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Relationship Between Quality Indicators and Student Satisfaction in Higher Education

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Abstract: Higher education institutions provide students relevant knowledge and skills for students' adaptability to workforce. Quality indicators are measurement tools to classify and analyze students' satisfaction data based on the service quality experiences. The current issues are inequality of service quality among universities in Malaysia. Low students' satisfaction contribute to lower students' performance and hardly to fit into current employment market. This research focuses on the relationship between quality indicators of service quality provided by UTHM and students' satisfaction. A previous study found that high percentage of students voted for UTHM services quality improvement. Therefore, the level of customers' satisfaction in UTHM is an issue that need to be improved. Collection of the data was done by distributing questionnaires to 100 respondents from undergraduates of fourth year students among six faculties. The sampling techniques was stratified sampling method. The result showed that the extent level of quality indicators and student's satisfaction in UTHM are mostly at high levels. Each of the quality indicators has positively impact on students' satisfaction. This study was to evaluate the current level of service quality in UTHM in students' viewpoint for future improvement in providing a better learning environment.

Keywords: Quality, Student satisfaction, Services

1. Introduction

University evolution give impacts to the economic and social progress. Universities are competing based on the supply of human capital and the innovation they could create (Valero & Reenen, 2019). Each year, the regional Gross Domestic Product per capita in the cross section of education sector are important for the economy. The positive results will only be obtained if the customers are satisfied with the service quality provided by the university (Valero & Reenen, 2019). Higher education is the driver of growth performance and competitiveness to the world. Higher

education institutions are known as one of the service industries where knowledge and skills are developed by students for the future use (Galeeva, 2016).

The evolution of world now has influenced the expectations on university's education for the graduates' outcomes become better. The university these days are focusing on assuring students received the best quality services to remain the place in market (Heang *et al.*, 2019). It was stated in the study that the importance of higher education to the employment of students are correlated by the future opportunities of the graduates to find their careers as well as enhancing better economy (Heang *et al.*, 2019).

The aim is that the students will be skilled and productive workers as well as being reliable individuals that supporting the development of economy (Pitan, 2017). The study on the relationship is not just focusing on if students will be relevant to be employed but also to figure out if the institutes are able to be the key player and maintain their images in this process (Cheong *et al.*, 2018). The higher education institutions are considered as not relevant if it does not comply to job market demand and the recent economy situation.

1.1 Research Background

University Tun Hussein Onn Malaysia has been awarded overall 4-star institution by QS Stars University Ratings (Universiti Tun Hussein Onn Malaysia, 2021). There is a room of improvement to provide better service quality and produce greater quality graduates. University Tun Hussein Onn Malaysia has the population enrolment of 18,446 currently (Universiti Tun Hussein Onn Malaysia, 2021). It was formerly known as Pusat Latihan Staf Politeknik (PLSP) during the establishment on 16th September 1993. Later on, the firm was renamed as Institut Teknologi Tun Hussein Onn (KUiTTHO) in April 1996 before it was awarded a university-college status on 27th September 2000. The university obtained the full university status that enabled the name to be University Tun Hussein Onn Malaysia (UTHM) in March, 2007.

The main reasons to constant changing of structure in Malaysia's education are the forces of political and sociocultural demands which arisen the issues of equality of access to education, philosophy of education, education quality, democratization of education, world-class education and decentralization of education (Asri & Symaco, 2017). Higher education in Malaysia is undeniable as the forefront of government policies and objectives that works for economy development. The priority of higher education has changed from offering basic education to fit the job market that accelerate socioeconomic and political growth as seen in Singapore, Thailand and Indonesia (Quddus & Yusuff, 2018). Current practices of university within Malaysia are focusing on customer satisfaction to maximize the impact of service quality to students' credibility and skills development for the competitive job market and the image of universities (Quddus & Yusuff, 2018).

1.2 Problem Statements

The measures may take products, service quality, prices, personal issues dan situational factors which made students unsatisfied. The factors have been studied in literature review on unsatisfying matters mostly about facilities provided, the environment, the administration, placement services, learning material, support services, and activities (Kaur & Bhalla, 2018). The issues have been repeating for few years now which indicates universities' necessity to improve on these aspects to gain students' satisfaction.

Table 1 shows the result on students find that the service quality needs to be improved was much higher than the ones that voted for satisfied. 57% of the students are unsatisfied meanwhile 13% of the students are satisfied. The other 14% are moderately fine with the services provided and only 16% voted as good for the services, which was very low. Therefore, it can be concluded that the level of

customers' satisfaction in UTHM can be considered as not excellent about the services offered by university based on the result of Table 1.

Table 1: The votes on the level of students' satisfaction in quality services in UTHM (Shafie & Yusoff, 2011)

Level of services	No. of voters	Percentage %
Need to improve	138	57
Good	39	16
Moderate	34	14
Satisfy	32	13
Total	243	100

1.3 Research Questions

   (i)   What is the extent level of quality indicators and student's satisfaction in UTHM?
   (ii) What is the relationship between quality indicators and students' satisfaction?

1.4 Research Objectives

   (i)   To determine the extent level of quality indicators and students' satisfaction in UTHM.
   (ii) To examine the relationship between quality indicators and students' satisfaction.

1.5 Scope of the Study

   The research scope in this analysis was focusing on students who studying in University of Tun Hussein Onn Malaysia, Batu Pahat. Johor. The population of the whole university was 18,446 students but the scope has been limited to only undergraduate students in their fourth year of study consists of 1,800 students as the population of this study. A sample size of 110 respondents will represent the data for this study. The researcher plans to get 100 usable and valid responses in this study so that the other voidable or incomplete responses can be eliminated. The purpose of this evaluation was identifying the factors of quality indicators contribute the most in students' satisfaction level amongst UTHM undergraduates.

1.6 Significance of the Study

   Good service quality could win over students' gratification (Suprianto *et al.*, 2020) but as competition among universities is increasing, quality of services should be fixed too to grab loyalty from students (Annamdevula & Bellamkonda, 2016). From the same study, it was concluded that service quality support a certain relationship between student satisfaction as well as student's loyalty. The benefits from students' satisfaction from the experiences are positive impacts such as getting close friends, love to resume their studies and consequently completed their studies without hassle (Lin *et al.*, 2019). Therefore, evaluation should be based on students' perception of the services given in various dimensions (Lane *et al.*, 2019). Table 2 shows the matrix of previous researchers that researcher used to develop independent variables of this study. The variables were the ones frequently observed by the previous studies that were used by the researcher for this study.

2.   Literature Review

2.1 Students' Satisfaction

   Good service quality could win over students' gratification (Suprianto *et al.*, 2020) but as competition among universities is increasing, quality of services should be fixed too to grab loyalty from students (Annamdevula & Bellamkonda, 2016). From the same study, it was concluded that

service quality support a certain relationship between student satisfaction as well as student's loyalty. The benefits from students' satisfaction from the experiences are positive impacts such as getting close friends, love to resume their studies and consequently completed their studies without hassle (Lin *et al*., 2019). Therefore, evaluation should be based on students' perception of the services given in various dimensions (Lane *et al*., 2019). Table 2 shows the matrix of previous researchers that researcher used to develop independent variables of this study. The variables were the ones frequently observed by the previous studies that were used by the researcher for this study.

Table 2: Matrix of previous studies independent variables

Author / Variables	Infrastructure facilities	Academic environment	Placement services	Learning materials	College administration	Student support services	Extracurricular activities	Financial administration
Weerasinghe & Fernando (2018)	X					X		X
Hanssen & Solvoll (2015)	X	X	X	X				X
Bogo (2015)		X	X					
Hay (2016)			X			X		X
Galeeva (2016)	X	X		X		X		X
Bakoban & Aljarallah (2015)				X			X	
You (2018)			X				X	
Abidin (2015)	X			X	X		X	X
Asare-Nuamah (2017)	X	X	X	X	X	X		X
Gupta & Kaushik (2018)	X			X	X			X
Alqurashi (2019)		X	X	X				
Masserini *et al.* (2019)	X			X		X		
Allam (2018)				X	X		X	
Parahoo *et al.* (2016)	X		x	X	X	X		

(a) Infrastructure Facilities

Facilities are provided to minimize the challenges encountered by the organization (Weerasinghe & Fernando, 2018). There are some studies conducted to figure out the aspects that receive student satisfaction in Norwegian University. The study found university facilities which consist of social areas, auditoriums and libraries remain the vital factor to the student satisfaction (Hanssen & Solvoll, 2015). It includes the importance of host city, job opportunities, the safety of the city and facilities that were located around the university as factors to be observed for student satisfaction.

H1: Infrastructure facilities have significant positive impact on students' satisfaction.

(b) Academy Environment

Classroom environments which student pronounce it satisfying will make them committed better on the courses they took. A study stated that the classroom environment that helps in learning lessons represent color, layout, furniture, spaces, and temperature (Han *et al*., 2018). Students love to not solely be in a classroom for learning process (Weerasinghe & Fernando, 2018). Through one study, the finding regarding the classroom environment plays a role in getting students satisfaction (Weerasinghe & Fernando, 2018). The researcher states that positive learning environment encourage students in learning (Bogo, 2015) where new ideas, perspectives and enthusiasm could be developed (Hay, 2016). Good academy environment encourages students to engage with undiscovered theories and practices (Domakin, 2015).

H2: Academic environment has significant positive impact on students' satisfaction.

(c) Placement Services

Higher education institutions are known as one of the service industries where knowledge and skills are developed by students (Galeeva, 2016). Placement activities are alternatives on investing unique learning opportunities (Bogo, 2015). A study proved that placement activities led to an excellence quality for education (Bogo, 2015).

H3: Placement services have significant positive impact on students' satisfaction.

(d) Extracurricular Activities

Extracurricular activities deliver a positive effect to the students' academic achievement by grades, better behaviors, declining dropout rates and better learning processes (Bakoban & Aljarallah, 2015). Meanwhile, there was a research indicates that socially involved extracurricular taken by students could help in achieving higher employability by developing better career-related skills (You, 2018). The extracurricular structure is mandatory according to (Syahira, *et al.*, 2019) because it could offer disclosure to students by allowing opportunities to develop skills and characteristics.

H4: Extracurricular activities have significant positive impact on students' satisfaction.

(e) Learning Materials

International student that going for mobility having problems such as support schemes, high tuition fee, financial aids, course waivers and convenient environment that advertising the university to the students should not remain the only attraction (Abubakar & Mokhtar, 2015). Scholars support the opinion on a student-centered system could have brought attraction and positive feeling for the institutions which converted into students' satisfaction (Abidin, 2015).

H5: Financial administration has significant positive impact on students' satisfaction.

(f) Financial Administration

Student satisfaction is a short-term viewpoint that comes from an evaluation based on students' experience reflecting on education services offered in university (Weerasinghe & Fernando, 2018). It was emphasized out that assessment of learning materials in are crucial to ensure significant outcomes from students in advancing the reputation of university in term of high achievers (Tsedzah, 2015). An argument about deep satisfaction could be obtained if the organization willing to improve the library facility, contract with the teachers, reading materials, size of the classroom, services and the financial issues of students (Asare-Nuamah, 2017).

H6: Learning material has significant positive impact on students' satisfaction.

(g) Student Support Service

The practice of quality management is a way to operate the excellent performance in organization other than merely depends on organization learning (Mohammed *et al.*, 2016). The researcher said the organizational system and culture had an effect on the performance that a firm wish to achieve. The satisfaction with education provided should be induced to be used for the future work (Masserini *et al.*, 2019).

H7: Student support services have significant positive impact on students' satisfaction.

(h) College Administration

There are few determinants in Sri Lankan's universities that support relationship with the amusement of students (Weerasinghe & Fernando, 2018). Those are faculty members, programs, administrative staff, and the location of the university. There was an argument on satisfaction of

students could be come from the quality of faculty staffs, resources and effective use of technology that has been disagreed regarding the point of satisfaction depends on technology provided by the university instead assistance of staffs (Hanssen & Solvoll, 2015). The evaluation by students' satisfaction on service quality received based on their experience represents a short-term attitude that calls for assurance by university for a more efficient service (Parahoo *et al.*, 2016).

H8: College administration has significant positive impact on students' satisfaction.

2.2 Conceptual Framework

This section shows the overall structure and development of a conceptual model of independent variables and dependent variable to be connected. Hypotheses are tested based on the variables where the independent variables are the (1) academic environment, (2) university administration, (3) student support services, (4) learning material, (5) infrastructure facilities, (6) placement services, (7) extracurricular activities and (8) financial administration. Figure 1 was the conceptual framework from this study. Figure 1 shows the conceptual framework of relationship of quality indicators towards student satisfaction amongst UTHM students.
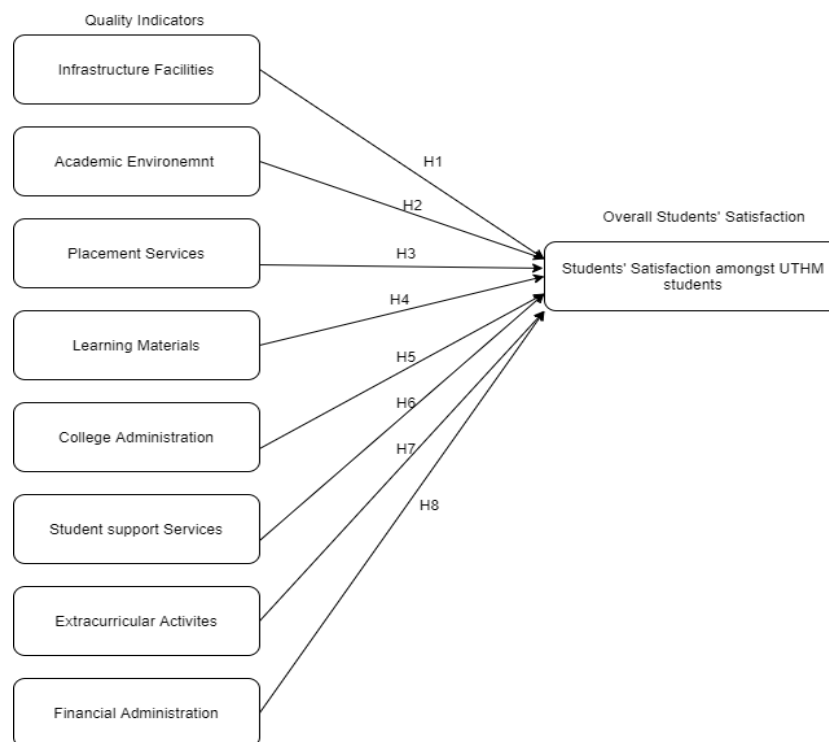

Figure 1: Conceptual framework of the study

3. **Research Methodology**

3.1 Research Design

The tool for collecting data in this study were via a survey research methodology and questionnaires. The method in collecting the data was by handing out questionnaires to 100 undergraduates of fourth year students as the sample before testing the hypothesis can be executed. The sampling techniques that will be used in this study was stratified sampling method according to the faculties of the respondents. The questionnaire consists of 7-point Likert scale (Completely Dissatisfied, Mostly Dissatisfied, Somewhat Dissatisfied, Neither Satisfied or Dissatisfied, Somewhat Satisfied, Mostly Satisfied, Completely Satisfied) which allows the respondents to express their

neutral opinion without being forced to only agree or disagree. "The data were keyed in and analysed by SPSS" (Ridzuan, *et al.*, 2018). There are 8 steps carefully being planned and followed in this study. Those 8 steps are identifying problems, literature review, hypothesis development, research design, data collection, data analysis, data interpretation and report.

3.2 Data Collection

The research scope in this analysis was focusing on students who studying in University of Tun Hussein Onn Malaysia, Batu Pahat, Johor. The population of the whole university was 18,446 students but the scope has been limited to only undergraduate students in their fourth year of study consists of 1,800 students as the population of this study. A sample size of 100 respondents was used for the data in this study. The sampling technique practiced in this study was stratified random sampling to detect sampling error and minimize them precisely.

The questionnaire reflects to the real issues and meaningful to the participants so that the process of collecting data would not be incomplete to avoid sampling error. Data need to be precise and completed in order to be effective in observing the validity. Incomplete data received will contributes in inaccuracy which led to hypothesis was invalid to be tested. The process initiated by identifying the population sample followed by choosing the right questions to ask and later design a research tool to illustrate the questions before started the data collection from the respondents.

3.3 Data Analysis

Data analysis was generally a way to analyze the received data from the respondents. This research, the researcher used Statistical Package for Social Science (SPSS) software to completing the task of analyzing data from the raw data taken. All of the data from the questionnaire was in the form of number which made it analyzed quantitative. Reliability test, descriptive analysis, correlation analysis, multiple regression analysis and analysis of variance are included.

4. Results and Discussion

4.1 Quality Indicators Level and UTHM Students' Satisfaction

(a) Descriptive Analysis

In identifying quality indicators level and students' satisfaction will need a descriptive analysis to analyze the results from the data. In this analysis, there are mean and standard deviation to calculate the average sum and the closeness of the dispersion data to mean value based on the responses received by the respondent. In Table 3, each of the variables were level ranked based on the mean values. The highest mean in a variable was 5.6500 with standard deviation of 0.89550 which was from students' satisfaction. Next pillar was student support service with the mean of 5.6320 and a standard deviation of 0.83495. Third pillar was placement service with the mean of 5.6180 and a standard deviation of 0.77699. The mean value 5.5400 and standard deviation 0.86480 of extracurricular activities was at fourth pillar meanwhile, the mean value 5.4486 and standard deviation 0.94739 of academic environment was at fifth pillar. As for the sixth pillar, the placed was filled by learning material with the mean of 5.4320 and standard deviation of 0.87142 before the seventh pillar was filled by financial administration with the mean of 5.3550 and standard deviation of 0.92263. University administration as the second last rank of the pillars with the mean of 5.2280 and standard deviation 0.96652. The lowest level of the pillars was infrastructure facilities with the mean of 4.9943 and standard deviation of 0.93312. These results show that students' satisfaction of UTHM are at high level. The aspect that could be improved was infrastructure facilities due to the result was at medium level.

Table 3: Distribution of mean score and standard deviation of quality indicators and student satisfaction in UTHM

	Mean	Std. Deviation	Level	Rank
avIF	4.9943	0.93312	Medium	9
avAE	5.4486	0.94739	High	5
avPS	5.6180	0.77699	High	3
avLM	5.4320	0.87142	High	6
avUA	5.2280	0.96652	High	8
avSS	5.6320	0.83495	High	2
avEA	5.5400	0.86480	High	4
avFA	5.3550	0.92263	High	7
avS	5.6500	0.89550	High	1
Mean	5.4331	0.890368889		

(b) Spearman Correlation

Based on the previous studies used in this study as references, the relationship between the quality of services provided by university was significant on students' satisfaction and the infrastructure facilities as quality indicator has an impact to students' satisfaction (Weerasinghe & Fernando, 2018). A study by Hanssen and Solvoll (2015) found that academic environment and learning materials are indicators of quality that influence students' satisfaction. Placement service is a variable that was seen as important to every student and has a correlation on students' satisfaction (Bogo, 2015). A study by Asare-Nuamah (2017), used the quality indicators of university administration, student support service and financial administration then find out there are positive impacts of the indicators on students' satisfaction. A research by Abidin (2015), studied over the variables of administration services, facilities, learning materials, and extracurricular activities that contribute in students' satisfaction level. The relationship between quality indicators and students' satisfaction was demonstrated in Table 4 below. Based on the Table 4, each of the variables have a significant positive impact on students' satisfaction. The indicator with the highest correlation towards students' satisfaction was extracurricular activities and the indicator with the least correlation towards students' satisfaction was academic environment. The variable with least correlation indicates that it was hardly related to the students' satisfaction. Somehow, the term highly related was not equivalent to causation which mean the satisfying level of extracurricular activities may not be the cause the level of students' satisfaction increase.

Table 4: Summary of Spearman correlation

Items	Correlation	Students' satisfaction
Infrastructure	Spearman Correlation	0.556
Facilities	Sig. (2-tailed)	0.000
	N	100
Academic	Spearman Correlation	0.488
Environment	Sig. (2-tailed)	0.000
	N	100
Placement Service	Spearman Correlation	0.634
	Sig. (2-tailed)	0.000
	N	100
Learning Material	Spearman Correlation	0.605
	Sig. (2-tailed)	0.000
	N	100
University	Spearman Correlation	0.625
admission	Sig. (2-tailed)	0.000

	N	100
Student Support System	Spearman Correlation	0.702
	Sig. (2-tailed)	0.000
	N	100
Extracurricular Activities	Spearman Correlation	0.718
	Sig. (2-tailed)	0.000
	N	100
Financial Administration	Spearman Correlation	0.633
	Sig. (2-tailed)	0.000
	N	100

H1: Infrastructure facilities have significant positive impact on students' satisfaction.

H2: Academic environment has significant positive impact on students' satisfaction.

H3: Placement services have significant positive impact on students' satisfaction.

H4: Extracurricular activities have significant positive impact on students' satisfaction.

H5: Financial administration has significant positive impact on students' satisfaction.

H6: Learning material has significant positive impact on students' satisfaction.

H7: Student support services have significant positive impact on students' satisfaction.

H8: University administration has significant positive impact on students' satisfaction.

5. Conclusion

In order to provide the best quality education to the students, there are some aspects need to be taken care of such as the educators or lecturers that are qualified in the proficiency as well as the infrastructure facilities to be in sufficient and good condition. If the number of infrastructure facilities unable to reach students' satisfaction level, the authority will have to spend on the development. In other word, increase the capital for the university to have better infrastructure facilities.

The influence of financial administration towards students' satisfaction level will contribute to bigger financial support. The policy has to be simple and transparent to everyone. Also, improved environment was a must so that students are able to explore more. The overview of this study was that, there are eight independent variables which were the quality indicators been studied from the students' point of view regarding overall satisfaction towards the services provided by UTHM. This study was meant to increase students' satisfaction according to the quality indicators. Therefore, the authority or the educational administrators may consider on planning strategies in increasing students' satisfaction level.

The research has some limitations during it being conducted. Firstly, the distribution of the data to the respondent's varieties. Since the study was conducted during pandemic, students are unable to go to the university. Therefore, the researcher hardly balances out the students' varieties from the aspect of faculty since the questionnaire was not able to be distributed by hand to the students.

Second, collecting data via online platform was challenging as the researcher. The researcher directly personal text to about 200 fourth-year Bachelor Degree students which ended up with unbalanced distribution of faculty in the data. The collection progress was slow and not following the timeline as planned.

For the further research, researcher hopes that the awareness from the authority regarding the services provided to the students will be more concerned in Malaysia. As for the first and second limitations, researcher need to be able find alternative if such situation came up. Researcher could find some time to ask the possible respondents' faculty before distribute the questionnaire so that balanced number could be achieved. Since this step may require to consume more time, the data collection process have to started early and contact more of the possible respondents personally to have bigger sample that may help in getting even distribution of the students' faculty.

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