universities, with scores of 'assurance' at 3.60, 'reliability' at 3.46, 'responsiveness' at 3.21, 'empathy' at 3.15, and 'tangibility' at 2.94. Additionally, students demonstrated acceptable levels of agreement with the satisfaction and loyalty variables, scoring 'agree' at 3.61 and 'neutral' at 2.97.

On the other side, the results show that there was a positive relationship between the quality of service and the student's loyalty. A strong impact on a student's loyalty and its dimensions, namely tangibles, assurance, responsiveness, reliability, and empathy, also have different strong impacts on a student's loyalty at the university level of the Hadramout Governorate, where the reliability dimension of quality of service has the highest impact (strong effect) on a student's loyalty, followed by the empathy dimension of quality of service in the second rank (moderate), while the tangible dimension of service quality gained the lowest impact on a student's loyalty. Furthermore, the findings demonstrated that the quality of service positively influenced students' satisfaction, with all its dimensions having a positive effect except for the tangible dimension, which had a moderate effect. Besides, the result of this study confirms the strong relationship between a student's satisfaction and a student's loyalty.

The study validates the most accepted relationship between the independent variable (service quality) and student loyalty. The direct relationship path coefficient between the two variables is 0.553, which is considered significant. The RSquare demonstrates that the service quality variable can predict approximately 30.6 percent of the variance in a student's loyalty. Additionally, the (B) values suggest that an increase of one percentage point in service quality will result in an increase of approximately (.831) in student loyalty. The results suggest that a higher perception of service quality leads to stronger perceptions of students' loyalty. The result is consistent with the previous studies conducted in the context of the higher education sector, like Dora (2017), Ali *et al.* (2013), Fares *et al.* (2013), and Seok (2013).

Next, we validate the direct relationship path coefficient (.727) between the independent variable (i.e., service quality) and satisfaction, which is significant. Additionally, we validate the relationship between a student's satisfaction and loyalty ( $r = .588$ ), which is also significant. The RSquare indicates that a student's satisfaction can predict about 34.6 percent of the variance in their loyalty, with each percentage increase in satisfaction adding about 57.2 percent to their loyalty. The results show that measuring the quality of services without measuring student satisfaction was not effective in increasing student loyalty. Dib and Alnazer (2013) found the influence of student satisfaction on student loyalty in their study in Syria.

This study also evaluated the mediation influence of student satisfaction on service quality and student loyalty in the context of the higher education sector. The results of the current study obviously show that satisfaction is a key variable that mediates the relationship between the independent variable (i.e., service quality) and the student's loyalty. The (R) value = (.616) shows how positively strong the correlation coefficients are between the variables. When satisfaction is

included in the model, the (R2) values rise from (.306) to (.379), suggesting that satisfaction acts as a mediating influence between the variables. The (B) values suggest that each percentage increase in service quality and satisfaction will contribute approximately (.399) and (.384) to the student's loyalty, respectively. The results suggest that satisfaction contributes approximately 7.4% to the overall variance, as indicated by the change in R2. Accordingly, the data analysis for the current study strongly supports the overall framework suggested throughout this study. The study found that the student's satisfaction significantly influenced their loyalty, indicating a causal relationship in the quality of services literature (e.g., Teddy Chandra, 2018; Dora, 2017; Dib and Alnazer, 2013; Fares et al., 2013).

Yemeni students perceive service quality as a crucial factor in determining their satisfaction and loyalty. However, if higher education directors want to create unique loyalty among their students, they must establish long-lasting interactions with them by improving their service quality. In this way, students will be satisfied with the universities and motivated to become loyal.

### RESEARCH LIMITATIONS

The study shows some limitations that should be considered. The limitations were as follows:

- a. The scope of the study that was comparatively limited (*i.e.* universities level within Hadramout Governorate). However, this sample size fulfills the minimum requirement for research.
- b. The focus of this study was only on the university students and not the university staff despite they were clients.
- c. This research used SERVQUAL scales to assess the quality of services at higher education.
- d. The demographic profile variables have not been taken into consideration.

### Directions For Future Study

There are several opportunities as a platform for forthcoming studies to control the limitations presented in the previous section. However, before making recommendations, the researchers can clarify that the limitations described above were fully recognized and addressed accordingly in the study. The directions for possible future studies are given below:

- a. Larger scope will be quite helpful to explore more students overall Governorates Yemen.
- b. The focus of the future study may involve the staff of the university.
- c. Future research may apply other measurements and scales for instruments quality of services like HiEduQual, HeDPERF and SERVPERF.
- d. The demographic profile impact should be in consideration for future study.

### REFERENCES

- AbuHasan, H. I. (2008). Service quality and student satisfaction: A case study at private higher education institutions. *International Business Research*, 3(3), 163–175.
- Afzal, W. A. (2010, December 6–8). On students' perspective of quality in higher education. Paper presented at the 3rd International Conference on Assessing Quality in Higher Education.

Retrieved 2018, from  
<http://www.icaqhe2010.org/Papers%20published%20in%203rd%20ICAQHE%202010/28-Dr%20Waheed%20Afzal.pdf>

- Akbar, M. M., & Parvez, N. (2009). Impact of service quality, trust, and customer satisfaction on customers' loyalty. *ABAC Journal*, 29(1), 24–38.
- Ali, F., & Amin, H. (2013). An assessment of the perceived service quality: Comparison of Islamic and conventional banks in Pakistan. *International Journal of Innovation and Business Strategy*, 2(1).
- Alves, H., & Raposo, M. (2007). Conceptual model of student satisfaction in higher education. *Total Quality Management*, 18(5), 571–588.
- Alves, H., & Raposo, M. (2010). The influence of university image on students' behavior. *International Journal of Educational Management*, 24(1), 73–85.
- Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(2), 125–143.
- Anderson, E. W. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *The Journal of Marketing*, 58(3), 53–66.
- Archakova, A. (2013). Service quality and customer satisfaction: Case study: Company X. Saimaa. Unpublished doctoral dissertation, University of Applied Sciences Faculty of Business Administration.
- Arif, S., & Ilyas, M. (2013). Quality of work-life model for teachers of private universities in Pakistan. *Quality Assurance in Education*, 21(3), 282–298.
- Athanassopoulos, A. G. (2001). Behavioral responses to customer satisfaction: An empirical study. *European Journal of Marketing*, 35(5/6), 687–698.
- Austin, A. J. (2017). The relation between "student loyalty" and "student satisfaction": A case of college/intermediate students at Forman Christian College. *European Scientific Journal*, 13(10), 1857–7431.
- Bamfo, B. A., Dogbe, C. S. K., & Osei-Wusu, C. (2018). The effects of corporate rebranding on customer satisfaction and loyalty: Empirical evidence from the Ghanaian banking industry. *Cogent Business & Management*, 5(1), 1–11.

- Bangun, L. T. (2017). Service quality that improves customer satisfaction in a university: A case study in Institut Teknologi Indonesia. *IOP Conference Series: Materials Science and Engineering*, 180(1), 1–6.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Bashour, M. (2005). Quality assurance in higher education in the Arab countries. Beirut, Lebanon: Association for Educational Sciences.
- Bellamkonda, S. A. (2016, April 3). The effects of service quality on student loyalty: The mediating role of student satisfaction. *Journal of Modelling in Management*, 11(2), 414–438.
- Bowen, J. T., & Chen, S. L. (2001). The relationship between customer loyalty and customer satisfaction. *International Journal of Contemporary Hospitality Management*, 13(5), 213–217.
- Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34–49.
- Butt, B. Z., & ur Rehman, K. (2010). A study examining the students' satisfaction in higher education. *Procedia - Social and Behavioral Sciences*, 2(1), 5446–5450.
- Chen, Y. (2016). An empirical study on the student experience of higher education service quality in Taiwan. *International Journal of Management Sciences*, 6(12), 582–594.
- Cronin, J. J., Jr., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76(2), 193–218.
- Dabholkar, P. A., Thorpe, D. I., & Rentz, J. O. (1996). A measure of service quality for retail stores: Scale development and validation. *Journal of the Academy of Marketing Science*, 24(1), 3–16.
- Dado, J., Petrovicová, J., & Čuzović, S. (2011). An empirical examination of the relationships between service quality, satisfaction, and behavioral intentions in a higher education setting. *Serbian Journal of Management*, 6(2), 203–218.
- Dib, H., & Alnazer, M. (2013). The impact of service quality on student satisfaction and behavioral consequences in higher education services. *International Journal of Economy, Management and Social Sciences*, 2(6), 285–290.

- Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99–113.
- Djafri, F. M., & Fares, M. A. (2013, December). The impact of service quality, student satisfaction, and university reputation on student loyalty: A case study of international students in IIUM, Malaysia. *Information Management and Business Review*, 5(12), 584–590.
- Dora, Y. M. (2017). Analysis effect of service quality, educational facilities, and method of learning, student satisfaction and loyalty to students: Studies in the University of Widyatama Bandung. *European Journal of Social Sciences Education and Research*, 11(2), 16–27.
- Douglas, J., McClelland, R., & Davies, J. (2008). The development of a conceptual model of student satisfaction with their experience in higher education. *Quality Assurance in Education*, 16(1), 19–35.
- Duffy, D. L. (2003). Internal and external factors which affect customer loyalty. *Journal of Consumer Marketing*, 20(5), 480–485.
- Emari, H., Iranzadeh, S., & Bakhshayesh, S. (2011). Determining the dimensions of service quality in the banking industry: Examining Grönroos's model in Iran. *Trends in Applied Sciences Research*, 6(1), 57–64.
- Elliott, K. M., & Healy, M. A. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, 24(2), 197–209.
- Fecikova, I. (2004). An index method for measurement of customer satisfaction. *The TQM Magazine*, 16(1), 57–66.
- Giner, G. R., & Rillo, A. P. (2016). Structural equation modeling of co-creation and its influence on the student's satisfaction and loyalty towards university. *Journal of Computational and Applied Mathematics*, 291, 257–263.
- Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18(4), 36–44.
- Grönroos, C. (1990). *Service management and marketing: Managing the moments of truth in service competition*. Lexington, MA: Lexington Books.
- Gyamfi, D. A. (2012). Assessing the provision of quality student service and satisfaction in tertiary institutions in Ghana: Using Cape Coast Polytechnic as a case study. *Asian Journal of Business and Management Science*, 1(12), 20–32.

- Hadi, N. U., Aslam, N., & Gulzar, A. (2019). Sustainable service quality and customer loyalty: The role of customer satisfaction and switching costs in the Pakistan cellphone industry. *Sustainability, 11*(8), 1–17.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Helgesen, O., & Nettet, E. (2007). What accounts for students' loyalty? Some field study evidence. *International Journal of Educational Management, 21*(2), 126–143.
- Helgesen, O., & Nettet, E. (2007b). Images, satisfaction and antecedents: Drivers of student loyalty? A case study of a Norwegian university college. *Corporate Reputation Review, 10*(1), 38–59.
- Helgesen, O., & Nettet, E. (2011). Does LibQUAL account for student loyalty to a university college library? *Quality Assurance in Education, 19*(4), 413–440.
- Izogo, E. E. (2017). Customer loyalty in the telecom service sector: The role of service quality and customer commitment. *The TQM Journal, 29*(1), 19–36.
- IWA. (2007). International standard, quality management systems: Guidelines for the application of ISO 9001:2000 in education (IWA 2:2007). Geneva: International Organization for Standardization.
- Johnson, M. D., Herrmann, A., & Gustafsson, A. (2001). The evolution and future of national customer satisfaction index models. *Journal of Economic Psychology, 22*(2), 217–245.
- Karaman, A. T. (2008). International student teaching in world language education: Critical criteria for global teacherhood. *Critical Inquiry in Language Studies, 5*(2–3), 237–264.
- Kasper, H. H. (2006). *Services marketing management*. Chichester, England: John Wiley & Sons Ltd.
- Kaur, H., & Soch, H. (2012). Validating antecedents of customer loyalty for Indian cellphone users. *Vikalpa, 37*(4), 47–61.
- Kotler, P., & Keller, K. L. (2006). *Marketing management*. Upper Saddle River, NJ: Prentice Hall.
- Kwek, C. L., Lau, T. C., & Tan, H. P. (2010). The 'Inside-out' and 'Outside-in' approaches on students' perceived service quality: An empirical evaluation. *Management Science and Engineering, 4*(2), 1–26.
- Lam, R., & Burton, S. (2006). SME banking loyalty (and disloyalty): A qualitative study in Hong Kong. *International Journal of Bank Marketing, 24*(1), 37–52.

- Leech, N. L., Barrett, K. C., & Morgan, G. A. (2014). *SPSS for intermediate statistics: Use and interpretation* (5th ed.). New York, NY: Routledge.
- Letcher, D., & Neves, J. (2010). Determinants of undergraduate business student satisfaction. *Research in Higher Education Journal*, 7(1), 1–26.
- Lewis, B. R. (1990). Service quality measurement. *Marketing Intelligence and Planning*, 8(4), 4–12.
- Martensen, A., Gronholdt, L., Eskildsen, J. K., & Kristensen, K. (2000). Measuring student-oriented quality in higher education: Application of the ECSI methodology. *Sinergie-Rapporti di Ricerca*, 9(6), 371–383.
- Marzo-Navarro, M., Pedraja-Iglesias, M., & Torres-Pruñonosa, J. (2005). Measuring customer satisfaction in summer courses. *Quality Assurance in Education*, 13(1), 53–65.
- Meštrović, D. (2017). Service quality, students' satisfaction, and behavioral intentions in STEM and IC higher education institutions. *Interdisciplinary Description of Complex Systems*, 15(1), 66–77.
- MFA. (2012). Global overview 2011: People internally displaced by conflict and violence. *Internal Displacement Monitoring Centre (IDMC)*.
- Mohammed, A. A., Ibrahim, S. B., & Ali, A. H. (2017). The impact of service quality on customer loyalty in Sudanese banking sector. *Journal of Economic Sciences*, 18(2), 212–225.
- Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York, NY: McGraw-Hill.
- Osman, Z., Mohamad, R., & Mohamad, L. (2016). Mediating effect of customer satisfaction on service quality and trust relationship in Malaysian banking industry. *International Journal of Advances in Management, Economics and Entrepreneurship*, 3(1), 10–19.
- Palacio, A. B., Meneses, G. D., & Pérez, P. J. P. (2002). The configuration of the university image and its relationship with the satisfaction of students. *Journal of Educational Administration*, 40(5), 486–505.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing*, 67(4), 420–450.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 49(4), 41–50.



- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Petersen, T. (1994). A meta-analysis of Cronbach's alpha. *Journal of Consumer Research*, 21(2), 381–391.
- Pullman, M. E., & Gross, M. A. (2004). Ability of experience design elements to elicit emotions and loyalty behaviors. *Decision Sciences*, 35(3), 551–578.
- Qasem, A., & Alhakimi, W. (2011). International and local students' satisfaction with healthcare services. *Journal of Business Management and Accounting*, 1(2), 49–72.
- Qasem, A., & Alhakimi, W. (2019). The impact of service quality and communication in developing customer loyalty: The mediating effect of customer satisfaction. *Journal of Social Studies*, 25(4), 137–172.
- Qiu, H., Ye, B. H., Bai, B., & Wang, W. H. (2015). Do the roles of switching barriers on customer loyalty vary for different types of hotels? *International Journal of Hospitality Management*, 46, 89–98.
- Ramanathan, U., & Ramanathan, R. (2011). Guests' perceptions on factors influencing customer loyalty: An analysis for UK hotels. *International Journal of Contemporary Hospitality Management*, 23(1), 7–25.
- Richardson, J. (2005). Instruments for obtaining student feedback: A review of the literature. *Assessment and Evaluation in Higher Education*, 30(4), 387–415.
- Rust, R. T., & Oliver, R. L. (1994). *Service quality: New directions in theory and practice*. Thousand Oaks, CA: Sage Publications.
- Ryu, K., Lee, H. R., & Gon Kim, W. (2012). The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavioral intentions. *International Journal of Contemporary Hospitality Management*, 24(2), 200–223.
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill-building approach* (5th ed.). New York, NY: John Wiley & Sons.
- Seok-Lee, L. (2013). Major moderators influencing the relationships of service quality, customer satisfaction, and customer loyalty. *Asian Social Science*, 9(2), 1–12.
- Serenko, A. (2011). Student satisfaction with Canadian music programmes: The application of the American Customer Satisfaction Model in higher education. *Assessment and Evaluation in Higher Education*, 36(3), 281–299.

- Sureshchandar, G. S., Rajendran, C., & Anantharaman, R. N. (2003). Customer perceptions of service quality in the banking sector of a developing economy: A critical analysis. *International Journal of Bank Marketing, 21*(5), 233–242.
- Taecharungroj, V. (2014). University Student Loyalty Model: Structural equation modelling of student loyalty in autonomous, state, transformed, and private universities in Bangkok. *Scholar, 6*(1), 1–18.
- Teddy Chandra, M. N., & Wijaya, T. (2018). The effect of service quality on student satisfaction and student loyalty: An empirical study. *Journal of Social Studies Education Research, 9*(3), 109–131.
- Teo, C. L. (2001). Realities of private institution. *New Strait Times*.
- Thomas, S. (2011). What drives student loyalty in universities: An empirical model from India. *International Business Research, 4*(2), 183–192.
- The World Bank. (2014). Yemen: Toward a national competitiveness agenda. Washington, DC: *The World Bank*.
- UNESCO. (2011). EFA global monitoring report. Retrieved from <http://unesdoc.unesco.org/images/0019/001911/191186e.pdf>
- Wallace, D. W., Giese, J. L., & Johnson, J. L. (2004). Customer retailer loyalty in the context of multiple channel strategies. *Journal of Retailing, 80*(4), 249–263.
- Wu, K. W. (2011). Customer loyalty explained by electronic recovery service quality: Implications of the customer relationship re-establishment for consumer electronics e-tailers. *Contemporary Management Research, 7*(1), 21–44.
- Xu, Y., Goedegebuure, R., & Heijden, B. (2007). Customer perception, customer satisfaction, and customer loyalty within Chinese securities business: Towards a mediation model for predicting customer behavior. *Journal of Relationship Marketing, 5*(4), 79–104.
- Zeithaml, V. A. (1996). The behavioral consequences of service quality. *The Journal of Marketing, 60*(2), 31–46.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. New York, NY: The Free Press.