

**[POM 9] THE SATISFACTION OF STML STUDENTS ON THE QUALITY  
OF BOOK-DROP MACHINES PROVIDED AT PERPUSTAKAAN  
SULTANAH BAHYAH (PSB) LIBRARY, UNIVERSITI UTARA MALAYSIA**

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**ABSTRACT**

*Book drop machine is one of the facilities provide by libraries for the users to make the process of returning books become easier. This facility may encourage students to borrow books and reading materials from the library. However, the effectiveness of this machine from the perspective of the students is remains unclear. Due to that, it is highly importance to know the perception and the satisfaction of the students of the machine provided. This article presents the result of a study which reflects the the level of satisfaction of the STML students based on their experience in utilising the machines provided by Perpustakaan Sultanah Bahiyah (PSB). A survey was conducted by distributing a set of questionnaire which developed by using the SERVQUAL model introduced by Parasuraman. The respondents of this study are 100 STML students from three programs offered by STML. Descriptive analysis was used to identify the level of perception and satisfaction of the students based on demographic attributes such as course and year of study. Based on the findings of this study, the behavioral differences between respondents group was assessed.*

**Keywords:** *book-drop machine, service quality, level of satisfaction, SERVQUAL, STML*

**INTRODUCTION**

Libraries aim to provide their users the best opportunity for effective use of available resources. Nowadays, most libraries have been supported by technology to improve and manage various services offered or new procedures they perform. A library gains a lot of benefits from the use of modern technologies such as book-drop machines, self-check machines and photocopy machines. The implementation and advancement of technology always promise better performances such as increase efficiency of operations and services.

Library began to use machines in order to replace the manual returning library items for an easier and faster to perform, inventory, and handling (Nair, 1994). Book-drop use Radio-Frequency Identification (RFID) that allow books to be detected and communicated with the radio wave. RFID is a broad term for technologies that use radio waves to identify people or objects automatically. The most common method of

identification is to store a serial number that identifies an object. The antenna attached enables the chip to transmit the information to the reader. The reader converts the radio waves digital information. The information then be transferred to a computer to use. (Angel, 2006) PSB is using RFID ways including conversion station, manual return and check book station and check in and outside the station. RFID technology though initially costly to implement to provide save time, money and energy without compromising the level of core services provided (Boss, 2003).

Perpustakaan Sultanah Bahiyah (PSB) is the main library in Universiti Utara Malaysia (UUM) that has been providing good services and convenient amenities for its users. One of the main important technologies provided at PSB is book-drop machine. Book-drop machine ease the process of returning books. However, the effectiveness of this machine from the perspective of the students is remains unclear. There are still complaints from users about the machines. Sometimes, the book-drop machine are not well-functioned or not in a good condition. The objective of this study is to determine the level of perception and satisfaction among STML students' regarding book-drop service provided in PSB, UUM.

## **LITERATURE REVIEWS**

Library is the heart of the learning community which provide a place for the students, lecturers and researchers to do their research and advance their knowledge (Kiran, 2010). Nowadays, libraries became more high-tech. Most libraries start to use machines and new technology into their operations. This technology starts to operate places such as inside and outside of the libraries to make their users easily to access it.

Academic libraries in Malaysia are facing increasing competition from a global digital environment and ongoing change in user needs and expectations of information services (Kiran, 2010). Adeniran (2011) mentioned that academic libraries should try to survive and grow their user base focusing on meeting their user's expectations and satisfying them. The author also mentioned that several steps should be taken for make sure they fulfill their customers' expectations and satisfying them. According to Norliya (2009), it is important that a library to do a benchmarking to compare the library's performance with the other libraries. The library may improve its performance in satisfying the users by adopting the best practices of its "benchmarking partners". Saikia and Gohain (2013) mentioned The Central Library of Tezpur University as an example on their research where how the university manage to fulfill their customer's expectation and satisfying them. The library also holds more than 1800 CDs/VCD scattering to different thought contents. Library users can access book database, thesis database, journal database, e-journals and other e-resources from any terminal within the university campus.

According to Norliya (2009), satisfying users' needs in the academic library has been the primary motive of libraries and librarians. The author discussed about how the library nowadays can fulfill the users expectation and satisfying them. Every year, new undergraduates or postgraduates come to the university with different needs and expectations. New technologies, databases, and more innovative systems for accessing information, have made the library more complicated and challenging for librarians and users alike. The large quantity of resources available and the difficulty in being able to

evaluate these resources also create problems for users. The inability to simply identify the specific use of a library's services because of the new technologies, and the difficulty to access information sources can all contribute to user dissatisfaction among academic library users. Therefore, introducing of new machines such as book-drop machines may be a solution for this problem as it may reduce the lead time or users' waiting time in borrowing or returning the materials and resources (Norliya, 2009). This system is one of the advantages for the user and the library. This is because, the book drop can let the users self-check of the books without through the counter. In other case, if the book drop is placement outside the library, the users can return the book at any time. And this will make the systems is exactly user-friendly. Besides, librarians are able to allocate more time to customer service, as they are free from the labor-intensive loan cancellation activity associated with barcode system (Nor Hazlizah, 2009).

## METHODOLOGY

In this study, the comparison between perception and satisfaction derived by the STML students had been analyze. The level of perception is based on their understanding and knowledge about book-drop machine. Meanwhile, the level of satisfaction among them is based on their experience using the book-drop machines provided by PSB.

In this investigation, the chosen respondents were based on different demographic criteria. The group of respondents stand from three courses offered by STML such as Operations Management (OM), Management of Technology (MOT) and Logistics and Transportation (LOGTRANS). The respondents were categorized into several groups pertaining behavioral based on course and year of study.

### **Measurement**

One of the objectives of this study involves the use of SERVQUAL instrument developed by Parasuraman. This instrument identify the gaps lie between students' perceptions and their satisfaction on the service offered. SERVQUAL is the notorious approach for measuring service quality to show the comparison between students' expectations of the book-drop machines and also their perception by using the actual service (Gronroos, 1982). In this study, SERVQUAL is used as an analytical approach to evaluate the differences between students' perception and satisfaction of the quality of the book-drop machines provided at PSB. The questionnaires were represented using scale 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly disagree).

### **Data collection instruments**

The process of data collection involves the distribution of questionnaire to STML students regarding this service. The information about the perspective and satisfaction of book-drop machines among STML students derived by their knowledge pertain this machine. The distributed questionnaire consist five dimensions namely tangibles, reliability, responsiveness, assurance and empathy. The definition of each dimension are details in Table 1.

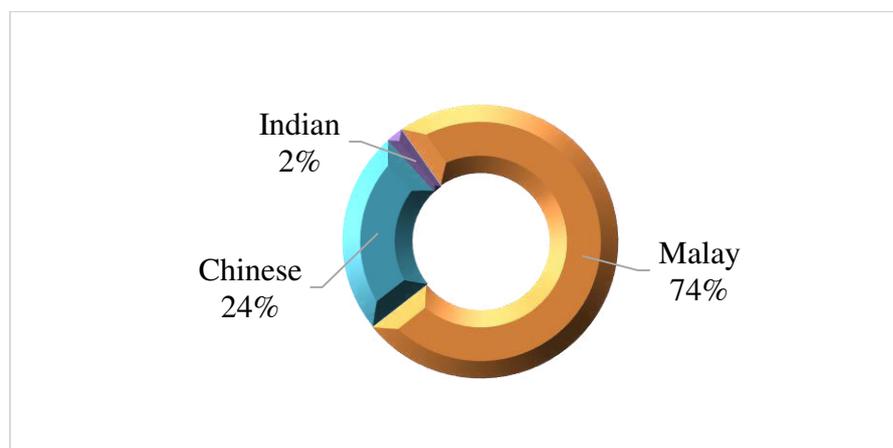
**Table 1**  
SERVQUAL dimensions

Dimensions	Definition
Tangibles	The appearance of physical facilities, communication materials, equipment and personnel.
Reliability	The ability to perform the promised service accurately and dependably.
Responsiveness	The willingness to help user and to provide prompt service.
Assurance	The knowledge and courtesy of employees and their ability to convey confidence and trust.
Empathy	The provision of caring and individualized attention to user.

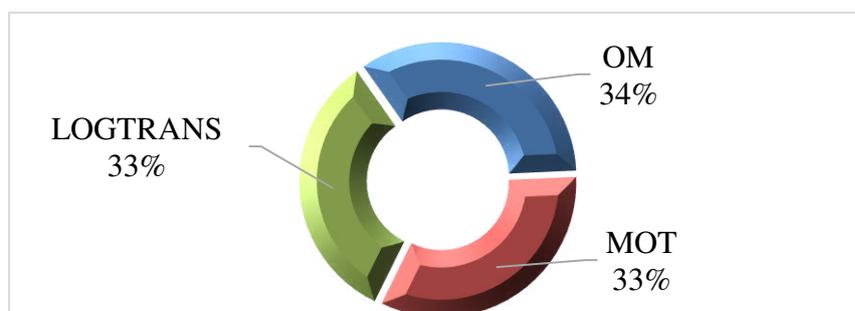
The data of the student perspective and satisfaction were obtained by web-based software introduced by Google within its Google Drive service. The software allowed the user to create questionnaire form for online distribution. The query then had been processed and returned by Google. All the documented data were recorded to Statistical Package for the Social Science (SPSS). The retrieved information was used in the data analysis to determine the students' perception and satisfaction level. The analysis used is descriptive statistics.

### FINDINGS AND DISCUSSIONS

The total number of respondents involved in this study is 100 respondents. The respondents had been categorized into several demographic differences which are gender, race, courses and year of study. Gender is divided into two groups which representative by male and female that have 50 respondents each respectively. The largest group of respondent is contributed by Malay followed by Chinese and Indian as shown in Figure 1. In this study, courses are categorized into three which are Operations Management, Management of Technology and Logistics and Transportation. The percentage of each of the courses is in Figure 2.



**Figure 1**  
Percentage by race



**Figure 2**  
Percentage by course

The descriptive analysis shows the mean of perception is higher than the mean of satisfaction towards book-drop machines. This findings indicate that the respondents have high perception about a book-drop machines. It shows that the satisfaction of student are imprecise with their perception about book-drop machines. This result shows that the level of perception for STML students is higher than level of satisfaction of using the book-drop machines.

Table 2 shows the total mean for the level of perception towards book-drop machines is 3.853 (77.06%) meanwhile the mean for level of satisfaction towards this service is 3.763 (75.26%). The gap of mean score between level of perception and level of satisfaction among students is 0.091 (1.82%). The mean score between these two have a slight difference which conclude satisfaction level of STML students are in satisfactory level.

**Table 2**  
Mean and standard deviation of perception and satisfaction

	Minimum	Maximum	Mean	Std. Deviation
Perception	2.62	5.00	3.853	.4761
Satisfaction	2.35	5.00	3.763	.5127

**Table 3**  
Mean and standard deviation of satisfaction variables

	Minimum	Maximum	Mean	Std. Deviation
Tangible	2.00	5.00	3.823	0.666
Reliability	1.75	5.00	3.693	0.876
Responsiveness	2.00	5.00	3.670	0.763
Assurance	1.33	5.00	3.823	0.657
Empathy	2.33	5.00	3.803	0.652

Table 3 shows the overall mean score for each satisfaction variable derived from STML student regarding book-drop machines. The highest mean score of the variables are tangible and assurance with 3.823 (76.46%) is equally, followed by empathy 3.803 (76.06%) and reliability 3.693 (73.86%). Meanwhile, the lowest mean score of satisfaction is responsiveness 3.670 (73.40%). Table 4, 5 and 6 shows the mean score for each courses in STML.

**Table 4**  
Mean values of Operations students

	Year 1	Year 2	Year 3	Year 4
Tangible	3.967	3.542	4.333	3.741
Reliability	4.100	3.031	4.357	4.028
Responsiveness	4.133	3.292	3.952	3.667
Assurance	3.633	3.667	3.905	3.630
Empathy	3.600	3.333	4.000	3.889
Overall	3.887	3.373	4.110	3.7907

**Table 5**  
Mean values of Management of Technology students

	Year 1	Year 2	Year 3	Year 4
Tangible	4.133	3.792	3.909	3.630
Reliability	3.900	3.313	4.205	3.444
Responsiveness	3.533	3.417	4.090	3.370
Assurance	3.533	3.583	3.727	4.148
Empathy	3.667	3.667	3.758	4.296
Overall	3.753	3.554	3.938	3.778

**Table 6**  
Mean value of Logistics and Transportation students

	Year 1	Year 2	Year 3	Year 4
Tangible	4.120	3.600	3.920	3.653
Reliability	4.090	2.970	3.960	3.750
Responsiveness	4.027	3.160	3.893	3.600
Assurance	3.720	3.827	3.787	3.960
Empathy	3.693	3.163	3.880	4.027
Overall	3.930	3.344	3.888	3.798

**Table 7**  
Highest mean score by course and year of study

	Year	Overall
OM	3	4.110
MOT	3	3.938
LOGTRANS	1	3.933

According to the Table 7, the highest mean score of level of satisfaction is OM students compare to MOT and LOGTRANS students. The highest mean score of following courses are OM student from Year 3 (4.110) or 82.20%, MOT student from Year 3 (3.938) or 78.76% and LOGTRANS student from Year 1 (3.933) or 78.66%. In conclusion, OM students year 3 often use the book-drop service to return the book and show that the high satisfaction versus MOT students year 3 and LOGTRANS students year 1.

**Table 8**  
Lowest mean score by course and year of study

	Year	Overall
OM	2	3.373
MOT	2	3.554
LOGTRANS	2	3.344

Based on Table 8, the lowest mean score for level of satisfaction is LOGTRANS students compare followed by MOT and OM students. The lowest mean score of following courses are OM from Year 2 (3.373) or 67.46%, MOT from Year 2 (3.554) or 71.08% and LOGTRANS from Year 2 (3.344) or 66.88%. In conclusion, LOGTRANS students from year 2 show that the lowest satisfaction with the book-drop machine provided by PSB, UUM.

This findings are in line with the previous studies which highlight that library nowadays are able to fulfill their users' expectation and satisfying them by introducing technologies especially book-drop machines which may reduce the lead time or users' waiting time in borrowing and returning the materials and resources (Norliya, 2009). However, based on the result, PSB needs to improve the service of the book-drop machines in terms of responsiveness and reliable. The services should be more convenience, saving time, easy to use and able to solve the users' problems.

### CONCLUSION

The objective of this study is to determine the level of perception and satisfaction among STML students' regarding book-drop service provided in PSB, UUM. From the discussion of the research findings, it shows that the perception about book-drop machine is higher than their satisfaction of using the machine. On average, students of STML agree that book-drop machines are satisfying them. The highest total mean of satisfaction is Year 3 from Operations Management, meanwhile the lowest is Year 2 students from Logistics and Transportation. Students should be knowledgeable on how to access the book drop machines to have fully satisfaction.

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