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An Integrated Mediating and Moderating Model to Improve Service Quality through Job Involvement, Job Satisfaction, and Organizational Commitment

Abd Al-Aziz Al-refaei [1,2,*] , **Hairuddin Bin Mohd Ali [3]**, **Ali Ahmed Ateeq [4]** and **Mohammed Alzoraiki [4]**

1   Research Management Centre, International Islamic University Malaysia (IIUM),
    Jalan Gombak 53100, Malaysia
2   Faculty of Administration & Economics, Shabwah University, Shabwah, Yemen
3   Faculty of Education, International Islamic University Malaysia (IIUM), Jalan Gombak 53100, Malaysia
4   Administrative Science Department, College of Administrative and Financial Science, Gulf University,
    Sanad 26489, Bahrain
*   Correspondence: ah_alrefaei@yahoo.com

Abstract: Employees' perception of their job and organization is believed to influence service quality (SQ). Hence, this study aims to integrate a mediating and moderating model to improve SQ through job involvement (JI), job satisfaction (JS), and organizational commitment (OC), and investigate how that model incorporating JI, JS, and OC can improve SQ in higher education contexts in developing countries. This study applied a conceptual integration between employees who provide the service and customer-perceived service quality. Data collection from the respondents was performed using a two-sample research design and two sets of questionnaires. The academic staff (296 responses) and their students (1480 responses) formed the study's sample size. Structural Equation Modelling (SEM) was used to analyze the collected data. The data analysis showed a significant impact of JS on OC and SQ (i.e., the quality of lectures they received in the classroom that shaped their learning experiences). OC significantly affected SQ and partially mediated the effect of JS and SQ. JI plays a moderator role in the JS-OC and SQ relationship. This study contributes to the literature by linking employees' JI, JS, and OC to SQ. Employee JI, JS, and OC are crucial in promoting service quality. Practical implications for students, employees, institutions, and society were provided.

Keywords: service quality; job involvement; job satisfaction; organizational commitment; social exchange theory

1. Introduction

One of the top concerns for public educational institutions in emerging nations is providing high-quality education. In light of these factors, the higher education sector has been acknowledged as one of the leading proponents of the government's efforts to establish a knowledge-based service economy [1]. In addition, Trivellas and Dargenidou [2] cite high levels of human capital skill, quick technological advancement, and high-quality education as critical drivers of economic growth and social advancement in developing nations. As a result, higher education service quality can significantly advance the nation's economic and social progress [3]. On the other hand, higher education institutions that fail to provide the necessary level of SQ would not be able to contribute to the growth of the economies and societies of emerging nations [4].

Higher education is a labor-intensive enterprise [5] due to the numerous service-quality activities that employees provide and perform, as well as the importance of human elements in service interactions [6]. As a result of a large number of students requesting the same service daily (in the classes) and the increasing demand for higher education in low-income countries, this industry is regarded as customer-intensive; therefore, colleges and

universities regard students as their major clients [7]. However, Berry et al. [8] emphasized that it is as crucial to evaluate the attitudes and perspectives of service employees as it is to assess those of customers. They concluded that customer studies describe what occurs in a service organization, whereas employee studies explain why certain things happen. Therefore, the employee–student relationship during a service encounter determines the ability of educational institutions to provide excellent service [9–13]. In addition, the extent to which personnel are willing to go above and beyond during a service interaction has a significant effect on the quality of service delivered to customers. Furthermore, employee–customer social interactions positively affect service quality [14]; therefore, the attitude and behavior of the employee during service interactions are vital for service quality. Logically, it is impossible to deliver the appropriate level of SQ when the employees are not involved, dissatisfied, not committed, and disloyal to their organization [13,15,16].

To explain the measure of service quality, the study by Babakus et al. [17] proposed the idea of "customers" as a front-stage perspective and employees as a back-stage perspective. Comparing the two, it makes more sense to adopt the front-stage perspective analysis and assess service quality through the customers' lens as they are the service recipients. However, most previous studies tend to instead examine the relationship between JI, JS, OC, and SQ from the employee's perspective, taking on the less substantial back-stage perspective analysis [9,18–22]. Unfortunately, this approach gives less attention to measuring service quality from the customers' perspective [22–25]. This has created a large gap in our current understanding of how customers perceive service quality. Consequently, more studies are needed to investigate the interaction between the three employee outcomes (JS, JI, and OC) and their effect on SQ in higher education. On the other hand, scholars have claimed that front-line employee performance directly influences how customers judge the quality of the services they receive [26–28]. Anjum et al. [29] argued that customer satisfaction with bank service in Pakistan is heavily influenced by employee behavior. Additionally, rather than using a global or group assessment, analyzing customer perception of service quality should consider the unique employee performance [30]. Therefore, the quality of service rendered can better be understood by examining the connection between SQ and the JI, OC, and JS of specific employees who provide the service.

Literature evidence suggests that several studies have examined the correlation between job involvement (JI), job satisfaction (JS), and organizational commitment (OC) separately or individualistically [30–32]. However, less attention has been given to examining the consequences of the combination of attitudes, such as JI, JS, and OC, on organizational performance (SQ). Therefore, it is still unclear the effect of the combination of employee attitudes (such as JI, JS, and OC) on organizational performance (e.g., SQ). In addition, scholars, such as Mathieu and Zajac [33], recommended investigating the moderator role of JI in the JS-OC relationship and their outcomes (e.g., service quality). However, as mentioned earlier, researchers have not given job involvement enough attention, especially as moderators in this relationship. The moderator role of job involvement is not yet clear as some previous studies [34] could not confirm the positive moderator role of JI, rather, previous studies have found a negative moderator role of JI in the JS-OC relationship. Hence, more studies are needed to investigate the moderator role of JI in the connection between JS, OC, and SQ.

Previous scholars have separately analyzed the links between JI, OC, JS, and SQ [3,13,15,20,22]. Such studies have claimed to examine the effect of the attitude and behavior of employees, such as JI, JS, and OC, on performance (e.g., SQ) together within a single model [4,35,36]. Since employee attitude and behavior at the workplace results from a combination of attitudes [37,38], this has also left doubt about the effect of employee attitudes, such as JI, JS, and OC, on actual service quality performed by employees. Notably, previous studies have failed to consider social job satisfaction despite its importance for employee job satisfaction [39,40]. By considering these gaps, the current study was designed to integrate a mediating moderator mode to improve SQ through JI, JS, and OC in higher education contexts in developing countries.

Therefore, this study provides several novel contributions to the literature on employee work attitudes and service quality. It integrates a new mediating moderator model to explore the impact of three crucial components of employee work attitudes (JS, OC, JI) on service quality, highlighting the importance of investigating the three components of employee work attitudes simultaneously. It adopts a dual-perspective approach by collecting data from both academic staff and their students. It integrated customers (students) as a front-stage perspective of received service quality and employees that provided the service as a back-stage perspective. It considers social job satisfaction and makes a significant contribution to the literature on employee work attitudes and service quality, providing insights to help organizations better manage their employees to enhance service quality.

This study is structured into seven sections. The Section 2 provides a brief literature review and hypothesis development for the proposed model based on theory and prior literature, as well as a conceptual framework for the study. In the Section 3, the methodology used to conduct the study is described. In Section 4, the study's findings are presented. Section 5 presents the discussion of the findings of the study while the study's limitations are discussed in Section 6, followed by the Conclusions (Section 7).

2. Theoretical Underpinnings and Hypothesis Development

Institutions of higher education are regarded as having labor-intensive and high customer-contact services. Delivering high-quality services in this sector is challenging due to two key factors: (i) employees' attitudes toward their work and organization, which can affect customers' perceptions of service quality [40]; and (ii) employees' willingness to use discretionary effort (extra-role work behavior) during customer interactions to further the organization's goals. Organizations will find it more challenging to produce high service quality to please their customers and achieve their objectives without good attitudes and the desire of front-line staff to exert an action (to provide a high quality of service) during service encounters.

The actions taken by the organization to strengthen the excellent exchange relationship with the workforce may induce employees towards having positive sentiments toward their organization. This connection depends on the worker's opinion that their employer values their efforts at work and their welfare, for example, take the necessary precautions to protect them during the COVID-19 pandemic, which sends a message that the employer is backing them up and cares about their lives [39]. It aims to develop or maintain positive social exchange ties with staff so that they feel more fulfilled and devoted to the organization [41,42]. Consequently, this theory has been applied to understand the employee–employer relationship in organizations.

The social exchange theory is a psychological and sociological perspective that explains how individuals and groups interact and develop relationships based on exchanging resources and benefits. The theory states that when one person does something for another, they anticipate receiving something in return in the future [43]. This concept can be used to explain the relationship between employees and organizations; it applies to how employees view their satisfaction, involvement, commitment, and willingness to work harder within an organization as forms of social reciprocation [4,41]. When employees' needs are met, and they have a positive emotional connection to the organization, they will reciprocate by showing involvement and satisfaction in their job; they will be fully committed to the organization and are more likely to engage in behaviors that are beneficial to service quality, such as going above and beyond their job requirements and providing high-quality service to benefit both the organization and its customers.

2.1. JS and SQ

The ability of labor-intensive businesses, such as higher education institutions, to overcome challenges and increase their capacity to provide their customers with high-quality services has made job satisfaction an essential component, particularly for service-oriented organizations. This is accurate since only satisfied or happy employees can provide high-

quality services, which are crucial to any business. Contrarily, when employees are unsatisfied, organizations struggle to provide high-quality service. Previous research argued that when employees are unhappy or unsatisfied with their workplace, it is impossible to give the proper level of service [22,44]. In this case, the current study reasons that since employees' perceptions of their organization influence customers' perceptions of SQ, it is impossible to satisfy customers when the providers of such services (the employees) are dissatisfied or unhappy in their organization (a disgruntled employee will always produce a dissatisfied customer, and vice versa).

Studies have previously shown that employee job satisfaction significantly impacts service quality; for example, Malhotra and Mukherjee [9] found that call center employees' job satisfaction greatly affects service delivery. Ukil [45] found in his study that satisfied employees provide much better service. In the banking industry, Finanda and Lutfi [46] found that job satisfaction impact service quality, profitability, and customer satisfaction positively. Gazzoli, Hancer, and Park [23], through social mechanisms, demonstrate that empowerment's effect on customer-perceived service quality is mediated by employees' satisfaction in the food industry. Shen and Tang [47] performed an analysis using the social exchange theory, which included a sample of workers and their managers from various Chinese firms, and found that job satisfaction positively impacts service quality.

Regarding the higher education sector, academic and administrative staff job satisfaction significantly impacts service quality in Greece [19]. A similar study emphasized the vital effect of JS on SQ; the study found a significant impact of JS on SQ in the universities in Pakistan [3]. Another study found that faculty satisfaction partially mediates the service climate and service quality relationship [48]. A recent systematic review of the service quality in the post-COVID-19 era in higher education institutions by [49] found that employee attitudes and behaviors have a major effect on service quality.

However, some earlier studies have failed to find a strong effect of JS on SQ; for example, in the health industry, [22] found no effect of JS on SQ. Yee, Guo, and Yeung [21] also discovered that job satisfaction does not impact customer service. This suggests that more investigation is needed to confirm the effect of employee JS on SQ.

H1. *JS significantly and positively affects SQ in higher education.*

2.2. JS and OC

Job satisfaction is the most important element in determining whether employees remain in or leave an organization, although discontent is also a key component in the low level of commitment [50]. Employees remain or quit their organization depending on how they feel about their employment [51]. Employees establish their commitment to their organization based on their job satisfaction, extrinsic satisfaction (e.g., pay and perks), intrinsic job contentment, and connections with colleagues [39]. Scholars have claimed that work satisfaction is a prerequisite for organizational commitment, which implies that as job satisfaction increases, so does organizational commitment [33,52,53]. JS has been shown to be a strong predictor of OC [54–56].

Previous research using the social exchange theory found that JS influenced OC in 150 employees of SMEs in Zimbabwe [57]. For public sector personnel, extrinsic and intrinsic JS is more strongly connected to emotional and normative commitment [58]. Another study discovered that OC was impacted by JS and rose as JS improved in a sample of 162 employees from four-star hotels in Bali [59]. Chegini et al. [60] also researched the influence of JS on the academic commitment of 145 academic staff in India; the findings show that JS is a significant component in predicting OC. Therefore:

H2. *JS has significant and positive effects on OC in higher education.*

2.3. OC and SQ

In today's competitive service industry, it is crucial to retain committed employees, as high turnover or resignation of employees can harm the organization's effectiveness in providing high service quality to their customers [61,62]. Employees who commit fully to the organization tend to perform better [17,63,64]. Service encounters provide employees with the opportunity to interact with customers directly. If they are committed to an organization, they are likely to provide excellent service that will retain customers. Therefore, employee commitment and willingness to go above and beyond during customer interactions can enhance service quality.

A literature review on this topic revealed that the organizational commitment of employees who interact with customers is essential due to its positive impact on work-related behavior and practices during service encounters. For example, [65] used data from SMS hotels in India and found that affective commitment has a positive and significant impact on customer-perceived service quality, and affective commitment mediates the training-service quality relationship. In higher education, through a sample of 404 senior managers and academic staff, it has been shown that organizational commitment positively contributes to university service quality in Saudi Arabia [66]. In addition, the study by [13] found that academic staff's organizational commitment (affective and continuance) significantly affects service quality in higher education contexts in underdeveloped countries. A multi-group analysis between academic staff and administrative staff conducted by [6] observed a positive relationship between service quality and organizational commitments, mostly among academics. Therefore:

H3. *OC significantly and positively affects SQ in higher education.*

H4. *OC mediates the effects of JS and SQ in higher education.*

2.4. Job Involvement as a Moderator

JI, JS, and OC are three key constructs that are interrelated and have been found to have a significant impact on SQ [6,14,45,47,49,65,67]. However, research has consistently shown that these three constructs are positively related and that improving one can positively impact the other variables. For instance, [68] found that when JI increased, JS and OC also improved, Lambert et al. [69] found that JI correlated with JS and OC. Organizations must comprehend the relevance of JI levels, as this work-related attitude has been linked to other significant job attitudes, such as JS, OC, and lower turnover intentions [70,71]. According to Chang et al. [72], organizations might discover it easier to enhance satisfaction, performance, and commitment among individuals with higher degrees of JI. While this work-related attribute has been identified as a significant determinant of organizational effectiveness, increasing job involvement should be a core organizational priority. Although JS and OC directly influence SQ, these effects can be more substantial when employees feel like valuable members [71]. Researchers continue to propose that additional variables, such as JI, should be examined in studies of JS and OC [73]. These authors suggested that future studies investigate the moderating influence of JI on outcomes. For instance, Blachut [71] found that the influence of JS on intention to stay was strong when job involvement was high, and the opposite is true. Another study found that JS, OC, and JI influence turnover intention, and when employees perceive a low level of job involvement, they may even decide to leave the organization [32]. Lee and Chen [74] discovered that the association between JS, OC, and service quality was higher for employees with high levels of job involvement than those with low levels of job involvement. In other words, job satisfaction substantially influences service quality among highly involved employees in their work and organization. However, these studies provide additional support for the findings of Mathieu and Zajac [33] and highlight the significance of job involvement in influencing employee attitudes and behaviors, as well as its effect on the relationship between JS and OC, which consequently affect service quality. According to Baron and Kenny [75] approach to testing the moderator effect, the current study assumes the following hypotheses:

H5. *JI significantly and positively affects SQ in higher education.*

H6. *JI moderates the relationship between JS and SQ in higher education.*

H7. *JI moderates the relationship between JS and OC in higher education.*

H8. *JI moderates the relationship between OC and SQ in higher education.*

In the conceptual framework of the current study, there are four constructs and their dimensions; the independent variable is job satisfaction, while the dependent variable is service quality; the mediating variable is organizational commitment, while the moderator variable is job involvement (see Figure 1).
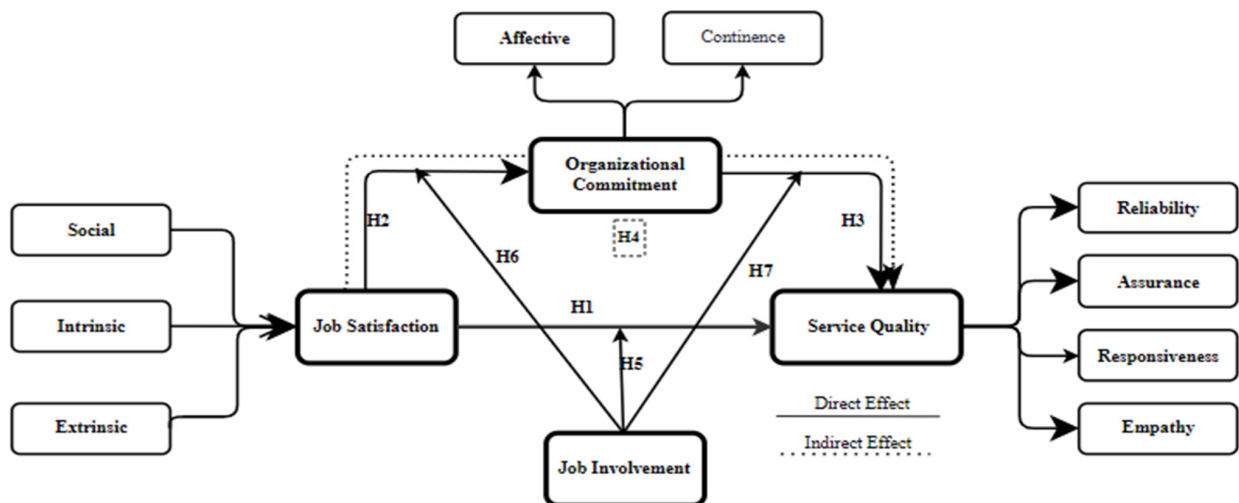

Figure 1. Conceptual framework of the current study.

3. Methodology

The current study is a conceptual integration between employees that provide services and customers' perceptions of the service quality. A two-sample research design and a cross-sectional survey were used in this study. Two sets of questionnaires were used for data collection from the targeted respondents (one set of questionnaires was used to collect data from the academic staff of Aden University regarding their JS and OC while the second set of questionnaires was used to collect data from the students regarding their perceptions of the service quality).

Each questionnaire is divided into two or more sections; the first section of both questionnaires consists of questions about demographic information, such as gender, age, qualification, faculty, working experience, etc. The second and third sections of the questionnaire inquired into the target respondents' perspectives of the constructs under consideration (i.e., job satisfaction, organizational commitment, and customer-perceived service quality).

Before distributing the questionnaires, the customer questionnaire was encoded using the same code as the academic staff questionnaire to guarantee easy comparison. This procedure was used because customers tend to judge service quality based on the performance of individual employees during service interactions [76] rather than overall or group evaluations. In the current study, five students were randomly selected to give their perception of service quality performed by the selected academic staff. Selecting five customers (in this study refers to students) for each sample (in this study refer to the academic staff) is appropriate because it is much higher than the average number of customers selected by previous studies [77,78].

3.1. Sample Size and Sampling Technique

A total of 1776 respondents from two subsamples were included in the research. The first included a sample of lecturers (n = 296), while the second included their students

(n = 1480). The study used the random stratified sampling technique, which ensures that researchers obtain the sample from each stratum [79]. The stratum in this study refers to the nine faculties and centers at Aden University. Thus, the sample of this study consists of academic staff and their students from each faculty and center.

3.2. Measures

3.2.1. Job Satisfaction

To quantify job satisfaction, Schnake [38] used three dimensions, intrinsic, extrinsic, and social, to conceptualize job satisfaction. To measure job satisfaction in this study, 11 questions adapted [38] were used. This measurement was used due to it including all aspects of job satisfaction (social, intrinsic, extrinsic). Four questions were used to measure intrinsic satisfaction, four to measure extrinsic satisfaction, and three to measure social satisfaction. Respondents were asked to answer the survey questions using a 5-point Likert scale (1 = strongly dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = strongly satisfied). The Cronbach's Alpha values for intrinsic, extrinsic, and social satisfaction were 0.84, 0.87, and 0.85, respectively.

3.2.2. Organizational Commitment

Organizational commitment was measured by eight items developed by [80] in this study. These eight items are related to two types of commitment: affective and continuance (by 4 items for each). Two types affective and continuance were used to measure OC in this study due to having a significant effect on SQ, while the normative aspects of commitment were left out of the measurement because they showed no effect on employee service performance [6,9]. A five-point Likert scale was used to measure the items, ranging from "Strongly disagree" (1) to "Strongly agree" (5).

3.2.3. Job Involvement

Job involvement was measured with 7 items adapted from the job involvement scale originally developed by [81]. The measurement showed an acceptable Cronbach's Alpha value ($\alpha = 0.87$).

3.2.4. Service Quality

Service quality was examined in this research using four dimensions: responsiveness, assurance, reliability, and empathy. This was performed by using 18 items from the [82] SERVQUAL scale. These four dimensions were chosen because the tangibles dimension was not found to play a role in customers' perceptions of SQ [9]. Additionally, customer perception of SQ is based on specific employee performance during interactions [76]. The Cronbach's Alpha value for each dimension from previous studies was $\alpha = 0.87$–0.89 [82]. Table 1 Shows the measurement scale of all variables in this study.

Table 1. Measurement scales.

Variable	Dimension	Item	Code
	Social	The friendliness of the people you work with	JS1
		The way you are treated by the people you work with	JS2
		The respect you receive from the people you work with	JS3
	Extrinsic	The chances you have to accomplish something worthwhile	JS4
Job		The amount of pay you get	JS5
Satisfaction (JS)		The fringe benefits you receive	JS6
Schnake [38]		The chance of doing something that makes you feel good about yourself	JS7
	Intrinsic	The chances you have to take part in making decisions	JS8
		The amount of job security you have	JS9
		The opportunity to develop your skills and abilities	JS10
		The amount of freedom you have in your job	JS11

Table 1. *Cont.*

Variable	Dimension	Item	Code
Organizational Commitment (OC) Meyer and Allen [1]	Affective	I am very happy to be a member of this university	A1
		I feel great loyalty toward this university	A2
		I would feel guilty if I left my organization now	A3
		I owe a great deal to my organization	A4
	Continuance	Leaving university right now would disturb too much of my life	C1
		I could not leave the university right now, even if I wanted to	C2
		It would be too costly for me to leave my university right now	C3
		I would be spending the rest of my career at this university	C4
Job Involvement (JI) Lodahl and Kejner [2]		My job means a lot more to me than just money	JI1
		1 am really interested in my work.	JI2
		I would probably keep working even if I did not need the money	JI3
		The most important things that happen to me involve my work	JI4
		For me, the first few hours at work really fly by	JI5
		I actually enjoy performing the daily activities that make up my job	JI6
		I look forward to coming to work each day	JI7
Service Quality (SQ) Parasuraman, et al. [3]	Reliability	When lecturers promise to do something by a certain time, they do so	R1
		When I have a problem, the lecturer seems sympathetic and reassuring	R2
		The lecturer is dependable	R3
		The lecturers provided the service at the timeline they promised to do so	R4
		The lecturers keep accurate records of their work	R5
	Responsiveness	The lecturer tells which series will be performed	Re1
		I resave prompt series from the lecturer	Re2
		The lecturer is always willing to help others	Re3
		The lecturers respond to another request prompt even if they are too busy	Re4
	Assurance	I can trust the lecturer	As1
		I feel safe in my transactions with the lecturer	As2
		The lecturer is polite	As3
		I get adequate support from the lecturer to do my job	As4
	Empathy	The lecturer gives me individual attention	Em1
		The lecturer gives me personal attention	Em2
		The lecturer knows my needs	Em3
		The lecturer has my best interests at heart	Em4
		The lecturer has operating hours convenient to all his/her students	Em5

3.3. Data Collection

At the end of lectures, the questionnaire was delivered to faculty members in the classes. Five students were asked to evaluate the quality of service offered by each member of the academic staff. Throughout this procedure, each student and staff survey was coded so that it would be easy to compare the customer's assessment of the level of service provided by a certain employee. There were 460 surveys sent out to faculty members, but only 306 were returned (a response rate of 66.5%). Just 296 of the returned surveys were utilized for this study. In addition, 2300 questionnaires were distributed to the students but only 1530 were returned (a response rate of 66.5%); however, only 1480 of the returned questionnaires were included in the analysis.

3.4. Data Inputs

After the data collection process, the necessary steps to ensure the accuracy and completeness of the data were taken. The response of each survey was reviewed to eliminate any incomplete data. It was ensured that the employee's perceptions of their JS, OC, and JI matched with the student's perceptions of the service quality provided by each employee. The perceptions of five students on each aspect of an employee's service quality were collected using the compute variable tool in SPSS, resulting in an average of five responses per an aspect of service provided by each employee. This procedure allowed the understanding of how employees' attitudes and behavior (JS, OC, JI) influence

students' perceptions of service quality and ensure that individual bias did not influence the results. This comprehensive approach ensured that the final data set accurately reflected the perspectives of both employees and students and provided valuable insights into the organization's ability to provide appropriate service quality.

3.5. Data Analysis

The data analysis in this study was divided into two stages. The first stage was descriptive statistics and analysis using SPSS v.26.0. The second stage employed AMOS v.26 for structural equation modeling (SEM). This stage began with confirmatory factor analysis (CFA) to ensure that the scales were suitable for their intended purpose. The next stage was direct hypothesis testing using SEM; then, bootstrapping was used to run the path coefficient of indirect linkages. Finally, two-way interaction was used to determine the moderating connection between the variables.

4. Results

4.1. Demographic Profile of Respondents

The demographic profile of the participants in this study—employees and students—was expressed through descriptive statistics.

4.1.1. Lecturer Profile

The profiles of the 296 participants in this study are shown in Table 2; males make up 72.5% of the employees while females make up 27.5%. The age of the participants ranged from <40 years (40.9%) to >40 years (59.1%). In terms of employee qualifications, 50.3% of participants possess a Ph.D., 19.9% have a Master's degree, and 27.7% have a Bachelor's degree. Regarding the length of employment, 39.5% of employees have worked at this university for less than 10 years, while 6.5% have worked there for 10 years or more. Table 2 Shows demographic profile of the respondent's lecturers.

Table 2. Demographic profiles of the respondent's lecturers.

Profile	Category	Frequency	Percentage (%)	Cumulative (%)
Gander	Male	215	72.6	72.6
	Female	81	27.4	100.0
Age	20–29 Years	13	4.4	4.4
	30–39 Years	97	32.8	37.2
	40–49 Years	115	38.9	76.0
	50 and above	71	24.0	100.0
Qualification	Bachelor's	60	20.3	20.3
	Master's	59	19.9	40.2
	PhD	177	59.8	100.0
Experience	<10 years	117	39.5	39.5
	>10 years	179	60.5	100.0

4.1.2. Students Profile

A total of 1480 students make up the overall student sample for this study, of which females account for 34.9% while males account for 65.1%. Students in levels one, two, three, four, and five make up 35.3%, 26.6%, 22.6%, 14.5%, and 1%, respectively. Regarding the faculties, 9.8% of the students are from the faculty of literature and languages, another 9.8% in medicine and health sciences, 15.9% in economics and science management, 37.2% in education, 11.5% in engineering, 3.7% in sciences, 4.1% in oil and minerals, 7.1% in sharia and law, and 1% in the center for continuing education, computer, and languages.

4.2. Normality and Multicollinearity

The normality of the dataset was evaluated based on the values of skewness and kurtosis. The skewness indicates the degree to which a variable's distribution is symmetrical. In contrast, kurtosis assesses the distribution's peakedness or peak intensity [83]. According to the rule of thumb, the data distribution is deemed normal if the skewness and kurtosis values fall within the range of ±2.58 [63]. The results indicate that the skewness values ranged between −0.389 and 0.046, and kurtosis values ranged between −0.036 and 0.180. Consequently, the distribution of data in this analysis can be regarded as normal.

However, the multicollinearity with variance inflation factor (VIF) was tested; the VIF values ranged from 1.011–1.041. The VIF values for the independent variables (see Table 3) were less than 10, as recommended by [83]. Therefore, there is no multicollinearity problem between the independent variables of this study [84]. In contrast, the ranges for the mean and standard deviation were 3.225–3550 and 0.326–0.625, respectively. Table 3 presents the computed skewness, kurtosis, mean, standard deviation, and VIF values of all the variables.

Table 3. Obtained values of the assessment of normality and multicollinearity.

Variables	N	Mean	Sdr. Deviation	Skewness	Kurtosis	VIF
Job Satisfaction	296	3.3885	0.42610	−0.389	0.180	1.041
Org Commitment	296	3.2255	0.45044	0.046	0.046	1.040
Job Involvement	296	3.5507	0.62579	−0.010	−0.010	1.011
Service Quality	296	3.4723	0.45335	−0.036	−0.036	-
Valid N (listwise)	296					

4.3. Assessment of Measurement Model

The proposed measurement model for the current investigation was created using three latent variables (JS, JI, OC, and SQ) among the 44 observable characteristics. The model fit was sufficient, as shown by the CFA result for the current measurement model (see Figure 1). In this case, the χ^2 statistic = 1355.572, df = 886, CMINDF = 1.53, RMSEA = 0.042, and CFI = 0.96. TLI = 0.95. The reliability and validity of the measurement model were evaluated based on the composite reliability (CR), factor loadings for the items, and average variance extracted (AVE). Table 4 showed the model fit indices for the structural model.

Table 4. Model fit indices of the structural model.

Measure	Estimate	Threshold	Interpretation
CMIN	1355.572	--	--
DF	886	--	--
CMIN/DF	1.53	Between 1 and 3	Excellent
CFI	0.96	>0.95	Excellent
TLI	0.95	>0.95	Excellent
RMSEA	0.042	<0.06	Excellent

The factor loading of all the items was > 0.60, as advised by [83]. For JS, JI, OC, and SQ, the range of loading was 0.68–0.84, 0.71–0.83, 73–80, and 0.81–0.98, respectively. The results, in contrast, demonstrated strong CR for each construct. CR for JS = 0.802, JI = 0.92, OC = 0.80, and SQ = 0.816; these values are above the recommended 0.70 value. Each construct's AVE score was higher than 0.50 as advised by [83]. The AVE was equal to 0.575, 0.62, 0.68, and 0.53, respectively. In addition, the maximum shared variance (MSV) was between 0.08 and 0.16 for all variables. In contrast, these values were below the AVE value. Comparatively, the value of maximal reliability (MaxR-H) for all variables ranged between

0.92 and 0.98; these values exceeded the value of 0.80. Therefore, the current measurement model's convergent validity was verified, as shown in Table 5.

Table 5. Factor loadings of indicators, overall reliability, and validity of all constructs.

Construct	Indicators	Loading	CA	CR	AVE	MSV	MaxR(H)
JS	JS1	0.69	087	0.802	0.575	0.371	0.810
	JS2	0.75					
	JS3	0.75					
	JS4	0.75					
	JS5	0.84					
	JS6	0.81					
	JS7	0.70					
	JS8	0.68					
	JS9	0.82					
	JS10	0.76					
	JS11	0.71					
OC	A1	0.78	0.87	0.736	0.60	0.233	0.895
	A2	0.79					
	A3	0.80					
	A4	0.73					
	C1	0.78					
	C2	0.74					
	C3	0.74					
	C4	0.75					
JI	JI1	0.74	92	0.92	0.62	0.136	0.93
	JI2	0.76					
	JI3	0.71					
	JI4	0.91					
	JI5	0.80					
	JI6	0.83					
	JI7	0.76					
SQ	R1	0.81	0.95	0.816	0.528	0.371	0.829
	R2	0.83					
	R3.	0.92					
	R4	0.92					
	R5	0.94					
	Re1	0.94					
	Re2	0.96					
	Re3	0.96					
	Re4	0.91					
	As1	0.89					
	As2	0.81					
	As3	0.90					
	As4	0.90					
	Em1	0.96					
	Em2	0.98					
	Em3	0.89					
	Em4	0.94					
	Em5	0.89					

Two methods were used to evaluate the discriminant validity (DV) of the measurement model, as used by previous studies [4,5]. The first method is the Fornell Larcker criterion (FLC) technique, developed by Fornell and Larcker [85], which is used to evaluate the DV of a model [63]. It requires that, for each construct, the square root of the AVE must be higher than the value of the squared correlation estimates for the other constructs included in the measurement model [83]. An important finding from this study's assessment of DV was that the square root of the AVE values was higher than the squared correlation of all the constructs. As shown in Panel A of Table 3, all the diagonal members in the correlation

matrix were greater than the off-diagonal elements in the corresponding rows and columns, indicating that all constructs exhibited the necessary discriminant validity.

The second method is the Heterotrait–Monotrait Ratio (HTMT), which was proposed by Henseler et al. [86] for testing the discriminant validity of a model. However, FLC is quickly becoming one of the most effective methods for evaluating discriminant validity, but a number of study scenarios failed to detect the absence of discriminant validity using this method. As a result, the value of all constructs in the current investigation was less than 0.85 as recommended by [86]. Hence, the DV for all constructs was established based on the HTMT as indicated in Panel B of Table 6.

Table 6. Fornell–Larcker criterion and Heterotrait–Monotrait ratio (HTMT).

Variable	Panel A: Fornell–Larcker Criterion				Panel B: Heterotrait–Monotrait Ratio (HTMT)			
	JS	**JI**	**OC**	**SQ**	**JS**	**JI**	**OC**	**SQ**
JS	**0.758**				-			
JI	0.132	**0.789**			0.099	-		
OC	0.483 ***	0.369 ***	**0.827**		0.415	0.301	-	
SQ	0.609 ***	0.314 **	0.458 **	**0.727**	0.517	0.286	0.427	-

Note: ** Correlation is significant at the 0.01 level (2-tailed). *** Correlation is significant at the 0.05 level (2-tailed).

4.4. Structural Model Results and Testing of the Hypotheses

The postulated hypotheses in this study were put to the test using the structural equation model. It examines the impact of OC and JS on how well customers perceive the quality of the services provided. For the structural model, the model fit indices indicate an acceptable fit, with χ^2 statistic = 992.271, df = 616, CMINDF = 1.61, CFI = 0.96, TLI = 0.95, and RMSEA = 0.046. These indices demonstrated a good model fit, as shown by [83,87].

4.4.1. Result of the Direct Hypotheses

Table 7 presents the outcome of the hypotheses tests throughout the structural model; the table contains the Beta value that reflects the influence of JS and OC on SQ. The Beta value reflects the direction of impact. In addition, the structural model provides the *p*-value and t-statistics that measures the importance of the relationship. The results of the standardized regression estimation of the current structural model showed the standardized path coefficients of a direct effect of JS on service quality (β =.48, *t* = 4.81, *p* = 0.000), the direct effect of JS on OC (β = 0.52, *t* = 4.92, *p* = 0.000), and the effect of OC on service quality (β = 0.25, *t* = 2.87, *p* = 0.004). The results indicate that the value of t-statistics is greater than the cut-off point (1.96), and the *p*-value is <0.05, suggesting that all the direct effects between the variables are significant, as per Byrne [88].

Table 7. Standardized regression estimation of the direct effect.

No	Path	Beta	Sdr.D	*t*-Value	*p*-Value	Result
H1	JS → SQ	0.48	0.082	4.81	***	Supported
H2	JS → OC	0.52	0.081	4.92	***	Supported
H3	OC → SQ	0.25	0.094	2.87	0.004	Supported

Note: *** = *p* < 0.000.

4.4.2. Result of the Indirect Effect (Mediating Effect)

The bootstrapping approach was used to examine the indirect influence of JS on SQ, and the results supported the mediating function of OC in the connection between JS and SQ (β = 0.32; *p* = 0.004). As a result, the results supported H4 since the *p*-value was less than 0.05. Table 8 showed the findings of the indirect effect of OC testing.

Table 8. Indirect effect of organizational commitment.

No	Structural Path	Estimate		S.E.	95% C.I.		*p*-Value	Decision
		USD	SD		Lower	Upper		
H4	JS → OC → SQ	0.32	0.38	0.051	0.038	0.243	0.004	supported

Note: JS = job satisfaction; OC = organizational commitment; SQ = perceived service quality; USD = Unstandardized; SD = Standardized.

Proportion of Mediation

The mediations' proportion, such as the relative indirect size compared to the direct pathways, could be figured out by comparing the ratio of the indirect to total effect (direct plus indirect) path coefficients; this ratio is also known as the variance accounted for (VAF) value. The mediation proportion was calculated following the procedure recommended by Nitzl et al. [89] and used by previous studies [4,84]. This could be accomplished by utilizing the following equation.

$$\text{VAF} = \frac{a \times b}{(a \times b) + c}$$

Table 9 showed the coefficient of the indirect path of JS to SQ via OC that equaled 0.13 (0.52 × 0.25), and it is significant as the *p*-value was 0.004 (see Table 8). The ratio of indirect effect to total effect (VAF) was 0.21, as shown in Table 8. This indicates that 21 percent of the variance in service quality is explained by both JS and the mediation path of OC. Therefore, there was a partial mediation of OC between JS and SQ, which provided support to Hypothesis 4.

Table 9. The proportion of the mediation effect of OC between JS and SQ.

Indirect Effect	JS→SQ	JS→OC (a)	OC→SQ (b)	a × b	a × b + c	VAF	Type of Mediation
JS→OC→SQ	0.48	0.52	0.25	0.13	0.61	0.21	Partial Mediation

4.5. Moderating Impacts of Job Involvement: Two-Way Interaction

The current research tested the hypothesis that job involvement might modify the association between JS, OC, and SQ. The SEM of the moderating influence of job involvement yielded the following findings. First, JS has a positive impact on SQ (H5). JI moderates the relationship between JS and SQ in a positive manner (H6). JI moderates the relationship between JS and OC in a positive manner (H7). JI moderates the OC-SQ relationship in a positive manner (H8).

Table 10 illustrates the findings (β = 0.230; *t* = 5.03; *p* < 0.000) for hypothesis H5, which indicates that JI has a substantial influence on service quality (*p* < 0.000). In addition, (β = 0.30; *t* = 6.23; *p* < 0.000) for Hypothesis H6 demonstrated that job involvement significantly moderated the relationship between JS and SQ. This correlation indicates a favorable relationship between the variables under examination. Consequently, the moderating effect of JI on the relationship between JS and SQ was validated. Hence, the findings for hypothesis H7 indicated that job involvement significantly moderated JS and OC relationship (β = 0.26; *t* = 4.71; *p* < 0.0001). The moderating impact of JI on the relationship between JS and OC was thus validated. In addition, the moderator (job involvement) had a positive effect on the relationship between OC and SQ, as shown by hypothesis H8. These effects revealed a correlation between the estimated variables that was statistically significant (β = 0.24; *t* = 4.28; *p* < 0.0001). Briefly, job involvement's moderating influence on the relationship between organizational commitment and service quality was validated.

Table 10. Moderator Effect of job involvement.

No	Relationship	Beta	Sdr.D	*t*-Value	*p*-Value	Decision
H5	JI→SQ	0.23	0.017	5.03	***	supported
H6	JS_×_JI→SQ	0.30	0.021	6.23	***	supported
H7	JS_×_JI→OC	0.26	0.019	4.71	***	supported
H8	OC_×_JI→SQ	0.24	0.018	4.28	***	supported

Note: *** = $p < 0.000$.

The importance of the moderating relationship was determined by analyzing the two-way interaction. Figure 2 demonstrates a correlation between JI, JS, and SQ. In addition, the slope for high job satisfaction was steeper than that for poor job satisfaction. This clearly indicated a stronger and more beneficial relationship between JS and SQ when job involvement is high as opposed to low, thereby supporting hypothesis H5. The examination of the moderating relationship followed the investigation of the significant interaction with two-way interaction.
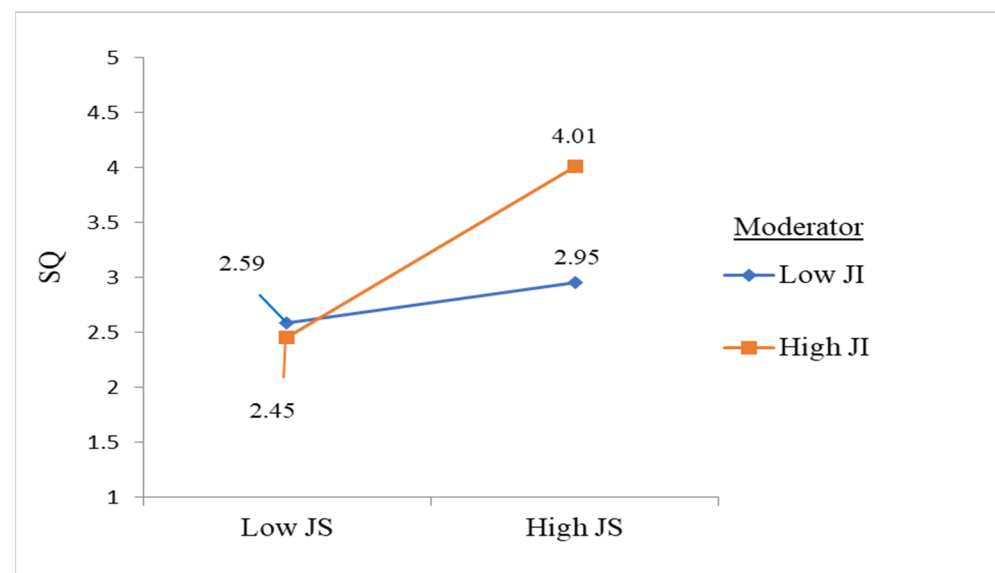
Figure 2. Interactive effects of JI-JS and SQ.

Figure 3 depicts the results of the reciprocal relationship between JI, JS, and OC, which supports research hypothesis H6. As a continuation of the inquiry into the moderating relationship, the analysis of the two-way interaction was conducted. The steeper slope of high JS relative to low JS indicates a larger and more significant association between JS and OC for high job involvement relative to low job involvement (H6 is validated). The investigation of the moderating link includes the two-way interaction as a development of the considerable interaction.

To determine the significance of the interaction of H7, the analysis of the moderating connection continued with the two-way interaction. Figure 4 illustrates a correlation between job involvement, organizational commitment, and service quality. Furthermore, the slope for strong organizational commitment was higher than that for low job satisfaction; this clearly demonstrated a greater and more positive association between organizational commitment and service quality for those with high job involvement compared to those with low job involvement (hence, H5 is validated). The examination of the moderating connection followed the significant interaction with two-way interaction.
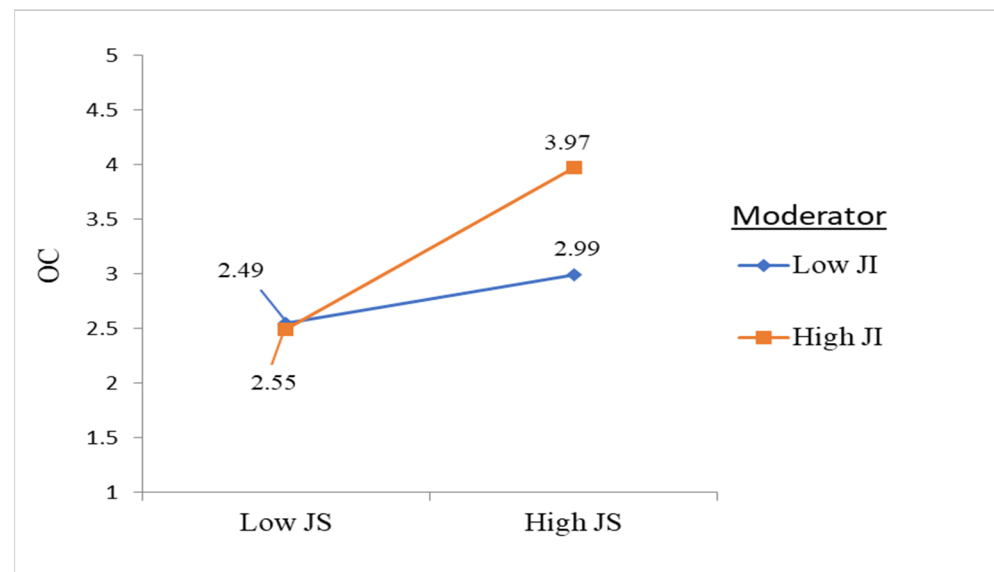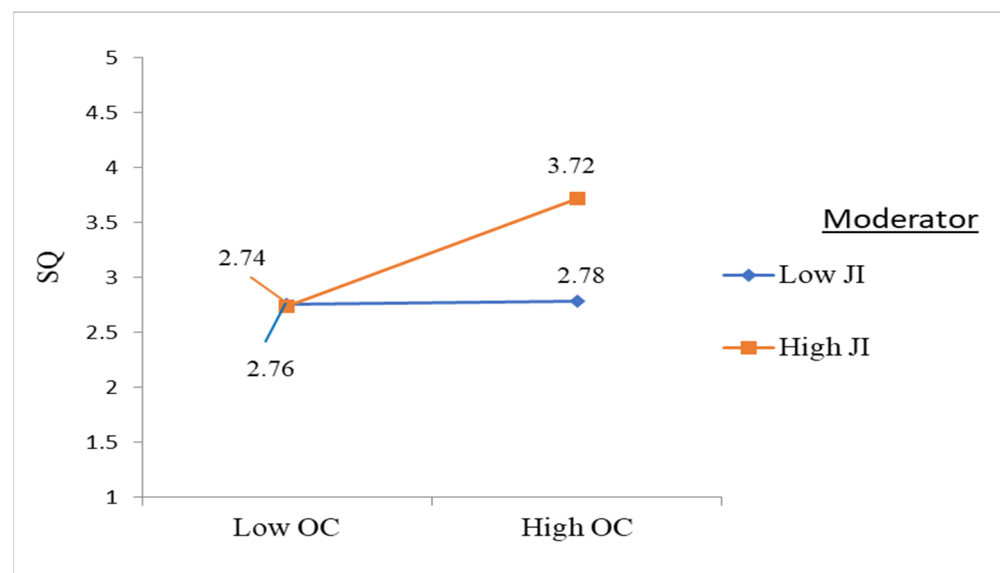
Figure 3. Interactive effects of JI-JS-OC.

Figure 4. Interactive effects of JI-OC-and SQ.

5. Discussion

In this study, a model that examines the JI, JS, OC, and SQ relationship in the higher education sector was developed and validated. The outcome of this empirical study showed a direct significant positive effect of JS on OC and SQ; organizational commitment also had a significant positive effect on SQ. It was also discovered that OC mediated the JS-SQ relationship, meaning that increasing JS will lead to increased OC and SQ. Furthermore, when job satisfaction and employees' commitment are increased, customers' perception toward service quality will increase.

The results of H1 indicate that employees develop their satisfaction toward their job based on the organization's initiative to satisfy the needs of the employees (intrinsic, extrinsic, social). When employees have a positive perception of their job (high satisfaction), it will positively reflect on their customer's perception of the quality of service, and vice versa, since only satisfied or happy employees can provide high-quality services. Employees who have negative perceptions of their organization will produce negative perceptions of service quality because when employees unhappy or unsatisfied with their workplace, it is

impossible to give the proper level of service [22,45]. These results provide support to the claims made by researchers who argued that employees' perceptions of their organization have an effect on customers' perceptions of SQ [6,23,40,47,65,90,91].

The empirical findings of H2 revealed that JS exerted a significant and positive direct effect on OC. This result indicates that as lecturers' JS increases, their commitment to the university will increase as well. These previous studies have consistently demonstrated the importance of JS in fostering OC [40,52]. The results of this study are similar to earlier research that linked JS to OC, such as [59], which discovered that extrinsic and intrinsic JS is highly connected to OC, and other studies that found a positive relationship between JS and OC [58,60,61]. The present study builds upon these findings by providing further evidence of the positive relationship between JS and OC. This underscores the need for organizations to pay close attention to employee JS, as it is a crucial factor in promoting commitment to the organization by fostering a work environment conducive to job satisfaction.

The empirical evidence of H3 that is presented in this study strengthens the correlation between OC and SQ. It demonstrated that employee's commitment, specifically lecturers, who have direct contact with customers, in this case, students, is a crucial factor in determining the level of SQ perceived by customers. Additionally, H4 provides evidence that lecturers who believe that their university values their work and cares about their well-being are more likely to remain committed to the institution [6,7]. This increased commitment frequently translates into a greater willingness to go above and beyond in providing SQ that meet the needs of students. The results of this empirical analysis are similar to earlier research that linked OC to SQ. How well clients judge the quality of the service offered is significantly influenced by the commitment of the employees that work directly with them [9,69]. Motivated employees are more likely to stay committed to the organization and go above and beyond to perform well, resulting in higher levels of SQ to customers [6]. However, if employees are hesitant to put in extra effort to benefit their organization by improving service quality, organizations may have trouble providing the appropriate level of service quality [10,13].

Based on the two-way interaction analysis of the moderator role of job involvement for H5, H6, H7, and H8, it appears that JI plays an important role in shaping the relationships between JS, OC, and SQ. Specifically, the study suggests that job involvement acts as a moderator, affecting the strength and direction of these variables' interactions. Specifically, the finding revealed that JI moderates the relationship between JS and SQ, which suggests that employees who are shown more JI may be better able to translate their job satisfaction into higher service quality. Additionally, JI moderates the link between JS and OC, revealing that individuals who are extremely interested in their work seem to be more likely to experience a high feeling of commitment to their organization when they are satisfied (or happy) with their employment. The findings also showed that job involvement moderates the link between commitment and service quality. This shows that staff who are heavily involved in their job are probably more likely to produce greater levels of service quality when they have a strong commitment to their organization. Conversely, employees who are less interested in their work (involvement) may not have as significant of a connection between JS and OC, and may not have a strong relationship as that of OC and SQ.

The results of this empirical analysis are similar to earlier studies, which found that the effect of JS on employees' outcomes can be more substantial when employees feel like valuable members of the organization and are involved in their job [71]. Similarly, the results are consistently in line with [32], who found that JS, OC, and JI influence employees' intentions to leave their present workplace. In addition, the current result is consistent with [74], who found a greater association between JS, OC, and SQ among employees with high levels of JI. Furthermore, the study by [33] supported these findings by highlighting the significance of job involvement in influencing employee attitudes and behaviors, which consequently affect service quality.

5.1. Research Contribution

The present study contributes to the literature by integrating a new mediating moderator model on the effect of three crucial components of employee work attitudes (JI, JS, and OC) on service quality. It adopts a dual-perspective approach by collecting data from both academic staff and their students, and matching customer perception of SQ with specific employee performance during service interactions to provide a more comprehensive understanding of the relationship between employee work attitudes and service quality. This approach is particularly unique since most previous studies have focused only on one perspective, either the employees or the customers. It contributes to the literature by highlighting the Importance of studying the three components of employee work attitudes together rather than in isolation, since employee attitude and behavior at the workplace results from a combination of attitudes [37]. Furthermore, the current study contributes to the literature by considering social job satisfaction because of its importance for employee satisfaction. This study contributes to the literature on employee work attitudes and service quality, providing insights that can help organizations better understand and manage their employees to enhance service quality.

5.2. Practical Implication

The current study has different implications for students who receive the service, employees who provide the service, and organizations and society.

For Students: Delivering good service quality in higher education institutions is crucial for students' satisfaction, loyalty, and future employability. Employability skills, such as communication, teamwork, and problem-solving, can be developed through teaching and learning practices that emphasize practical experience and engagement with industry partners [92], as well as through boosting entrepreneurship skills. It has been found that providing practical entrepreneurial education, such as mentorship and internships, can enhance students' ability to create jobs for themselves and others [93]. Therefore, higher education institutions must prioritize delivering quality education services to foster the development of students' employability skills, which are essential for their success in the workforce.

Universities that fail to offer the proper level of service to their students will lose their students' loyalty, market share, and competitiveness in the education sector. The reputation of the university may be impacted by the students' experiences with low service quality. Previous studies have shown that more people (about six times more people) tend to be aware of poor customer experience of service quality compared to a positive experience. Spoken positive words are a powerful tool for expanding its customer base, while negative utterances can do more harm to the effectiveness and credibility of an organization expanding its customer base [4,94]. It is, therefore, critical to have committed and satisfied employees that will provide the expected level of SQ to gain and retain customers (the same condition applies to universities). Therefore, having devoted employees is essential to delivering the anticipated level of SQ. However, the results of this study supported those of earlier studies that claimed that OC had a favorable and significant impact on service quality [9,65,74].

For Employees: These findings show that when an organization meets the intrinsic, extrinsic, and social needs of its employees, they will respond with increased job satisfaction, job involvement, total commitment, and high-quality service delivery to meet the needs of their employers and clients. Therefore, the current discovery that high JS, high level of JI, and full OC have a considerable impact on SQ in the higher education sector is valid. However, the provision of service quality is essential, not only for customers, but also for employees. When employees provide good service quality, they can get benefits in many ways, ultimately leading to greater job satisfaction, career success, and personal growth.

Employees would be satisfied if they reached a goal through a positive performance [95], such as providing high SQ. Moreover, when employees provide good SQ, indirectly, they will increase their life satisfaction due to their job satisfaction [96]. Furthermore, the

provision of good service quality can help employees develop new skills and grow as professionals. Employees who consistently provide exemplary service quality can develop new skills, such as improving their communication and problem-solving abilities, which can be valuable in their current role and future job opportunities. In addition, when employees deliver good service quality, their organization will provide them with three kinds of compensation: (i) base compensation (fixed pay to the employee), (ii) motivation pays, and (iii) indirect compensation (vacation, health insurance, and unemployment compensation).

For organizations: The delivery of good service quality is a critical factor for higher education organizations, as it can impact their reputation and student satisfaction, which in turn influences their image and loyalty toward the institution, and ultimately, their success in the market. Universities that provide higher education quality will gain an important competitive advantage by generating repeat reputation, loyalty, and competitive service differentiation. Therefore, institutions that prioritize delivering high-quality services to their students are more likely to attract and retain students, which can contribute to their long-term success. Therefore, the attitude and behavior (JS, OC, JI) of the employee during service interactions are vital for service quality. Logically, it is impossible to deliver the appropriate level of SQ when the employees are uninvolved, dissatisfied, uncommitted, and disloyal to their organization; thus, organizations have to increase their employees' JS, OC, and JI to be able to deliver high service quality.

For Society: The higher education sector has been recognized as one of the supporters of the government towards achieving its goal (to be a knowledge-based economy). They play a crucial role in the competitiveness and sustainable development of an economy, and society [97]. By providing quality education and developing students' skills and knowledge, higher education institutions can contribute to the development of a skilled workforce, which is essential for the growth and success of the economy. Otherwise, the provision of low education quality can lead to the limited contribution of higher education institutions to the development of society.

However, as earlier stated, universities that do not give their students the proper level of service will lose their students' loyalty, market share, and competitiveness in the education sector. The reputation of the university may be impacted by the students' experiences with low service quality [4,94]. Therefore, universities have to enhance their employee's JS, OC, and JI to improve the student's perception of service quality.

6. Limitations and Direction for Further Research

The sample for this study was obtained from a single sector, specifically, a public university in Yemen. Therefore, the conclusions drawn from this study cannot be generalized to other universities or fields. Additionally, the study was limited to evaluating the SQ provided by higher education. The analysis may be simulated to cover a range of other services, and future research in this field may focus on including antecedents of JS, JI, and OC (such as employee training and development) and customers' predictions of service quality, as suggested by previous studies [47,65]. Therefore, future studies can re-examine the model developed in this study by examining the antecedents of job satisfaction. The current study also did not consider the other outcomes of JS, such as reducing turnover, absenteeism, or attention to leave, which can affect service quality. Thus, future research can include these variables as mediators of the JS-SQ relationship.

7. Conclusions

This study examined the impact of JS, JI, and OC on SQ in the higher education sector. The findings revealed a positive and significant association between JS, JI, OC, and SQ. The results indicate that when an organization takes care of their employees' well-being, it leads to JS, JI, and OC, which in turn improves service quality. However, organizations that do not care for their employees may have difficulties satisfying their customers because the employees may not be willing to always offer the level of service expected by the customers.

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