

THE EFFECT OF SERVICE QUALITY DIMENSIONS ON STUDENT'S SATISFACTION AND LOYALTY

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Abstract

The aim of this paper was to examine the effects of service quality dimensions on student satisfaction, service quality dimensions on student loyalty, and student satisfaction on loyalty. A quantitative approach was applied in this research, with data collected via questionnaire. Respondents were chosen using a convenience sampling technique among the students of Nong Lam University, Vietnam. The sample included 1825 participants who voluntarily completed the survey. Descriptive statistics were used to describe the respondent profile. A structural equation model analysis was applied to test nine suggested hypotheses. The outcomes revealed that student satisfaction was significantly affected by reputation, access, academic, and administrative dimensions. Student loyalty was directly inspired by academic, reputation, and administrative dimensions. However, there was no significant effect of satisfaction on loyalty.

Keywords: dimension, HEdPERF model, services quality, student satisfaction, student loyalty

INTRODUCTION

In recent years, the higher education sector in Vietnam has seen profound changes. The number of higher institutions and the number of students has increased rapidly. In the currently competitive higher education environment, students have many opportunities to choose from,

when selecting a university. University authorities have recognized the importance of attracting new students and retaining them. For many universities, tuition fees are the main source of income. In addition, higher education institutions are increasingly recognized as part of the service sector, placing more emphasis on the importance of

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satisfying the needs of their primary clients, the students. Students are a major concern for higher educational institutions, with their satisfaction and loyalty indicating the success or failure of the institution.

To survive, universities must market themselves to attract higher student intake. Therefore, the factors which attract and retain students must be carefully studied by higher education institutions. Those institutions which want to survive in a competitive environment must seek flexible and effective solutions to attract learners, and to strengthen long-term relationships with them (Ganić, Babić-Hodović, & Arslanagić-Kalajdžić, 2018). Loyal students tend to support their university by bringing in new students for admission through positive free world-of-mouth marketing, even after the student has graduated.

Student loyalty has recently become a very important topic for higher education institutions. A better understanding of the drivers of student loyalty may provide school managers with useful information for developing an effective management plan for improving student loyalty. It has been claimed that student loyalty is positively linked to student satisfaction and contributes to the success of educational institutions (Zeithaml, 2000). Students who feel pleased with the service quality prefer to remain faithful to their university and tend to choose the same institution for future studies (Annamdevula & Bellamkonda, 2016a; Ng & Priyono, 2018; and

Subrahmanyam, 2017). Loyal students are good advocates, recommending their higher education institution to others, while they themselves may also return to update their knowledge by enrolling in higher degree programs (Marzo Navarro, Pedraja Iglesias, & Rivera Torres, 2005).

Numerous studies have been conducted on this topic and with results being variable depending on the setting. Therefore, school administrators should find the extent to which various factors contribute to student loyalty in their own institutions. In Vietnam, studies in this topic are still limited and far from the needs of understanding the greater picture of student satisfaction and loyalty. Therefore, the aims of this research are: (1) to measure the effect of service quality dimensions on student satisfaction; (2) to measure the effect of service quality dimensions on student loyalty; and (3) to measure the effect of student satisfaction on student loyalty.

LITERATURE REVIEW

Definitions

Customer loyalty has been defined in different ways by various researchers. A loyal customer is a customer who continues to maintain a positive behavior towards the service provider (Reichheld & Sasser, 1990). According to Oliver (1999, p34), loyalty is “a deeply held commitment to rebuy or patronize a preferred product or service consistently in the future, thereby causing repetitive

same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior". Loyalty is a process in which customer cognition, affect, conation, and behavior take place. Loyalty is considered as one key factor in the long-term success of any business.

Student loyalty in education services has been described as the willingness to suggest a particular university to others, the desire to speak positive things about that university, and the desire to return to the same university after studies have ended (Webb & Jagun, 1997). Many studies in the literature have confirmed that student loyalty has a serious impact on educational institutions (Adee, 1997; Alves & Raposo, 2007; Mansori, Vaz, & Ismail; 2014, and Hennig-Thurau, Langer, & Hansen, 2001). Loyal students are willing to provide positive advice and recommend their institution to other individuals and organizations (Kunanusorn & Puttawong, 2015).

According to Elliott & Healy (2001) student satisfaction as a short term attitude results from an evaluation of a students' educational experiences. It is the product and consequence of an education system (Zeithaml, 2000). Once again, Elliott & Shin (2002) described student satisfaction as the temperament of students regarding their subjective assessment of the results and experiences from their education. They claimed that student satisfaction

was constantly changing, reflecting the combined experience of students, including successive and interwoven experiences. Weerasinghe & Fernando (2017) explored available concepts and suggested students' satisfaction to be a short-term assessment of the educational services and facilities they have experienced.

Dimensions of Service Quality

For decades theoretical and empirical studies have explored the idea of service quality and models of quality measurement (Zeithaml, Parasuraman, Berry, & Berry, 1990; Cronin Jr & Taylor, 1994; F. Abdullah, 2006a; and Ganić, Vesna - Hodović, 2018).

Parasuraman, Zeithaml, & Berry (1985) proposed that there are ten dimensions to determine service quality, namely reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding, and tangibles. This list was then reduced to five dimensions following criticism for being too long and complicated. These five dimensions are tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman, Berry, & Zeithaml, 1991).

F. Abdullah (2005) proposed the HEDPERF (Higher Education Performance) scale, a new and more comprehensive scale for measuring service quality in higher education. The HEDPERF consists of 41 items, 13 of which were extracted from SERVPERF, while 28 items were developed through literature review

and qualitative studies. The HEdPERF-41 scale was tested by Abdullah for reliability and validity, with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) (F. Abdullah, 2006b). Fridaus Abdullah classifies five dimensions of service quality in higher education as non-academic or administrative, academic, reputation, accessibility factors, and program issues. The non-academic or administrative dimension consists of all elements fundamental to the educational processes and relevant to the activities of non-academic personnel in universities. Conversely the academic dimension refers to the expertise and responsibilities of the academic staff. Reputation relates to the institution's image. Accessibility factors incorporate accessibility, ease of contact, the higher education institution's availability, and convenience. Program issues refers to whether the institution provides a wide variety of respectable programs with dynamic frameworks and curriculums (F. Abdullah, 2006b).

The Relation Between Service Quality Dimensions and Satisfaction and Loyalty

Hennig-Thurau et al. (2001) conducted a survey with 1,162 former students from different German universities to test the relationship quality-based model of student loyalty. This study revealed that student loyalty was mainly driven by the quality of teaching services and students' emotional commitment. The

relationship between teaching quality and student loyalty was also identified by Tsai (2008). Ng & Priyono (2018) stated that service quality has a positive and critical impact on student satisfaction, and in turn, student satisfaction has a positive effect on student loyalty, but there was no significant influence between service quality and student loyalty.

Ganić et al. (2018) examined the effect of SERVPERF dimensions on students' loyalty. The results showed that each quality dimension was directly, positively, and significantly related to satisfaction. However, there were no relationships among the quality dimensions and loyalty.

Satisfaction and Loyalty in Higher Education

Several studies have been conducted to examine the relationship between satisfaction and loyalty. Getty and Thompson (1994), conducted a study in the hotel industry concluding that there was a positive correlation between customer loyalty and customer satisfaction (Getty & Thompson, 1994). Many other researchers have also confirmed that there is a positive relationship between satisfaction and loyalty, or that customer satisfaction is the main driver of customer loyalty (Bhakane, 2015; Izogo & Ogba, 2015; Tweneboah-Koduah & Farley, 2016; R. Bin Abdullah et al., 2012; Llach, Berbegal-mirabent, Marimon, & Mas-machuca, 2013; and Ganić et al., 2018).

In the educational sector, there

are two streams of research related to the antecedents of student loyalty. The first emphasizes service quality while the other emphasizes long-term relationships.

Rojas-Méndez, Vasquez-Parraga, Kara & Cerda-Urrutia (2009) examined the relationship among four key factors affecting student loyalty, including perceived service quality, satisfaction, trust, and commitment. The findings indicated that there was no direct correlation between service quality and student loyalty, or between student satisfaction and student loyalty, but rather, indirectly through trust and commitment.

Ganić E. et al (2018) looked at the effect of service quality dimensions on loyalty through an example from a private university. The results showed that there was no significant correlation between the quality dimensions and loyalty. The same finding was also confirmed by Ismanova (2019). However, there have also been reports of indirect effects on loyalty. Both empathy and reliability have direct and indirect effects on loyalty (Ganić et al., 2018).

Annamdevula & Bellamkonda (2016b) conducted an empirical study at Indian universities examining the theoretical and empirical evidence on the relationships between students' perceived service quality, student satisfaction, and student loyalty. The findings of this study have shown that service quality acts as a key antecedent to student satisfaction, and loyalty. Loyalty is more determined by student satisfaction rather than the quality of higher education services.

Munizu & Hamid (2015) conducted a study at private universities in Makassar concluding that "the quality of higher education services significantly influences student satisfaction, the quality of higher education services significantly influences student loyalty, and student satisfaction significantly influences student loyalty" (p1). The same result was stated by Brown & Mazzarol (2006); Thomas (2011); Pei, Sudjiman, & Hutabarat (2011); Svoboda & Cerny (2013); Elassy (2015); Munizu & Hamid (2015); Kunanusorn & Puttawong (2015); Shahsavar & Sudzina (2017); Chandra et al. (2018); M. Ali & Ahmed (2018); Mohammed Manzuma-Ndaaba et al. (2018); Leonnard (2018); and Karami & Elahinia (2019); who concluded that student loyalty is predicted by student satisfaction. M. Ali & Ahmed (2018) clarified that students' satisfaction with service quality enhances the reputation of the school, which in turn creates loyalty.

Based on the above literature, this study's objectives were defined as:

- (1) To measure the effect of service quality dimensions (academic, non-academic, program issues, access, and reputation) on student satisfaction.
- (2) To measure the effect of service quality dimensions (academic, non-academic, program issues, access, and reputation) on student loyalty.
- (3) To measure the effect of student satisfaction on student loyalty.

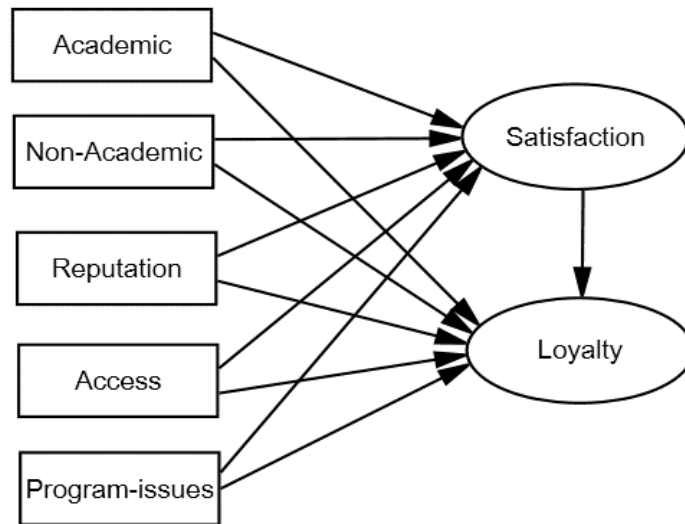


Figure 1. Conceptual framework

Conceptual framework

This study proposes the following conceptual framework, linking the five service quality dimensions, with student loyalty, and student satisfaction (Figure 1).

3. METHODS

The objective of the study was to measure the effect of service quality dimensions on student satisfaction and of service quality dimensions on student loyalty. Therefore, a quantitative research approach was applied.

Research instrument: To collect data, an anonymous self-administered questionnaire was developed based on established measures of service quality, satisfaction, and loyalty. The study used seven variables: academic, non-academic, program issues, access, reputation, student satisfaction, and student loyalty. The

questionnaire consisted of two parts, with part 1 consisting of 49 items designed to collect information about the service quality dimensions and student loyalty. The service quality dimension items were adapted and modified from the HEDPERF scale developed by F. Abdullah, (2006a), and proposed by Kumar & Yang (2014). It was divided into five components: academic, non-academic, program issues, access, and reputation. Loyalty was measured using the adjusted instruments developed and validated by Helgesen & Nasset (2007), and Oliver (1999). This involved capturing students' intentions, using three statements focusing on their intention to suggest the university to others, intention to pursue higher education, and intention to participate in the alumni association. The items were measured on a 5-point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree). Part 2 consisted of

demographic information. Ethical issues in relation to the questionnaire survey, including confidentiality and data analysis, were properly addressed at the opening part of the questionnaire.

A Vietnamese version of the questionnaire was translated by the author.

Data collection: The survey was conducted at the end of the second semester of the 2019-2020 school year. A Google Form was used to administer the survey, with the link to the Google Form sent via email to students inviting them to voluntarily participate in the survey. The period of acceptance for responses was one month.

Population and sample: The target population of the study consisted of 15070 undergraduate students registered in various departments and majors of Nong Lam University in Ho Chi Minh City, Vietnam. The sample was selected using a convenience sampling method. A total of 1825 useable responses were returned.

Data analysis: Data were analyzed using SPSS (Version 22.0) and AMOS (Version 20). Cronbach's alpha was used to assess the reliability, or internal consistency of the research instrument. The results of the Cronbach's alpha analysis showed that all construct reliability values were higher than 0.7 (0.75 - 0.92), implying that the measurement model was valid. For this study, descriptive statistics were used for demographic variables. Exploratory Factor Analysis (EFA) was used to determine the correlation among the variables in the dataset. In this study, EFAs were conducted for

49 items. A principal axis factoring extraction with promax rotation method was used to extract the factors. Two items from 'program-issues', one item from 'non-academic', one item from 'academic', and one item from 'access', were removed due to either low loading or cross loading. The sample was deemed to be suitable for EFA as the KMO was 0.902 (> 0.5). Therefore, the program-issues dimension was removed, and the framework was revised as shown in figure 2, following the factor analysis. For the final model, six factors or latent variables were extracted, including four dependent and two independent variables. These variables were then used for the confirmatory factor analysis (CFA) and structural equation modeling (SEM). Structural equation modeling (SEM) was applied via AMOS 20.0 to test the proposed hypotheses. The results of the CFA and SEM are discussed in the next section.

Hypotheses to be tested:

Guided by the revised framework as shown in Figure 2, 9 hypotheses were formulated and tested.

H1: Non-academic factors have a significant positive impact on student satisfaction.

H2: Reputation factors have a significant positive impact on student satisfaction.

H3: Academic factors have a significant positive impact on student satisfaction.

H4: Access factors have a significant positive impact on student satisfaction.

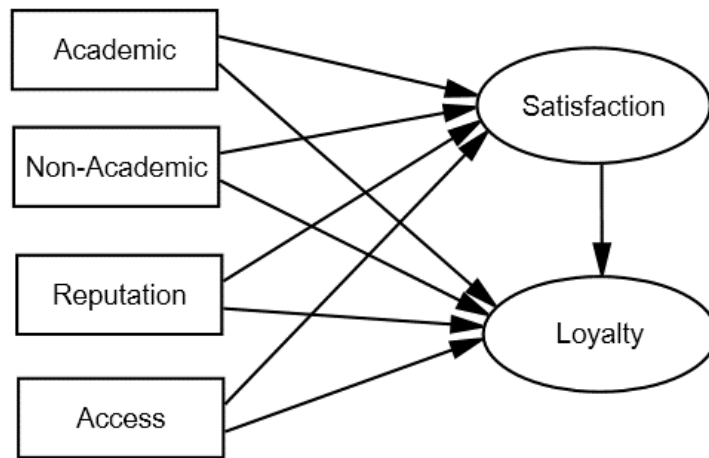


Figure 2. Revised framework following factor analysis

H5: Student satisfaction has a significant positive impact on student loyalty.

H6: Non-academic factors have a significant positive impact on student loyalty.

H7: Reputation factors have a significant positive impact on student loyalty.

H8: Academic factors have a significant positive impact on student loyalty.

H9: Access factors have a significant positive impact on student loyalty.

academic achievement, the majority of respondents (942 respondents, 52.6% of the sample) had “good” academic achievement, 348 (19.1% of the sample) were above average, 276 (15.1% of the sample) were very good, and 236 (12.9% of the sample) were average.

Regarding study programs, 224 (12.3% of the sample) respondents studied veterinary medicine, 202 (11.1% of the sample) studied food technology, 135 (7.4% of the sample) studied business administration, 101 (5.5% of the sample) studied land management, 100 (5.5% of the sample) studied economics, 91 (5.0% of the sample) studied agronomy, 76 (4.2% of the sample) studied animal husbandry, 74 (4.1% of the sample) studied land protection, while others studied courses in computer science, biotechnology, or accounting, among others.

RESULTS AND DISCUSSION

Profile of Respondents

Table 1 presents the profile of the 1825 students who participated in the survey. Female students made up 63.0% of the sample, while males contributed 37.0%. In respect of

Table 1: Profile of Respondents

		Frequency	%
Gender	Female	1149	63.0%
	Male	676	37.0%
Academic Achievement / Grade	Below average	15	0.8%
	Average	236	12.9%
	Above average	348	19.1%
	Good	942	51.6%
	Very good	276	15.1%
	Excellent	8	0.4%

Table 2. Goodness of fit overall model

Parameters	Cut-off value	This model	Note
Chi square/df	<5	4.311	Good
RMSEA	≤ 0.08	0.046	Good
CFI	≥ 0.90	0.937	Good
GFI	≥ 0.90	0.904	Good
AGFI	≥ 0.90	0.902	Good
P	≥ 0.05	0.000	Good

Hypotheses Testing

A Structural Equation Modeling (SEM) analysis was employed to test the hypotheses and produce a goodness of fit model. Parameters to assess the goodness of fit were probability ($p \geq 0.05$), CMIN/df ≤ 5 , goodness of fit index (GFI) ≥ 0.90 , adjusted goodness of fit index (AGFI) ≥ 0.90 , comparative fit index (CFI) ≥ 0.95 , and the root mean squared error of approximation (RMSEA) ≤ 0.08 (Hair, Black, Babin, Anderson, & Tatham, 1998). The final model showed a good fit, with the resulting parameters shown in table 2.

The result of the fit model tests showed that all the criteria had been achieved. Thus, it can be concluded

that the overall model indicates a good fit and is applicable for estimating the relationships among the variables being tested in the study.

The results of the SEM are shown in table 3. Accordingly, seven hypotheses were accepted, while two were rejected. Regarding hypothesis 1, which assumed a significant positive impact of non-academic factors on satisfaction, the results in table 3 indicate that the regression coefficient value (standardized) of the non-academic or administrative factors variable was positive and significant at 0.00 (standardized Regression: 0.27, $p < 0.01$) regarding its relationship with student satisfaction. This means that students with interesting insights of the

Table 3. Testing of research Hypotheses

Hypotheses	Correlation	Standardized Regression	S.E.	Critical Ratio	P	Results
H1: Satisfaction ← Non-Academic	0.273	0.27	0.019	9,794	***	Accept H1
H2: Satisfaction ← Reputation	0.662	0.66	0.020	20,579	***	Accept H2
H3: Satisfaction ← Academic	0.247	0.25	0.019	9,168	***	Accept H3
H4: Satisfaction ← Access	0.414	0.41	0.017	14,095	***	Accept H4
H5: Loyalty ← Satisfaction	0.369	-0.09	0.080	-1,110	0.267	Reject H5
H6: Loyalty ← Non-Academic	0.230	0.25	0.029	6,027	***	Accept H6
H7: Loyalty ← Reputation	0.316	0.37	0.041	5,679	***	Accept H7
H8: Loyalty ← Academic	0.433	0.45	0.030	10,837	***	Accept H8
H9: Loyalty ← Access	0.027	0.06	0.030	1,230	0.219	Reject H9

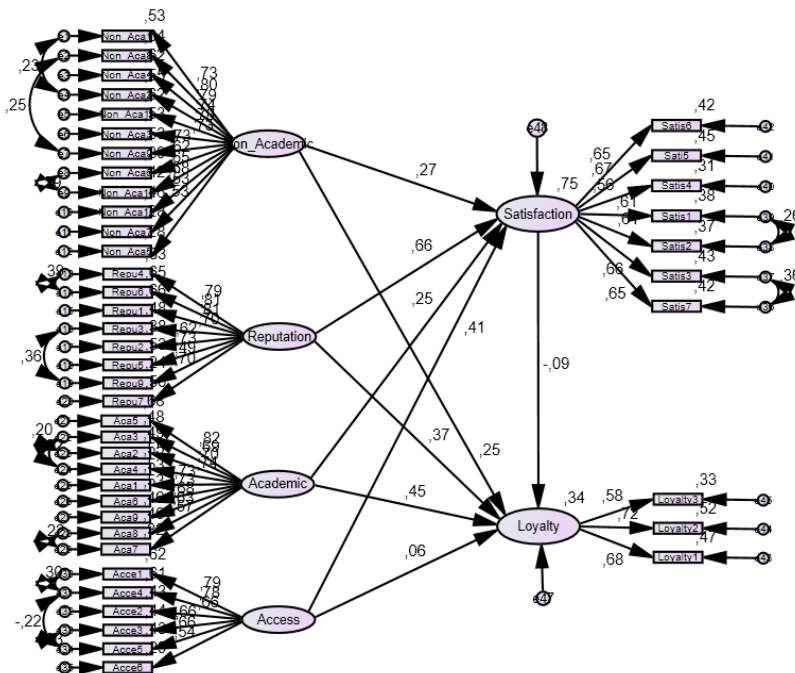


Figure 3: Path diagram

university's administrative dimension are more satisfied. Thus, hypothesis one was accepted. Even though this result differs from the earlier study of Damaris, Surip, & Setyadi (2019), it is in line with the findings of Elassy (2015); Munizu & Hamid (2015); Uddin, Ali, & Khan (2018); Kakakhel, Muhammad, & Shah (2018); Ganić, and Babić-Hodović (2018); Tandilashvili (2019); Muhammad, Kakakhel, & Shah (2019); and Majeed (2019).

Hypothesis 2, which postulated that reputation has a positive impact on student satisfaction, was strongly supported by the results, as indicated in table 3 (standardized regression: 0.66, $p < 0.01$). In contradiction with the earlier findings of Banahene, Kraa, & Kasu (2018), and Damaris et al. (2019), this study confirmed that students who have positive views of the university's reputation would be more satisfied. This completely agrees with the findings of Elassy (2015); Shahsavar & Sudzina (2017); Weerasinghe & Dedunu (2017); Uddin et al. (2018); Kakakhel et al. (2018); Majeed (2019); Muhammad, Kakakhel, Baloch, & Ali, (2018); Muhammad, Kakakhel, Baloch, & Ali, (2018); Ganić and Babić-Hodović (2018); and Muhammad et al. (2018).

Hypothesis 3 proposed a significant positive impact of academic factors on satisfaction. The results in table 3 demonstrate that the regression coefficient value (standardized) for the academic factors variable indicates a positive and significant impact on student

satisfaction, with a standardized regression value of 0.25 at the level of 0.00. Thus, hypothesis three was accepted. This confirms the previous findings of Elassy (2015); Uddin et al. (2018); Kakakhel et al. (2018); Muhammad et al. (2018); Ganić, and Babić-Hodović (2018); Tandilashvili (2019); Damaris et al. (2019); and Majeed (2019). This means that students who have a positive view of the university's academic aspects will be more satisfied.

Hypothesis 4 proposed a significant positive impact of access factors on satisfaction. The results in table 3 indicate that the regression coefficient value (standardized) of the access factor variable was positive and significant at 0.41 regarding its impact on student satisfaction. This means that students who have a positive view of the university's access dimensions are more satisfied. Thus, hypothesis four was accepted. This differs significantly from the results of Banahene et al., (2018) who found that access has a positive but non-significant relationship with student satisfaction. Although, it is in line with the findings of Elassy (2015); Uddin et al. (2018); Ganić, and Babić-Hodović (2018); Muhammad et al. (2018); Kakakhel et al. (2018); Damaris et al. (2019); and Majeed (2019).

Hypothesis 5 proposed a significant positive impact of satisfaction on loyalty. The results in table 3 highlight that the regression coefficient value (standardized) of the satisfaction variable is negative and non-significant regarding its effect on

student loyalty. This means that satisfaction had no impact on loyalty. Thus, hypothesis five was rejected. This finding is in contrast to previous empirical research by Brown & Mazzarol (2006); Thomas (2011); Pei et al. (2011); Svoboda & Cerny (2013); F. Ali, Zhou, Hussain, Nair, & Ragavan (2016); Chandra et al. (2018); Munizu & Hamid (2015); Elassy (2015); Kunanusorn & Puttawong (2015); Shahsavar & Sudzina (2017); M. Ali & Ahmed (2018); Mohammed Manzuma-Ndaaba et al. (2018); Leonnard (2018); and Karami & Elahinia (2019). However, it serves to support the discoveries of Sembiring (2013), and Ismanova (2019), who also found student satisfaction did not affect student loyalty.

Hypothesis 6, which proposed a significant positive impact of non-academic factors on loyalty, was accepted (standardized regression = 0.25, $p = 0.00$). This means that students who have positive views on the non-academic or administrative aspects of the university also have higher levels of loyalty. This result is inconsistent with the earlier findings of Ganić et al. (2018), and Ismanova (2019).

Hypothesis 7, which proposed a significant positive impact of reputation factors on loyalty, was accepted (standardized regression = 0.37, $p = 0.00$), meaning that students who have positive views of the university's reputation are more loyal than others. This conclusion significantly differs from the findings of Mohammed Manzuma-Ndaaba et

al. (2018), and Ganić, and Babić-Hodović (2018) who indicated that reputation didn't have any significant relationship with loyalty.

Hypothesis 8, which proposed a significant positive impact of academic factors on loyalty, was accepted (standardized regression = 0.45, $p = 0.00$). This means that loyalty is higher for students who have positive views on the academic aspects of the university. This conclusion supports the findings of Fatima & Khero (2019).

Hypothesis 9, which proposed a positive relationship between access and loyalty, was rejected (standardized regression = 0.06, $p = 0.219$). This means that access does not have any impact on loyalty. This conclusion is in contradiction with the findings of Ganić, and Babić-Hodović, (2018).

Regarding the formation of satisfaction, taken together, these results suggest that reputation is the most important factor, followed by access, and academic factors, while non-academic factors have minor importance. In other words, the HEDPERF service quality dimensions have positive and significant impacts on student satisfaction. This interpretation supports the findings of Chandra et al. (2018).

It is interesting to note that academic factors are the most important in affecting loyalty, followed by reputation, while non-academic factors have minor importance, and access has no significant impact. These outcomes differ significantly from the findings

of Chandra et al. (2018) who stated that no significant correlation was found between the service quality dimensions and student loyalty.

The findings indicated that non-academic or administrative, reputation, and academic factors directly affected student satisfaction and loyalty. These results concur well with the previous findings of Svoboda & Cerny (2013), and Firdaus (2019). Therefore, these should be considered by the university administrators.

CONCLUSION

The main objective of this study was to measure the effect of service quality dimensions on student satisfaction and student loyalty. A quantitative research approach was adopted. As noted in the results, non-academic or administrative, reputation, and academic factors directly affected student satisfaction and loyalty. The major finding of this study indicates that reputation and access are the main determinants of student satisfaction. While academic factors and reputation have a strong impact on student loyalty. The access dimension affects student satisfaction but not student loyalty. Interestingly, student satisfaction does not affect student loyalty. The result of this study has verified previous findings in the literature. Findings from this study also suggest that university administrators should implement a heterogeneous set of measures to increase their perceived service quality, special attention must be paid to reputation and academics, to

subsequently increase student satisfaction and loyalty. This study expected to fill a gap in the existing literature by investigating the effect of service quality dimensions (HEdPERF) on student satisfaction and student loyalty. However, this research was conducted at only one university by using a convenience sampling method; thus, it is recommended to expand the research to other universities or to use more reliable sampling methods.

Conflict of interest

There was no conflict of interest.

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