

Exploring factors of international students' satisfaction: a case of Islamic universities in Malaysia

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ABSTRACT

No qualms, international student mobility has become a source of income for countries around the world. International students become more mobile, contributing to the university's growth and diversity. It has also created competition by making higher institutions around the world develop strategies to attract them. This study explores the factors that lead to satisfaction among international students and the item indicator. This study is quantitative in nature, using a survey to collect the data. The population consists of international students from Asia, Africa, Europe, and Latin America at the leading Islamic universities in Malaysia. A total of 211 international students participated in the study. Ruffola Noel Levitz's student satisfaction inventory, 2017 was used as an instrument, and a measurement model from SEM was applied to analyze the data. From the measurement model results, student-centeredness was ranked as the leading factor influencing international student satisfaction; followed instructional effectiveness. The main prediction or leading factor to improve international student satisfaction is to ensure international students' positive feelings of self-belonging in Islamic universities in Malaysia. Improving instruction and service are also suggested to meet international student expectations and satisfaction. However, there is a scarcity of research conducted or published about Islamic universities worldwide, making Islamic universities neglected and difficult to find literature about.

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1. INTRODUCTION

Undoubtedly, the education sector in recent years has intensified precipitously around the world. The issue of globalization as well as the digital revolution in 21st century education has invented a demand and need for new and varied disciplines in education, skills, and learning throughout life, as well as higher qualifications compared to before [1]. Consequently, the demand for higher education is evolving constantly and under great strain to cope with and deal with affected problems and possibilities. Recently, external factors, both national and international, have had a significant impact on higher education quality. As higher education institutions

expand and diversify, society becomes increasingly concerned about program quality, with a focus on public reviews and worldwide rankings of higher education. Additionally, a competitive environment nowadays is where certain institutions can stand out and prosper by offering their students a quality education and a conducive environment, as these factors can impact their admission decisions.

Malaysian higher education has experienced a 26% influx of foreign students from 163 countries, ranging from 135,000 in 2016 to 170,068 in 2017 [2]. The Malaysian Education Blueprint 2015 to 2025 has targeted at least 250,000 international students by 2020. This rising popularity, according to several studies, is tied to the variety of courses offered, the safety of the country, value for money, and cultural comfort [3], [4]. Although the current Malaysian universities are concerned about their market share, productivity, and the quality of education services provided to international students [5], higher education institutions are comprehending education as a business-like service industry [6]. Consequently, these institutions focused more on meeting or even exceeding the needs and demands of their students. In an increasingly globalized world, internationalization is one of the main priorities of higher education institutions. Given this, Malaysia focused on transnational education (TNE) [7], [8].

For the past decade, the number of Islamic universities and colleges has increased, some of which are international. International Islamic University Malaysia (IIUM) stands as the oldest, followed by Universiti Science Islam (USIM). Both IIUM and USIM serve as the only public Islamic universities, while others are private. Nevertheless, those Islamic universities are no exception to benefiting from the internationalization policy [6]. Tremendously, Islamic universities have received an enormous number of Arab and other students from Islamic countries, mostly for postgraduate studies. Thus, Malaysian Islamic universities have strategized their system to suit Arab students by providing quality services to entice Muslim international students worldwide. However, there is a scarcity of research in Malaysia on international students' satisfaction with Islamic universities, and studies are not available on international students' perceptions about the academic or quality service provided by Islamic universities in Malaysia. Therefore, it is worthwhile to identify factors affecting international students' satisfaction with the services provided in Islamic universities in Malaysia. The following are the research questions: i) RQ1: what factor(s) predicts international students' satisfaction in Islamic universities? ii) RQ2: which items are the best indicators of international students' satisfaction? and iii) RQ3: is there any interrelationship among the five factors or domains (student-centeredness/SC, instructional effectiveness/IE, support service/SS, campus climate/CC, service excellence/SE, and admission and financial aid/AFA) of international students' satisfaction?

2. THEORETICAL FRAMEWORK

2.1. Equity theory (satisfaction theory)

Satisfaction is a consumer theory-based term that is being used in higher education to assess student views of service delivery. Consumer satisfaction literature offers educational researchers a broad basis relevant to students as consumers and to student satisfaction [9], [10]. The framework of this study is based on consumer satisfaction theory, which is 'The Equity Theory'. The equity theory was developed by Adams [11]. It claims that customer satisfaction occurs when a particular party believes that the proportion of process outputs is somehow changed with inputs such as money, time, and effort [12], [13]. Conceptual framework of the study is presented in Figure 1.

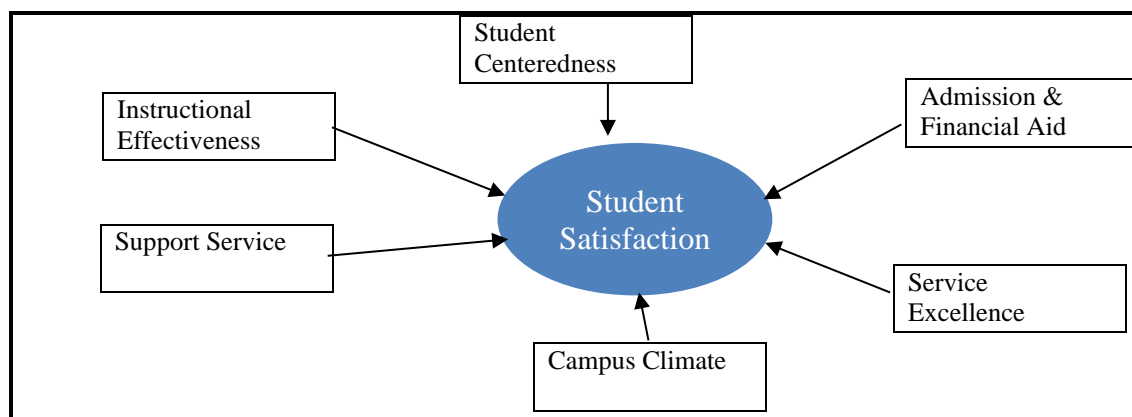


Figure 1. The conceptual framework of this study

3. LITERATURE

3.1. Student satisfaction

An individual or a person will be satisfied when he or she achieves the expectations; therefore, it is deliberate accomplishments that result in one's contentment and satisfaction. In the context of higher education, satisfaction is what students expect from their educational institution [13]; in fact, everything that makes them eligible to become productive and successful persons in their practical lives [14]. While study by Mukhtar *et al.* [15] explained student satisfaction as a function of relative level of experiences and perceived performance about educational service throughout the study period [13]. Hence, student satisfaction can be used by higher education institutions to improve their services and performances [16].

Previous research revealed that a number of factors affect student satisfaction, like the quality of programs, IE, student support facilities, internet and library access, administrative staff efficiency, and individual demographic characteristics, i.e., gender, ethnicity, and age [17]. Students' satisfaction, as a short-term attitude, results from an evaluation of students' educational experiences [17], [18]. A study conducted by Moslehpour *et al.* [19] among international students in Taiwan on quality service and international student satisfaction revealed that the non-academic aspect of service quality was found to greatly influence student satisfaction. Hence, institutional reputation was strongly affected by student satisfaction.

However, a comparison study on international student satisfaction in Malaysia and Australia found academic issues and economic considerations more important to international students in Malaysia as compared to international students in Australia [20]. Recently, the financial issue in Malaysia has worsened for international students due to the high fees at all Malaysian higher institutions. Though the hike will affect not only international students but the Malaysian government as well due to their plan to get more international students to study in Malaysia.

3.2. Quality service indicators

Service quality in education generally and higher learning in particular is not only essential but an important parameter of educational excellence. On the indicators, a study by Wong and Chapman [18] on international students' satisfaction with high institutions in Singapore revealed seven indicators for student satisfaction at the high institution: satisfaction with the program, teaching of lecturers, institution, campus facilities, student support provided, own learning, overall university experience, and life as a university student in general. The findings of Ammigan [21] on student satisfaction and recommendation also found student university experience as the leading factor. Other findings about international students in Malaysia revealed that each international student has a different experience with the university, and this influences how they perceive university service quality and value [22].

On the other hand, Kärnä and Julin [23] indicated that the factors related to the research and teaching activities have the greatest impacts on the overall satisfaction of both groups in Finland. Overall perceived service quality is an antecedent to satisfaction, and it is also a major prerequisite for establishing and sustaining students' satisfaction, retention, and future referrals [24]. Furthermore, Azam [25] indicated that a significant relationship existed between academic services and student satisfaction. Moreover, Kärnä and Julin [23] in a study on staff and students' satisfaction in Finland found that core university activities, such as research and teaching facilities, have greater impacts on overall students' and staff satisfaction than supportive facilities. Further, the study revealed that both academics and students perceive physical facilities as more important than general infrastructure, with library facilities being the best explanatory factor for overall satisfaction. In short, the higher quality of campus and instructional SS will produce higher satisfaction for students during their university (college) period.

In relation to the CC, it measures the campus environment as it relates to interpersonal, academic, and professional interactions. In this regard, Kärnä and Julin [23] indicated that students are satisfied with factors related to a comfortable learning environment, public spaces, campus accessibility, and staff satisfaction with laboratory and teaching facilities. Additionally, facilities were also reported as one of the main factors and concerns when it comes to university service quality amongst international students in Malaysia [26]. For the SS, Yusoff *et al.* [27] indicated a professional and comfortable environment, student assessment and learning experiences, classroom environment, lecture and tutorial facilities, textbooks and tuition fees, student support facilities, business procedures, relationships with the teaching staff, knowledgeable and responsive faculty, staff helpfulness, feedback, and class sizes have a significant impact on students' satisfaction. The study further identified that year of study, program of study, and semester grade have a significant impact on student support facilities and class sizes.

Besides, student support service are considered to be one of the essential variables that influence students' satisfaction; furthermore, service excellence is treated as a precursor to customer or student satisfaction [28]. In short, campus services, facilities, and student satisfaction are another important measure of satisfaction level [29], [30]. That is, the greater the quantity of these facilities and services, the greater the level of satisfaction and happiness.

4. METHOD

4.1. Population and sample size

The population in this study included international students at one of the Malaysian Islamic universities. Currently, Malaysia is blessed with five Islamic universities, of which two are public and the remaining three are private. This study involved 211 international postgraduate and undergraduate students from different faculties and specializations. Roughly, the sampled universities have more than 3,000 international students from different countries. Hence, the sample size of 211 represents more than 5% of the population, and many researchers agreed on the adequacy of 5% as a rule of thumb for any social sciences research. However, there are fewer international students studying at Islamic universities in Malaysia compared to non-Islamic universities. For the sampling process, this study uses quota sampling by selecting the international students according to their continents (Asia, Africa, Europe, and Latin America).

4.2. Data collection and analysis

The data was collected face-to-face and analyzed quantitatively using statistical software for analysis of moment structures (AMOS) version 23.0. For the data analysis, confirmatory factor analysis (CFA) was used in this study to determine the factor with the highest factor loading. According to Kline [31], CFA is capable of providing distinct factor(s) that could highly correspond to the observed variable. Moreover, it is aimed at testing the multi-dimensionality of a theoretical construct and helps to postulate a relationship between the observed variables and the underlying latent variables [32]. Given this, the study employed CFA to determine the leading factor by considering the factor with the highest factor loading.

4.3. Instrumentation

This study adapted an instrument by Levitz [33] for the student satisfaction inventory. The inventory is an assessment tool for assessing student satisfaction with various aspects of their university experience. This survey is comprehensive, has additional items that are more applicable, and is also related to the main purpose of this study. After reviewing the adapted instrument, the researchers decided to have only 70 items. The student satisfaction inventory has been widely used by researchers in order to explore various satisfaction dimensions and their impact on students' overall academic experience. This instrument has shown a very high internal reliability of 0.98 for the set of satisfaction scores [9].

The questionnaire consists of 70 items that cover a full range of university or college experiences as well as the demographic characteristics of respondents. The items were Likert-type statements on a seven-point scale ranging from: 1=strongly disagree; 2=disagree, 3=somewhat disagree, 4=neutral, 5=somewhat agree, 6=agree, and 7=strongly agree. The student satisfaction inventory assesses levels of satisfaction along the following six dimensions, which are SC, IE, SS, CC, AFA, as well as SE. Generally, SC measures the institution's attitude towards students and the extent to which they feel welcome and valued. IE measures students' academic experiences, the curriculum, and the campus's commitment to academic excellence. SS assesses the quality of support programs and services. The CC evaluates how the institution promotes a sense of campus pride and belonging, SE measures quality of service and personal concern for students in various areas of campus, and AFA explores students' perceptions of recruitment, enrollment, courses, and financial aid provided by the university.

To ensure content validity and that the instrument was measuring what it was intended to measure, the researchers sought the views of experts in the design and preparation of the questionnaire. Initial views and feedback from students helped in preparing the questionnaire to suit the needs of the research and to enhance the validity of the research and the instrument. The literature review also gave an idea of the variables that can and must be included in the questionnaire in order to fully understand and assess students' satisfaction. For the reliability of the instrument and ensuring internal consistency, the Cronbach alpha test was performed. A Cronbach alpha of 0.934 was obtained, which is greater than 0.7, indicating that a high degree of internal consistency was achieved in the instrument for data collection.

5. RESULTS

5.1. Demographic information

This study involved 211 international students from two Islamic universities in Malaysia. The respondents' demographic information in this study is presented in Table 1. The table indicates that 58.3% (n=123) of the respondents were female, while 41.7% (n=88) were male. Another dimension of the respondent characteristics is the origin country of the students. International students at the two universities came from 29 different countries. The majority of the students are from China, which indicates 16.1% (n=34), followed by Indonesia at 15.2% (n=32), Yemen at 9.0% (n=19), Bangladesh at 8.1% (n=17), India at 5.7% (n=12). On the other hand, the minimum number is the student who came from Iran as well as Uzbekistan, which indicates only 0.5% (n=1) for each.

Table 1. Respondents' demographic information

Demographic variable	Frequency	Percentage (%)	
Gender	Male	88	41.7
	Female	123	58.3
Origin country	Afghanistan	5	2.4
	Algeria	7	3.3
	Bangladesh	17	8.1
	Canada	3	1.4
	China	34	16.1
	Colombia	2	.9
	Egypt	6	2.8
	Guinea	3	1.4
	India	12	5.7
	Indonesia	32	15.2
	Iran	1	.5
	Japan	2	.9
	Korea	2	.9
	Kuwait	2	.9
	Libya	2	.9
	New Zealand	2	.9
	Nigeria	5	2.4
	Pakistan	7	3.3
	Palestine	5	2.4
	Saudi Arabia	3	1.4
	Singapore	6	2.8
	Syria	2	.9
	Somalia	7	3.3
Sudan	3	1.4	
Thailand	12	5.7	
Turkey	6	2.8	
Uzbekistan	1	.5	
West Africa	3	1.4	
Yemen	19	9.0	

5.2. Measurement model

In this study, the measurement model is designed to examine the relationships between latent variables and what they measure. According to Anderson and Gerbing [34], the measurement model explains the relationships between latent variables and their items, indicators, and observed variables. In other words, the model investigates if there are correlations between latent or unobserved variables and checks for the goodness of fit of the model. This can be done via CFA, where the items are determined to not fit the measurement model [35]. Consequently, this study produces a measurement model to examine the relationship between latent variables, determine item goodness-of-fit, and highly load domains through factor loading for international student satisfaction in Malaysian higher learning institutions.

5.2.1. Goodness-of-fit

In order to test the adequacy of CFA models, the goodness-of-fit tests or indexes were used in CFA. Basically, there are several fitness indexes that reflect how fit the model is to the data at hand. However, there is no agreement among researchers on which fitness indexes to use [36]. However, several researchers [37]–[39] recommended the use of at least one fitness index from each category of model fit. There are three model fit categories: absolute fit, incremental fit, and parsimonious fit. Table 2 shows the fit indices and their threshold values for the students' satisfaction indicator. This table shows that all the indices fit the model; thus, we can conclude that the results of the analysis on the overall fit of the model were adequate and acceptable.

Table 2. Goodness-of-fit indices for students' satisfaction

Fit indices	Threshold value
CMIN/DF	1.591
DF	109
GFI	0.911
AGFI	0.900
CFI	0.957
TLI	0.947
IFI	0.958
RMSEA	0.53

5.2.2. The best indicators for international students’ satisfaction

This study explores the dominant item or factor that can be considered an indicator of international students’ satisfaction. For the SC factor, it shows that item 5 (y2) is “It is an enjoyable experience to be a student on this campus.” Was the highest indicator ($\lambda^5=0.83, \epsilon^5=0.70$). For the IE factor, items 4 (y) “major requirements are clear and reasonable” and 5 (y) “My academic advisor is approachable” shared the same factor loading, and both are considered the highest indicators ($\lambda^{4-5}=0.79, \epsilon^{4-5}=0.63$). With regards to the support system factor, item 5(y) “Student activities fees are put to good use” was found to be the highest indicator ($\lambda^5=0.78, \epsilon^5=0.61$). In relation to the CC factor, item 2 (y2), “Faculty provide timely feedback about student progress in a course,” was the highest indicator ($\lambda^2=0.77, \epsilon^2=0.60$). For the AFA factor, item 1(y) “cost as a factor in the decision to enroll” was found to be the highest indicator ($\lambda^1=0.75, \epsilon^1=0.56$). When it comes to the SE factor, item 2 (y2), “There is a good variety of courses provided on this campus,” was the highest indicator ($\lambda^2=0.69, \epsilon^2=0.48$).

5.2.3. Predictors (η)

Table 3 provides the predictors that overall predict international students’ satisfaction in the Malaysian higher learning institution from the participants’ perspectives. According to Table 3 and Figure 2, SC is considered the highest predictor when estimating the variance ($Var ()=6.29$) and also from standardized factor loading (0.83), followed by IE ($Var ()=6.22$) with a standardized factor loading of (0.79), while SE was the lowest and least predicted. These findings can be interpreted as saying that, for international students to be satisfied, SC needs to be looked at. Especially their self-belongingness, caring towards them, approachableness of the administrators, warmth of the campus, and the university’s concern for students as individuals. Besides, IE also needs to be taken care of. especially when it comes to the quality of instruction, assessment, clear instructions, and approachability of the supervisors. SS should be constantly checked, especially academic facilities, accommodation, immigration, and fees.

Table 3. Variance estimate: leading factor for students’ satisfaction

Factor	Estimate	C.R.	P
SC	1.539	6.290	0.001
IE	1.565	6.221	0.001
SS	1.304	6.173	0.001
AFA	1.205	5.503	0.001
CC	1.157	5.624	0.001
SE	0.830	4.975	0.001

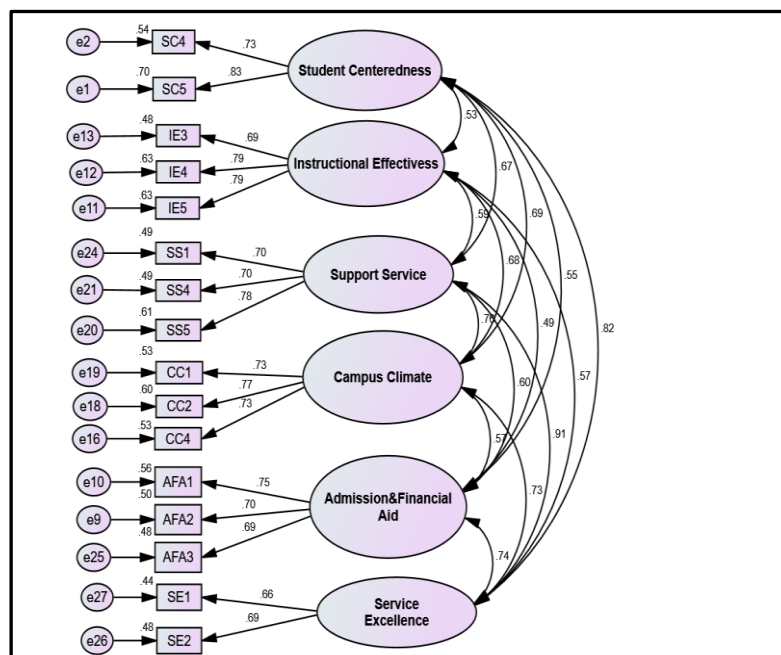


Figure 2. International students’ satisfaction measurement model

For further confirmation of the leading factor or variable, this study ran a comparison means analysis, and Table 4 presented the same results as Table 3. According to Table 4, SC has the highest mean compared to the means of other factors and variables, followed by IE, admissions finance, CC, SS, and SE. This is an indication that the sampled Islamic universities should focus on SC, which involves looking at international wellbeing, showing love, caring, and professional development for the university administrators in dealing with international students professionally and nicely while having a sense of belonging.

Table 4. Compared means between variables

	IE	SS	CC	AFA	SE	SC
Mean	14.2749	12.5166	13.8199	13.9479	9.2370	24.0000
N	211	211	211	211	211	211
Std. deviation	3.75313	3.73955	3.64702	3.74956	2.21913	5.83911

5.3. Interrelationship between factors

This study investigated whether there are interrelationships between students' satisfaction factors. To determine the interrelationship between the factors, the regression weight in the measurement model was checked. The outcomes of the interrelationships among the variables or factors can be seen in Figure 2. Opportunely, the regression weight in the model showed that there are significant relationships among all the factors and variables, as the regression weight starts from $\beta=0.49$ to $\beta=0.91$, while IE and CC variables had the strongest relationship with SE. Therefore, it can be concluded that, theoretically, all the domains have strong connections and cannot work in isolation in order to ensure the students' satisfaction.

6. DISCUSSION

Generally, this study strived to answer three research questions in line with its objectives. Initially, this study examined the dominant or foremost factors concerning international student satisfaction in higher learning institutions via the factor loading acquired from the CFA. Also, it explored the leeway of these six factors, which are SC, IE, SS, CC, SE, and AFA, as imperative elements of international student satisfaction. From the findings, all five factors are crucial and can influence students' satisfaction in the higher learning institution, with the most influential factors being SC and IE. This finding was in line with the research conducted by Weerasinghe *et al.* [17] that assessed institutional satisfaction, which really matters to international students. In his study, there was a significant effect of students' overall experience with their university's SS on their satisfaction. This suggests the need for support offices to regularly assess student needs and adjust services in order to meet their expectations and demands, ranging from pre-arrival to graduation. Institutions must also remain strategic in how they develop and host programs and services in collaboration with other campus units.

Learning plays a core role in any educational institution. Thus, high emphasis should be laid on improving and facilitating learning by providing good and supportive services. Since international student mobility contributes to the economy, higher institutions should put greater emphasis on SS that enrich international students' academic experiences and their success. Therefore, not every higher learning institution has to provide a variety of good services but must ensure assistance is provided to international students in their worthwhile educational experiences at the university. This study indicated that there are significant relationships among all five factors due to the high factor loadings indicated. The variables having a very robust relationship are SC, SE and SS. This finding was also supported by Bozbay *et al.* [14] whose findings suggested that academic and non-academic aspects of service quality influenced international student satisfaction and institutional reputations in Taiwan. It is also in line with Weerasinghe *et al.* [17] whose findings noted that student university experience was one of the factors that led to student satisfaction.

Through identifying the most influential factors, we can recognize the criteria to be used by students in evaluating and deciding which universities to select and attend. Correspondingly, looking at the highly concerned areas of students is considered the first step in achieving their overall satisfaction. Hence, a university must determine which of these factors appears to have the biggest influence on student satisfaction. The universities may consider highlighting other aspects of international students' satisfaction. Recruitment strategies also should be addressed. On the other hand, retention activities tend to focus more on how best to keep prospective and current students satisfied.

Meanwhile, the findings of this study confirmed that international students from different countries perceive satisfaction with university education differently. This aligns with Wong and Chapman [18] that found the impact of international students' total experience in public and private universities in Malaysia on how each international student perceives service quality and value. Thus, Malaysian higher learning institutions have the

potential to attract more international students by improving their institutional services. In this sense, we believe that this research is appropriate and will help all stakeholders, including higher education institutions and policymakers, better focus their activities, resources, and budgets. In addition, Adams [11] suggested that student satisfaction data could be utilized by institutions to further enhance their high-performing areas as well as highlight those areas needing improvement.

7. CONCLUSION

This study concludes that, despite many factors affecting international students' satisfaction, these six factors: SC, IE, SS, CC, SE, and AFA—were found to be significant and positively correlated with satisfaction. Besides, the analysis of this study provides universities with information on which areas to improve satisfaction levels among international students. Furthermore, areas that have significantly lower satisfaction levels can be examined to determine the source of dissatisfaction and develop action plans for improvement. Finally, this study has attempted to portray substantial issues bothering international student satisfaction, especially in the context of Malaysian higher institutions. For example, satisfaction assessment results are important indicators of the student experience at the higher learning institution. While satisfaction survey data provides vital direction for university strategic planning efforts in order to offer more educational value to students and the community, even though there is a limitation in this study that relates to a number of other factors not addressed in the study that could impact the success of the higher learning institution, for example, the prestige of the university, cost, and price would be important.




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