

The Determinants of International Student's Satisfaction: Evidence from A Public Sector University

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Abstract:

This purpose of this study is to examine the determinants that may influence the satisfaction of the international students regarding the quality of education system such as an academic service, administrative service, courses offered, access service. This sample of the study is based on the convenience sampling of 338 enrolled postgraduate and bachelor's international students of a public sector university in Malaysia (University Utara Malaysia). Findings of the study reveal that determinants such as academic service, administrative service, a course offered, and access service have a significant and positive impact on overall student satisfaction.

Keywords: *Student satisfaction, Academic service, Administrative service, Courses offered, Access service, International student, Malaysia*

1. Introduction

Educational tourism has played a significant role in improving the economic condition in such a way to attract international students from various countries into a specific country. A new industry in South-East Asia has developed is educational tourism, particularly in Malaysia. For the Improvement in the tourism development, educational tourism program was recognized as one of the ways to expand national tourism in Malaysia, which was established by the Ministry of Culture, Arts and Tourism and the Ministry of Education in 2001 (Hamzah, 2004).

Malaysia is transforming its economy from commodity-based to the knowledge base. Therefore, Higher education is struggling to run the knowledge-based industry by selling through educational services to both local and international students. In recent years, Malaysia has witnessed an influx of international students in the education sector and has a plan to recruit

200,000 international students by the year 2020. Hence, to achieve the target by 2020 most of the Malaysian universities focused on recruitment of international student to promote tourism education. Malaysian Higher education authority is focusing on the introduction of new programs in universities, growth in the number of universities and acceptance of international students.

A significant number of students from different nationalities proves that Malaysia is striving for education and knowledge sharing. The registered number of students had grown from 170,000 in 1985 to about 230,000 in 1990 in a different institution, and about 730,000 in 2005 (Hassan, 2006). The status of international students, who are currently studying in Malaysia is 90,000 in the institutions of higher learning in Malaysia (Abdullah, 2009; Mohd, 2010; Yusoff & Chelliah, 2010).

While it needs to understand that the growth comes along with the intense competition. Due to the increased competition in the education service industry in South East Asia, higher education institutions are focusing more on student satisfaction. Development of the strategies to attract students and creating efficient and effective learning environments is the part of the plan implemented by the administrators in these institutions in order to link academic success to concepts such as retention and recruitment (DeShields Jr, Kara, & Kaynak, 2005). The institutions can gain student satisfaction through delivery of excellent quality of support service values and this is an integral part in securing a sustainable competitive advantage in today's international education (Huang, Binney, & Hede, 2010).

Malaysia's current world ranking in terms of the number of international students by UNESCO is 11th (Talebloo & Baki, 2013). This tremendous growth during the past decade in the Malaysian education sector proved that Malaysia in this region is excelling towards a centre of educational excellence (Ministry of Higher Education, 2009). For instance, there is increasing in the number of international students, wherein 2015 international students' number was 2,296 which is increased to 2,651 in 2016 (UUM academic affairs, 2017). Among the universities, UUM (University Utara Malaysia) is one of the well-known universities. The current figure of the international students in UUM is 2,651 from 49 different nations from which 56% are postgraduate and another 44% are undergraduate students (UUM academic affairs, 2017).

Therefore, an international student is the main factor to achieve strategies goals of educational tourism that serve as a vital revenue stream for Malaysian universities (Morshidi & Abdul Razak, 2008). Moreover, Malaysia is one of the countries that pay attention to this important

sector and provide more creative ways to satisfy students those who are looking for a good service of higher education (Samah & Ahmadian, 2013). For example, satisfaction to the international students may come from different aspects, including programmatic activities, support and student-focused services, the students' experience in the classroom and their interaction with professors and classmates, involvement in campus social life (Wu, Garza, & Guzman, 2015). While in Malaysia, especially UUM the satisfaction of the local and international students may be obtained from the key following factors provided by the UUM such as an academic service, administrative service, courses offered, access service (Padlee, 2012).

But currently, due to the new regulations which levied on the international students those who are coming to Malaysia for study, it is observed that the regulations undermining the satisfaction of international students toward the Malaysian educational system. Such as, fees to the education Malaysia global service (EMGS), which amounted to about US\$ 600 service to get an entry in Malaysia to obtain student pass. Additionally, medical check-up and insurance fees. In addition, UUM international students having a problem with passing the placement test to join the course, due to their weaknesses in the English language, especially in speaking. UUM Language Center's result for the previous semester (A152) shown that 60% of international students failed in the final examination, due to the traditional way of teaching. Finally, visa application and delayed renewal process have become a severe concern for international students in UUM due to the inefficient service and an insufficient number of staffs in the Centre of International Affairs and Cooperation (CIAC).

While, prior studies focused on the local students' satisfaction only (Arambewela & Hall, 2009; Douglas, McClelland, & Davies, 2008;

Elliott & Healy, 2001; Marzo Navarro, Pedraja Iglesias, Rivera Torres, 2005; Sia, 2008; Talebloo & Baki, 2013; Zeeshan et al., 2013) including Malaysian studies (Awang et al., 2014) and only limited studies focused on the international student (Arambewela & Hall, 2006, 2009; Arambewela, Hall, & Zuhair, 2006). Therefore, this study attempts to cover this gap and to highlight the issue in such a way that may lead the government officials to revise their educational system policy. Specifically, it will contribute towards the current literature of student satisfaction by investigating the determinants of the international students' satisfaction in University Utara Malaysia.

2. Literature Review

2.1. The International Student Market in Malaysia

According to a study by Padlee, Kamaruddin, and Baharun (2010) related to International Students' selection for Higher Education at Malaysian Private Universities explained that national goal of Malaysia to become the best regional education provider, Malaysian's higher educational institution must classify the criteria that the international students normally evaluate for the choice of study destination. Among several criteria's one is the teaching staff academic background, excellence in speaking and writing the English language, the area of expertise and top-notch staff. By identifying the aspect of selection criteria, the higher learning institutions (HEIs) can attract potential international students through effective marketing strategies. They also stated that there are seven dimensions that shown in the decision criteria of international students; learning environment, influencers, customer focus, cost, facilities, socialization and location (Padlee et al., 2010).

In Malaysia, international students provide economic benefits at both the national and

university level (ICEF, 2016). In 2007, Malaysia launched Malaysia's National Education Strategic Plan (NESP). The focus of establishing NESP was to intensify internationalization of higher education in the country via student mobility, research and development, programs related to academic, social integration and culturally engagement both locally and internationally and international students to contribute to the local business via, food,

accommodation, travel and entertainments (Da Wan, Sirat, & Razak, 2018; Muda, 2008). This action will support the employment of locals. Therefore, there is a strong need to understand the needs and satisfaction of these students due to their potential.

2.2. Expectation Disconfirmation Theory

Expectation disconfirmation theory (EDT) is particularly important in the context of this study because it can evaluate the satisfaction of customers in terms of the perceived quality of products or services (Oliver, 1980; Patterson, Johnson, & Spreng, 1996; Spreng & Page Jr, 2003). Two variables of EDT are very important, recognized as (expectation or desire) and (experience or perceived performance). In two different time frame, these variables are defined. (Expectation or desire) is relevant to the pre-buy time period regarding the initial expectation or desire related to an explicit performance such as quality of products or services. (Experience or perceived performance) is relevant to the post-buy time frame after the customer's actual experience regarding real performance such as quality of a specific product or service. This difference between pre-buy expectation or desire and actual experience or performance is acknowledged as disinformation of expectation or desire (Bhattacharjee & Premkumar, 2004; Oliver, 1980; Spreng & Page Jr, 2003).

Expectancy Disconfirmation Theory (EDT) was developed on the base of Cognitive Dissonance

theory (CDT) that is introduced in 1957 by Festinger (1957); therefore, CDT literature review is done in this section before the review on the definition of EDT and its implication. Festinger (1957), proposed Cognitive Dissonance theory (CDT) that outlines a disagreement between the perception of something and its reality. Perceived dissonances are the reason behind the change of a person's idea about a specific cognition (Bhattacharjee &

Premkumar, 2004). The change mentioned above can be explained by the psychological reason because the feeling the dissonance between a person's perceived thinking regarding the qualification of a specific thing and if he/she encounters unpleasant actual performance and this will make him/her distress in his/her mind and encourages the person to change her/his impression about cognition (Harmon-Jones & Harmon-Jones, 2007). Festinger (1957) named discomfort to feel as dissonance. CDT is a theory for matching the expectation of a person regarding the performance of something with what he/she experiences about this thing's performance in real life. The dissonance between the expectation and experience creates distress according to the psychology of a human. If the difference between their expectation and experience is not of the fundamental nature then the person shows the least confrontation to reduce dissonance feel and is inclined to bring into line their expectation and experience (Staples, Wong, & Seddon, 2002).

Expectancy Disconfirmation Theory (EDT) structured on the fundamentals of (CDT) definition. (EDT) can measure customer's satisfaction from the difference among customer's expectation and experience regarding the perceived products or services (Oliver, 1980; Patterson et al., 1996; Spreng & Page Jr, 2003). The Figure below is shown the model of EDT which is proposed by Oliver (1980).

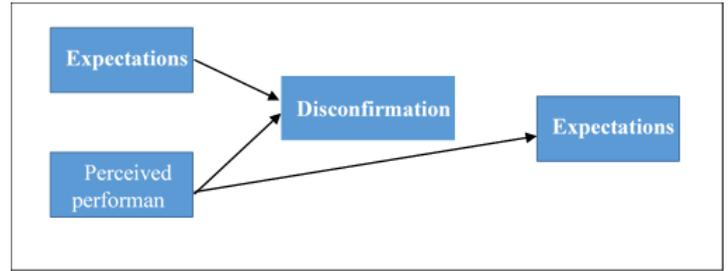


Figure 1.1: First EDT model (Oliver, 1980)

2.3. Student Satisfaction

According to Kotler (2009), defines the person's satisfaction as a feeling of pleasure that is originated from the performance of the staff up to their expectation. Similarly, if the performance is in accordance with expectation, the customer will feel satisfied. In the context of satisfaction related to the higher education, it is the student's satisfaction that he/she is expecting from his educational institution. A previous study related to the satisfaction of student in Pakistani University stated that the major number of students getting education in Pakistani University are displeased with current services because of the teaching facilities are not according to the current demands and the lack of administrative support is the reason behind the dissatisfaction of the students (Abbasi et al., 2011). Therefore, the improvement of student satisfaction level at universities is very important to maintain. Huang et al. (2010) mentioned that the students should be treated as a customer of the universities. On the other hand, Waugh (2002) proposed that seeing the students as a customer made some pressures towards universities, it seems to be like a pure business idea. Student's satisfaction should be the primary objective of the educational system (Seymour, 1993).

2.4. The Determinants of Student Satisfaction in University Context

Prior empirical literature endorsed that various type of service qualities in the higher education strive towards student satisfaction and well

researched (Arambewela & Hall, 2009; DeShields Jr et al., 2005; Gruber et al., 2010). Hill (1995) figured out some determinants related to the service quality in higher education i.e. non-academic aspects, academic aspects, program issues, access and reputation. Focused on the following eight parameters as important factors of service quality among higher educational institutes, for example, Design, Delivery and Assessment, Academic facilities, Non-academic facilities, Recognition, Guidance, Student representation, Study opportunities and Group size. Bitner (1992) emphasized the role of the teaching staff's communication skills, the strong interaction among the staff and students can support students to achieve their educational objective, this can lead towards higher satisfaction of students. Kuh and Hu (2001) argued the role of the strong interaction among student and faculty can be a good predictor of student satisfaction. Apart from this, in this study, the unique combination of characteristics is used that are not investigated in the context of international students studying at University Utara Malaysia. These elements will be discussed in the sections that follow.

2.5. Academic service

& According to previous studies, academic service is unique aspect by the university that influences the overall satisfaction of international students (Arambewela & Hall, 2009; Padlee & Reimers, 2015). The provision of such services is the responsibility of the people that includes teaching staff and it traditionally refers to attributes like methodology of teaching, learning stuff, interaction of lecturers with students and consultation opportunities (Abdullah, 2006; Devinder Datta, 2003; Douglas et al., 2008; Gatfield, Barker, & Graham, 1999; Koilias, 2005; Telford Masson, 2005). The influence of critical role of the academic services on the student satisfaction is endorsed by several prior studies (Abdullah, 2006; Angell,

Heffernan, & Megicks, 2008; Arambewela & Hall, 2006; Gamage et al., 2008; Joseph & Joseph, 1997; Leblanc & Nguyen, 1997). Therefore, the following hypothesis can be developed:

H1A: Academic service positively influences overall student satisfaction at the university.

2.6. Administrative Services

Administrative service is the element that has a non-significant impact when compared with other elements of service in the university because it aids as a support activity rather than the element of core activities of university services (Padlee & Reimers, 2015). One of the previous studies from Italian universities shows that it is inefficient or poorly perceived service when they ask the satisfaction of the students about administrative service in their university (Petruzzellis, d'Uggento, & Romanazzi, 2006). While Green and Langley (2009) claimed that there is difficulty in training the existing staff due to the lack of finding suitable administrative candidates for interaction with international students. It has been suggested that the administrator should be more responsible for ensuring university staff's academic data regarding their qualifications. However, the centralized structure is an effective way to coordinate the administration enforcement policy. Administrator normally has weak leadership skills to access academic power, there are four categories of work of administrator which is strategies and policy, work on academic data, direct help provision for international students, guiding the knowledge exchange and transfer (MacColl & Jubb, 2011). If it is managed properly, the consequent impact will be positive. Therefore, the following hypothesis can be developed:

H1B: Administrative service positively influences overall student satisfaction at the university.

2.7. Courses offered

Courses offered by the university means the courses and degrees currently available for the admission. Students always make comparison among the courses offered against their anticipated outcomes (e.g. employment in their desired field) and not surprisingly that the perceived relevance of these courses is the major influencing factor on the student satisfaction (Mavondo, Zaman, & Abubakar, 2000). From the previous studies courses offered positively and significantly influences the overall satisfaction of international students in the university. Therefore, it is arguable that better the level of satisfaction with offered courses can create a greater overall satisfaction with a university (Padlee & Reimers, 2015). The quality of teaching and learning leads to student satisfaction/dissatisfaction. The student satisfaction is very important for the faculty, the student satisfaction with a course taught serves as another influential factor when planning the budget of a department (Tóth & Jónás, 2014). A previous study by Butt and Rehman (2010) claimed that student's satisfaction in higher education in Pakistani universities, a course offered is the second factor that influences student satisfaction. Therefore, the following hypothesis can be developed:

H1C: Courses offered positively influence overall student satisfaction at the university.

2.8. Access service

The previous studies explain facilities such as libraries, computer access, auditorium and social life are a highly influential factor, the student should have access to these areas to achieve student satisfaction by the university. The library plays a major role to provide the main resources to students in their studies (Hossain, 2014; Hossain & Islam, 2012). Computer accessibility for students is very important to complete their task and assignments in time. It has been found

from prior studies that the quality assesses to the IT facilities has the capacity to predict the student's satisfaction (Mai, 2005). Some other features are also very important that result in effective learning such as thermal comfort, inside air quality and audio with visual comforts. It can be concluded that, to have good auditoriums with good facilities affect better learning and lecturing. Lastly, the provision of a good social life for students has been mentioned by many authors to contribute positively towards students satisfaction (Awang et al., 2014). The access service is one of the various service elements that can be attributed to improving the satisfaction of international student with the institute (Padlee & Reimers, 2015). Therefore, the following hypothesis can be developed:

H1D: Access services positively influence overall students' satisfaction at the university.

2.9. Research Framework

According to the theoretical framework, this study will be dominated by the four key relationships of interest. The four relationships are among the four service indicators; academic service, administrative service, courses offered, access service and overall satisfaction, whereby the four elements of university service will be taken as independent variables and the dependent variable is the overall satisfaction of international students. The research will be conducted using a questionnaire as an instrument for gathering data. The analysis of the data will be done quantitatively in such a way that could draw a full picture of the perception of the international students toward the quality of the education system in UUM. Therefore, the EDT will be taken as a base model in this study towards determining the perception of the international students toward the quality of the education system in UUM.

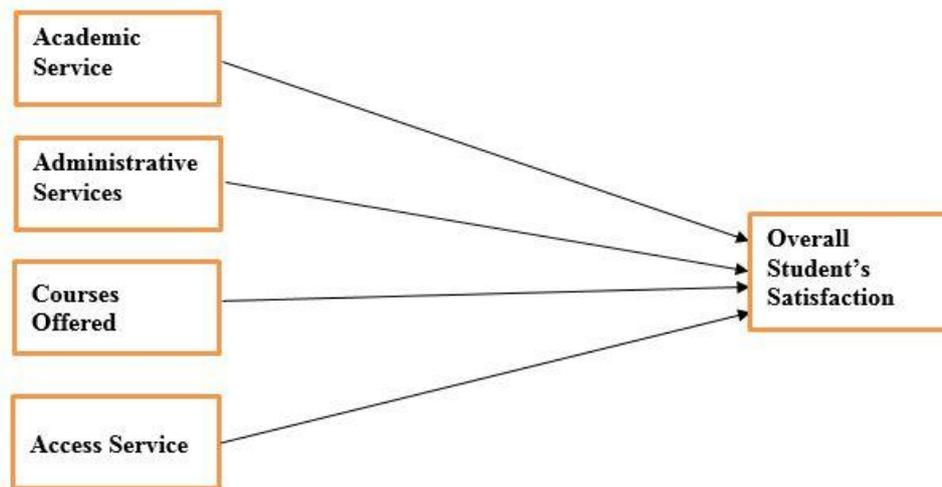


Figure 1.2: Conceptual framework

3. Research Design

According to Zikmund et al. (2013), research design is a principal plan that lay down the procedures and methods for collection and analysis of the required information. It is causal research. Zikmund et al. (2013) stated that causal research pursues to identify cause-and-effect relationships. In fact, there are four key relationships of interest; the influence of academic service, administrative service, courses offered, access service on overall satisfaction, whereby the four elements of university service are taken as independent variables and overall satisfaction as the dependent variable. Quantitative research is used to conduct this study where questionnaires are the primary source of collecting data. Quantitative research is the systematic empirical investigation, which is using to quantify the problem by collecting numerical data that can be evaluated by using statistical techniques.

3.1.Sampling Design

According to Sekaran and Bougie (2016), the population is defined as a whole group of people, events, or things that the researcher is interested to investigate in the study. This study adopted a convenience sampling method among international students of University Utara Malaysia, Sintok, Kedah. The sample size of this

research is 338 international students who are pursuing their studies at the bachelor's degree and postgraduate level in the UUM based on the Morgan table attached in Annexure 1. Krejcie and Morgan (1970) stated that convenience sampling is the method of collection of information from the part of the population who are conveniently available to provide it. "It is most often used during the exploratory phase of a research project and is perhaps the best way of getting some basic information quickly and efficiently" (Krejcie & Morgan, 1970).

3.2.Measurement and Questionnaire Design

Survey data is one of the essential parts of the research that help to gather data from respondents. This study got data through questionnaires. As questionnaires are an efficient data collection mechanism that measures all the variables of interest in the research (Sekaran & Bougie, 2016). To develop a set of questionnaires, numbers of questions were selected for analyzing the variables in this study. The questionnaires were designed by adopting relevant questions from previous studies and adapting some terms and words to increase apprehension. The questionnaires consisting of a combination of demographic information or respondent's personal profile and closed-ended questions also, two types of measurement scale

were used in this study, which is nominal and interval. A nominal scale was used in demographic questions such as gender, level of education and the interval scale was used for the rest 27 questions which consisted of section A, B, C, D, E and F in the questionnaires. Five-point Likert scale was used in this study, to generate a statistical measurement of respondents' experiences. The scale ranged from "strongly dissatisfy" (1) to "strongly satisfy" (5) for the respondents to select the best option representing their experiences.

Originally, all questions were adopted and adapted from previous studies. Demographic information or respondent's personal profile questions were basically from past researchers in their questionnaire studies format. Whereby, all questions from section A, B, C, D, E and F were selected from several previous studies and adapted to match with the objective of this study. All items to measure the variables are adapted from the studies listed in the table below:

Table 1.1: Source of items of the survey

Variables	Question No	Authors
		Abdullah (2006), Angell et al. (2008) and
Academic Service	1 to 4	Gamage et al. (2008)
		Leblanc and Nguyen (1997) and Petruzzellis
Administrative Service	1 to 4	et al. (2006)
		Lagrosen, Seyyed-Hashemi, and Leitner
Courses Offered	1 to 4	(2004) and Gruber et al. (2010)
Access Service		Abdullah (2006) and Leblanc and Nguyen
	1 to 5	(1997)

Moreover, Overall satisfaction was measured on a three-item scale (1 = Very Dissatisfied, 5 = Very Satisfied). The scale items used to operationalize this construct were adapted from similar studies. This scale was chosen because it could be easily adapted to the context of this study and because in past applications and pre-testing, it had yielded valid and reliable results (Bitner & Hubbert, 1994; Huddleston et al., 2009)

Table 1.2: Source of the items survey of the survey of depended variable satisfaction

Authors Items used to operationalize satisfaction

Bitner and Hubbert (1994) and Huddleston et al. (2009)

OS1: In general, how satisfied are you with your university?

OS2: Based on all your experiences with this university, to what extent are you satisfied?
OS3: Overall, how would you rate your level of satisfaction with your university?

3.3.Data collection procedure

The study sample was international students getting an education at UUM. We will distribute 300 questionnaires to randomly selected international students. Method to obtain the data required, this study uses a questionnaire. The questionnaire is divided into the sections, consisting of Section A: Satisfaction with academic services, Section B: Satisfaction with administrative service, Section C: Satisfaction with course offered, Section D: Satisfaction with access service. Fundamentally, this study employs the most common method of the survey to gather primary data in business research (Zikmund et al., 2013). This study shall employ two ways of administering a survey which is by hand.

3.4.Pilot Test

The main objective of the pilot test is to evaluate whether the variables are perceived to be applicable to the satisfaction of customers. This small study is conducted to determine instrument of data collection, recruitment strategy of the sample, research protocol and added techniques of research for the preparation of larger scope other than an important stage to identify problematic areas in the instrument prior to implement on the full sample (Hassan, Schattner, & Mazza, 2006). For this purpose, 30 sets of questionnaires are distributed to and collected from targeted respondents who represent the intended population. All results are shown to be reliable for this study. The reliability for Academic Service is 0.783, for Administrative Service is 0.752 and for Courses Offered is 0.887. Finally, Access Service and Overall Satisfaction are 0.762 and 0.902 respectively.

Table 1.3: Pilot test

Constructs	Number of items	Cronbach's α
Academic Service	4	0.783
Administrative Service	5	0.752
Courses Offered	4	0.887
Access Service	5	0.762
Overall Satisfaction	4	0.902

3.5.Response Rate

Data has been collected in this study among UUM students. A total of 338 questionnaires were distributed to the UUM students and 230 questionnaires were received. Thus, the response rate is 68.5% which is considered very well and high for the study. Based on Table 1.4 shows the percentage of response rate.

Table 1.4 Response rate of the survey

	Total	Percentage
Questionnaire distributed	338	100%
Collected questionnaire	230	68.5%
Usable Questionnaires	230	68.5%

3.6.Data Screening and Preliminary Analysis

The data screening preliminary analysis method requires, which ensures that no ambiguous data characteristics will negatively impact the results. It can help the researchers to better understand the data collected for further analysis and to identify any possible violations of the key assumptions regarding the application of multivariate techniques of data analysis (Sekaran & Bougie, 2016).

3.7.Test of Normality

The present study employed a graphical method to check for the normality of data collected (Tabachnick & Fidell, 2013). In this study,

followed recommendation by Field (2009), the histogram and normal probability plots were examined to ensure that normality assumptions were not violated. The data collected for the present study follow a normal pattern since all the bars on the histogram were close to a normal curve. The diagram is attached in Annexure 2.

3.8. Demographic Profile of Respondent

The demographic profile for the 230 respondents was gathered to provide a clear understanding about the distribution of respondents in terms of gender, age, academic program of study, the current level of study, and nationality of an international student. These properties were included to give demographic profile information on the sample. Annexure 3 explains the descriptive statistics of the demographic profile for each item in this study. It is fairly distributed among male (75.2 %) and female (24.8 %). In terms of age, most respondents were between the ages of 18 and 22, which represented 44.3 % of the total respondents. The highest respondents' academic program represents 31.5% from finance. The least number of the respondents are studying course of Islamic banking .4%, hospitality management .4%, operation management .4%, safety and health .4%, politics science .4%, agricultural business.4%, and tourism management .4%. Regarding the current level of study bachelor's degree 63.5%, master's degree 12.2%, PHD 24.8%. The respondents' years in the university was 24.8% the first year, 33.0% second years, 25.2% third years, and 17.0% fourth years. In terms of nationality, the five countries that account for the greatest sample representation are Indonesia (accounting for 26.3% of all respondents), Yemen (14.8%), Somalia (12.2%), China (11.7%) and Nigeria (10.0%).

Descriptive Analysis of the variables

This section describes the descriptive analysis of the variables of the present study. The

descriptive analyses of the variables in this study include the name of variables, number of items, mean, and standard deviation.

Table 1.5: Descriptive statistics for constructs

Variables	Number of Items	Mean	Standard Deviation
Academic service	4	3.72	.599
Administrative service	5	3.16	.737
Courses offered	4	3.74	.663
Access service	5	3.50	.691
Overall student satisfaction	4	3.70	.659

3.9. Reliability

Cronbach's alpha is a measure of the internal consistency and scale reliability for the independent and dependent variables. The value used for Cronbach's alpha between 0.6 to 0.79 is the lower limit value of acceptability and the values between 0.80 to 0.89 indicate that the questions for the independent and dependent variables are more homogeneous. The Cronbach's alpha for academic service .787; administrative service .809; courses offered .778; access service .794; quality of education system as a moderator .800; and student overall satisfaction .779. In Table 1.6 shows Cronbach's alpha the summary about this result shows acceptability and high internal consistency for these variables.

Table 1.6: Reliability

Variables	Number of Items	Cronbach's alpha
Academic service	4	.787
Administrative service	5	.809
Course offered	4	.778

Access service	5	.794
Student overall satisfaction	4	.779

3.10. Correlation Analysis

A correlation analysis is used to define the relationship between all independent and dependent variables namely academic service, administrative service, courses offered, and

access service, the dependent variable is overall student satisfaction. Pearson's correlation analysis is ranged between +1 and -1 and such value explains the strength of the relationship between independent and dependent variables which has been to categorize in too low, moderate or high based on the value of the Pearson's correlation analysis.

Table 1.7 Pearson correlation matrix

	SCSM	SDSM	SCOM	SCSM	QESM	OSCM
SCSM	1					
SDSM	.387**	1				
SCOM	.562**	.385**	1			
SCSM	.364**	.407**	.456**			
OSCM	.494**	.429**	.557**	.462**	.400**	1

** . Correlation is significant at the 0.01 level (1-tailed). Note: Pearson correlation analysis is based on 230 observations

Note: SCSM Satisfaction with Academic Service: SDSM, Satisfaction with Administrative

Service: SCOM, Satisfaction with Course Offered: SCCM Satisfaction with Access Service:

OSCM, Overall satisfaction of students

Overall, Table 1.7 below shows that all independent are significant with the depended variable. The Pearson correlation coefficients showed that the multicollinearity between independent, the highest correlation is among courses offered and academic service was shown

that is the r-value of Pearson correlation is 0.562, while less than .8 shows the absence of multicolenirity(Hair et al., 2010).

3.11. Regression Analysis

This study used linear regression to test the four hypotheses. The purpose of linear regression analysis is to test the direction and power of the relationship between independent variables and dependent variable. This method has the capability to determine which independent variables has more strong relationship towards the dependent variable (Sekaran & Bougie, 2016).

Table 1.8: Model summary for independent variables on dependent model^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.651 ^a	.424	.411	.506

a. Predictors: (Constant), QESM, SDSM, SCOM, SCSM, SCSM

b. Dependent Variable: OSCM

Based on Table 1.8 shows the R values for the model is 0.651. In addition, the R square value is 42.4%. All independent variables explain the 42.4% of the variation in the overall student satisfaction

The ANOVA Table 1.9 below shows that F value is 32.986 and the significant p-value is 0.000. Followed by the df (df4, the degree of

freedom), which 42.162 that represents the four independent variables, which are academic service, administrative service, course offered, and access service, and 230 completed responses for the variables. The result shows that there are significant relationships between academic services, administrative service, course offered, access service on overall student satisfaction.

Table 1.9: ANOVA between academic service, administrative service, courses offered, access service and overall student satisfaction

ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.162	5	8.432	32.986	.000 ^b
	Residual	57.263	224	.256		
	Total	99.425	229			

a. Dependent Variable: OSCM
b. Predictors: (Constant) SDSM, SCOM, SCSM, SCSM

4. Discussion of Result

Based on Table 2.0 below show the coefficient level in beta for variables (i.e academic service, administrative service, course offered, and access service are .173, .152, .291, .169, respectively), which is positive, and significant at $p < 0.05$. So, H1A, H1B, and H1C and H1D are supported. The results related to the academic service and administrative service were found to have a significant influence on student

satisfaction. Such findings are consistent with numerous previous studies (Ford, Joseph, & Joseph, 1999; Mavondo et al., 2000). Moreover, the international students are highly satisfied with courses offered, access service because this factor serves as a key influence over student satisfaction. Furthermore, the results are in line with previous studies regarding the influence of courses offered and access service on the student satisfaction (Ford et al., 1999; Joseph & Joseph, 1997; Kwan & Ng, 1999).

Table 2.0: Coefficient statistic between academic service, administrative service, course offered, access service and overall student satisfaction Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		T-Value	Sig.
	Beta	Std. Error	Beta			
(Constant)	.602	.255			2.363	.019
SCSM	.191	.072	.173		2.656	.008
SDSM	.139	.052	.156		2.663	.008
SCOM	.290	.065	.291		4.430	.000
SCSM	.161	.059	.169		2.742	.007

a. Dependent Variable: OSCM

5. Conclusion

International student makes a vital economic contribution to the Malaysian economy. Therefore, measurement of International student satisfaction is an essential factor to attract the potential international students and to ensure the success of educational tourism strategy that was planned by the Malaysian government. Therefore, this study assesses the determinants of overall students' satisfaction in a public sector university (UUM). By investigation, it was found that academic service, administrative service, course offered, and access service positively and significantly influences the overall student satisfaction in the UUM. Overall, this study has succeeded in advancing the current knowledge of assessing the satisfaction of international students in Malaysia.

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Annexure 1

Determining sample size for a given population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
"S" is sample size.

Source: Krejcie & Morgan, 1970

Annexure 2

QUESTIONNAIRE

Assessing the satisfaction of international students on the quality of support services at University Utara Malaysia.

Dear respondent,

I am a student in Bachelor of Public Management (BPM) at University Utara Malaysia. I am currently conducting a research project as part of the requirement for my studies in UUM. I would like to invite you to participate in this study by completing this survey questionnaire. This questionnaire aims to investigate the contents of academic service, administrative service, courses offered and access service. Your response hopefully will provide a better and clear understanding of assessing the satisfaction of international students on the quality of the education system at University Utara Malaysia. All information provided, and your identity will be kept strictly confidential and the findings will be used for academic purposes only.

Thank you very much for your full cooperation and contribution.

	students.					
4.	The way administrative staff treat students from different religions and races.	1	2	3	4	5
5.	The new requirements of vis process in U-Assist.	1	2	3	4	5

SECTION C: SATISFACTION WITH COURSES OFFERED.

Code	Please encircle the number that indicates the extent to which you satisfy or dissatisfy with the statement	Strongly dissatisfy	dissatisfy	Neutral	Satisfy	Strongly Satisfy
1.	The courses offered in UUM is competitive and better compared to other universities.	1	2	3	4	5
2.	The course I have taken is relevant to today's employment market	1	2	3	4	5
3.	subjects offered in each course help me a lot in expanding my knowledge.	1	2	3	4	5
4.	the course I have taken will be applicable internationally.	1	2	3	4	5

SECTION D: SATISFACTION WITH ACCESS SERVICE.

Code	Please encircle the number that indicates the extent to which you satisfy or dissatisfy with the statement	Strongly dissatisfy	dissatisfy	Neutral	Satisfy	Strongly Satisfy
1.	The UUM WiFi connection is has high speed.	1	2	3	4	5
2.	Online Learning accessibility.	1	2	3	4	5

3.	I am a frequent user of the library (online & offline).	
4.	The student lounge in my Dpp is in good condition and maintained.	
5.	The services (eg: books/ online journals) by the library is good	

SECTION F: OVERALL SATISFACTION

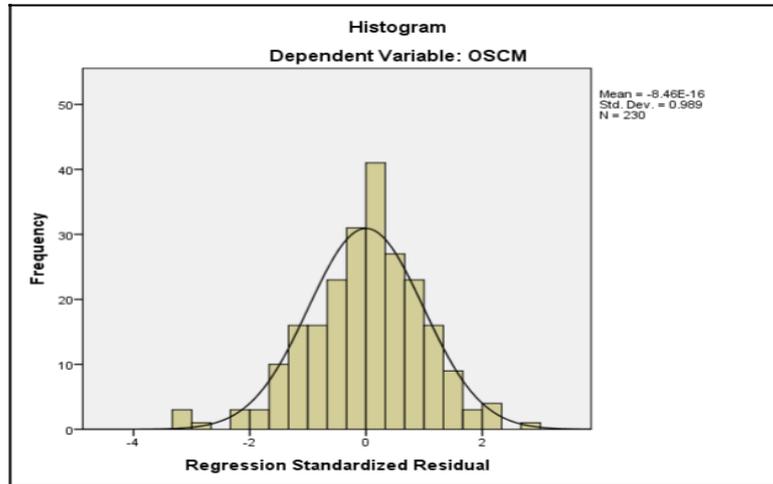
	Please encircle the number that indicates the extent Code to which you satisfy or dissatisfy with the statement	
1.	In general, how satisfied you with academic serves at UUM are?	
2.	How satisfied are you with educational experience with this university?	
3.	Based on your experiences with this university, to what extent are you satisfied?	
4.	Overall, how would you rate your level of satisfaction with your university experience?	

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
Stronglydissatisfy	dissatisfy	Neutral	Satisfy	StronglySatisfy
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

General comments: Do you have any other thoughts or comments you would like to share about your university experiences on quality of education system in UUM?

Annexure 3

Histogram and normal probability plots



Annexure 4

Summary of demographic profile

	No. of Respondents	Percentage
Gender		
Male	173	75.2
Female	57	24.8
Age		
18-22 years	102	44.3
23-27 years	65	28.3
28-32 years	24	10.4
33-37 years	22	9.6
38 and above	16	7.0
Academic Program of Study		
International Business Management	40	17.4
Information Technology	33	14.3
Finance	32	31.9
Accounting	31	13.5
Business Administration	27	11.7
Marketing	13	5.7
Huma Recourse Management	13	5.7
Risk Management and Insurance	8	3.5
Economics	6	2.6
International Affairs Management	5	2.2
Logistics and transportation	4	1.7
Communication	3	1.3
Media Technology	2	.9

Entrepreneurship	2	.9
Law	2	.9
Linguistics	2	.9
Islamic Banking	1	.4
Hospitality Management	1	.4
Operation Management	1	.4
Safety and Health	1	.4
Politics Science	1	.4
Agricultural Business	1	.4
Tourism Management	1	.4
Current level of study		
Bachelor's degree	146	63.5
Master's degree	28	12.2
PHD	56	24.3
Years of study		
First year	57	24.8
Second year	76	33.0
Third year	58	25.2
Fourth year	39	17.0
Nationality of International Student		
Indonesia	56	24.3
Yemen	34	14.8
Somalia	28	12.2
China	27	11.7
Nigeria	23	10.0
Thailand	13	5.7
Iraq	10	4.3
Jordan	10	4.3
Bangladesh	5	2.2
Pakistan	5	2.2
Algeria	4	1.7
Cambodia	3	1.3
Sudan	3	1.3
Palestine	2	.9
Libya	2	.9
Uzbekistan	2	.9
Chad	1	.4
Myanmar	1	.4
Djibouti	1	.4
