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THE EVALUATION OF THE COLLEGE LIBRARY INFORMATION SYSTEMS USAGE IN MALAYSIA

EVALUASI PENGGUNAAN SISTEM INFORMASI PERPUSTAKAAN DI MALAYSIA

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A B S T R A C T

Libraries now need to have cooperated with the use of information systems. This information system has been widely applied and has succeeded in helping library services as well as facilitating library management while at the same time attracting more people to use the library, which will bring various benefits to them. The DeLone and McLean model is a model that has 6 evaluation variables, namely: system quality, information quality, service quality, system use, user satisfaction, and net benefits. This model can help determine the success of the information system contained in the Universiti Malaysia Pahang library. With the use of this model, it is hoped that it will be known where the stage of this library information system is. The study results show that information systems' quality and success are essential in ensuring user satisfaction. Users feel happy and satisfied with the information system provided. And it is hoped that this study can be a guide to making good decisions for the library and be a guide for future research.

Keywords: Academic Library; Delone and Mclean Model; Information System

A B S T R A K

Perpustakaan kini tidak lari lagi dengan penggunaan sistem informasi. Sistem informasi ini telah banyak diterapkan dan berhasil dalam membantu pelayanan perpustakaan juga memudahkan dalam pengelolaan perpustakaan sekaligus menarik lebih ramai minat orang ramai untuk menggunakan perpustakaan yang akan mendatangkan pelbagai manfaat kepada mereka. Model DeLone and McLean yaitu model yang mempunyai 6 variabel evaluasi yaitu: kualitas sistem, kualitas informasi, kualitas layanan, penggunaan sistem, kepuasan pengguna dan manfaat bersih. Penggunaan model ini dapat membantu dalam menentukan kesuksesan dan keberhasilan sistem informasi yang terdapat di perpustakaan Universiti Malaysia Pahang. Dengan model ini diharapkan dapat diketahui dimanakah tahap sistem informasi perpustakaan ini berada. Keputusan kajian menunjukkan faktor kualitas dan keberhasilan sistem informasi memainkan peranan yang penting dalam memastikan kepuasan pengguna itu tercapai. Secara dasarnya, pengguna berasa senang dan puas dengan sistem informasi yang disediakan. Dan diharapkan kajian ini dapat menjadi panduan kepada pembuatan keputusan yang baik bagi pihak perpustakaan dan manjadi panduan pada penelitian seterusnya.

Kata Kunci: Perpustakaan Perguruan Tinggi; Sistem Informasi; Model Delone and Mclean;

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A. INTRODUCTION

The library is a center for information management and services to users, and the library is also expected to function as an information center. Dissemination of information in various forms of media, such as books, magazines, newspapers, and others, is among the activities contained in the library. The sources or materials will be arranged according to the system desired by the library and the type of user so they can easily find the information they need.

The library room needs to be established and made unique in a suitable place to carry out various activities. There are multiple types of libraries, including university libraries. The library of a university certainly has a more specific purpose. College libraries must be controlled in line with their objectives to collect, process, store, present, and disseminate information to students and lecturers following the curriculum.

The university library also has several functions, such as an educational function. The library is a learning resource for the academic community, so the collections contained here are those that can support the achievement of learning objectives, the organization of training materials and supplies of materials for each training program, as well as collections for teaching and learning strategies and supporting materials. for learning assessment. In this case, the main task of the college library is to help college programs, one of which is education.

Technological developments such as information systems are expected to contribute to educational organizations positively. This will facilitate human work effectively and efficiently. This information system is designed to facilitate administrators in managing library management. Computerized-based systems require specific software to process data. Thus, library managers can monitor the availability of books, returns, and loans. By using this system, administrators will have no difficulty reporting archives to the head of the library.

For implementing this monitoring, by viewing students or users as customers, their experience in education can be used as a measure of satisfaction (Nadiri & Mayhoudi, 2010). In traditional research methods, factors such as "collection richness," "material variation," and "number of users" are seen as effective measures for quality control. Libraries now have to measure user perceptions and expectations as they form the basis for defining service quality (Pedramnia, Modiramani, and Ghanbarabadi, 2012). Shoeb (2011) has also mentioned that it is crucial to understand what library users expect in terms of service quality for better management. Therefore, the quality of university library services, as one of the most critical factors that significantly influence the overall student satisfaction of the university, needs to be analyzed (Nadiri & Mayboudi, 2010). Without assessing their performance, college libraries cannot ensure the maximum utilization of their resources to meet the needs of their users.

Rehman (2012) states that conventional services and the traditional role of university libraries have changed due to various sources of information, high user demand and application of information technology, competition between service sectors, and increased student participation rates. Reaching users with new services is necessary as their needs constantly change significantly in the rapidly evolving information scenario. Therefore, the librarian must identify these needs and adapt them. Users get satisfaction when their expectations of the library information system are met. In other words, measuring service

quality is necessary to satisfy users in today's competitive environment.

According to Kouzari and Stamelos (2018), with hundreds of transactions occurring in the library daily, using information systems that meet the needs of these complex systems is critical to managing digital and print resources efficiently.

This study seeks to understand the use of university library information systems. Understanding the determinants for lower usage can help increase the use of library information systems in the future. This study provides insight into public perceptions of library information systems and develops an understanding of how to improve the service of library information systems among library users. It is crucial because it quantitatively justifies the various existing needs to increase library information systems' use. Based on the background of the problem that has been described:

1. The formulation that this research problem have is?
2. Is there any level of service provided by this library to the needs of users?
3. Is the information system provided by the library good and complies with the standards?
4. Does the library carry out its duties as a center for disseminating information?

This library study aims to see how a university library in Malaysia complies with the standards and guidelines set by authorities such as the National Library of Malaysia.

1. In particular is for;
2. Obtaining information about the level of service provided by the library to user needs.
3. Obtaining data and information about the information system available in the library.
4. Find out if the library is carrying out its duties as a center for disseminating information.

B. LITERATURE REVIEW

We can use several methods to examine the success of an information system. One of them is using the Delone and Mclean models. This model has been widely used by information systems researchers. Initially, the Delone and Mclean model was introduced in 1992 by specifying the variables, system quality, information quality, usage, user satisfaction, individual impact, and organizational impact, and there is an updated version based on a review of the empirical and conceptual literature on the success of information systems and published during those ten years. The variables for the updated version are information quality, service quality, system quality, usage, user satisfaction, and net benefit. The difference that can be seen is the addition of service quality to illustrate the importance of service and support in the success or success of the information system.

Furthermore, the addition of intention to use measures the nature of the user as an alternative measurement of use. Finally, combining individual and organizational impacts into one variable in the form of net benefits. This model has also been widely used for libraries, such as schools, universities, and digital libraries.

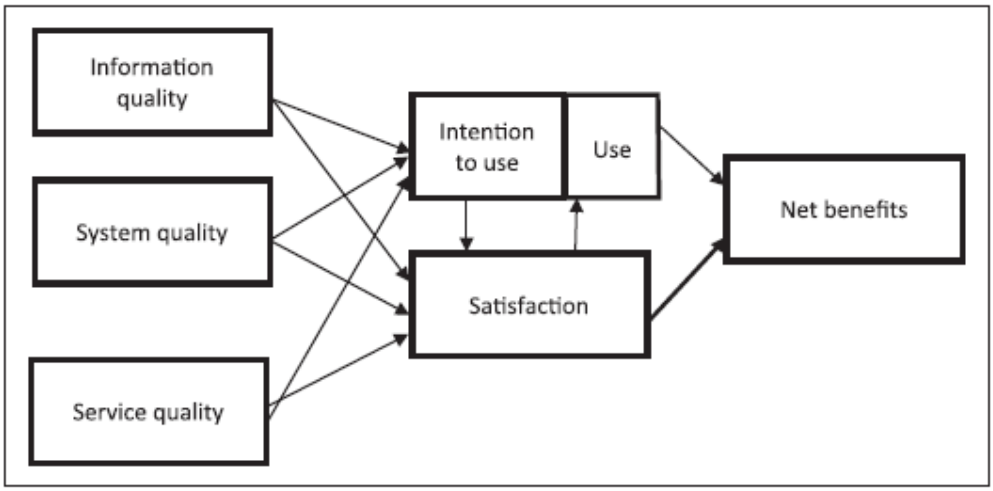

Figure 1
Model Delone and Mclean
Sources: Delone and McLean IS success model (2002).

Figure 1 shows the outline of the Delone and Mclean model and how each of the six variables affects the other. Information quality variables will affect system use and user satisfaction, as well as system quality variables which will affect system use and user satisfaction. Service quality will also affect system use and user satisfaction. Furthermore, if the intention to use affects user satisfaction, then user satisfaction will involve using the system itself. So finally, if user satisfaction is met will affect the net benefits. Likewise, the user will also affect the net help.

The Delone and Mclean model measures the success of information systems based on six variables; system quality, information quality, service quality, usage, user satisfaction, and net benefits. The Delone and Mclean models are widely used in several research fields, including online learning systems (Lin, 2007), e-government (Saputro et al., 2015), and digital libraries (Alzahrani et al., 2017).

In this model, the success of the system quality variables, information quality, and service quality will affect the use and user satisfaction, as seen in Figure 1. So, according to Nadiri and Mayhoudi (2010), customers have a range of expectations, and they will refer to that range. as a tolerance zone with the desired service level at the top level and a minimum service level at the bottom of the scale. Customers will tolerate and accept the range of service performance if there is variation in service delivery. If user satisfaction can be met then and reach their tolerance stage, it will give them trust and loyalty to continue using the information system. However, they will feel dissatisfied and disappointed if the information system or service does not reach the tolerance stage.

C. RESEARCH METHOD

The method used is a quantitative research method. The research instrument used is a questionnaire using Google Forms that has two parts:

Demographic information

This section collects respondents' demographic information, namely their gender and occupation, whether they are librarians or librarians.

Respondents' views on the Universiti Malaysia Pahang (UMP) library information system

This section obtains the necessary data according to the six variables from the Delone and Mclean model. This section is then divided into six sections with 24 questions. That part is system quality, information quality, service quality, usage, user satisfaction, and net benefits. The system quality section mentions the extent to which the system can be used and helps software and hardware with five questions. Furthermore, the quality of the information must meet the audience's needs so they can use it, and this section has four questions. The quality of service section mentions whether the service provided and received is good and meets their expectations. This section also has four questions. Use is related to the frequency of use and whether they will repeat to use it, which has only two questions. User satisfaction touches on the response and satisfaction of users after using the information system with a total of four

The findings of this research on university libraries include user and librarian satisfaction with the quality of the information system, quality of the information received, quality of services provided by the library, use of information systems, user satisfaction with information systems, and net benefits obtained from the use of information systems. The following are the findings of this study;

questions in the last section, net benefits, related to the benefits received by users after using the information system in the library, and in this section are three questions. This questionnaire uses five scales, namely strongly agree (SA), agree (A), doubt (D), disagree (DA), and strongly disagree (SDA).

The sampling technique used is accidental sampling. Anyone with time, a librarian, or a librarian can answer the questionnaire. Librarians were chosen to be respondents because they already know about the library and its services and information systems, and librarians are also more knowledgeable about the information systems available in the library and how they provide services. Therefore, they are the most suitable respondents to answer this questionnaire. The questionnaire was open for eight days for respondents to answer. The questionnaire was given online and via e-mail to librarians.

D. RESULT AND DISCUSSION

Table 1.
Demographic information

NO	Characteristic		Person
1	Occupation	Librarian	21
		Patrons	4
2	Gender	Male	11
		Female	14

Table 1 shows a total of 25 respondents consisting of 21 students and four librarians. Respondents also consisted of 14 males and 11 females.

1. System Quality Survey Results

Table 2.
System Quality Survey Results

No	Question	SA	%	A	%	D	%	DA	%	SDA	%
1a	The information system is easily accessible	5	20	17	68	2	8	1	4	0	0
1b	The information system provided has intuitive features	4	16	19	76	2	8	0	0	0	0
1c	Efficient and sophisticated	4	16	17	68	2	8	2	8	0	0
1d	Easy to operate	3	12	17	68	2	8	3	12	0	0
1e	The time taken for response is fast	2	8	16	64	5	20	2	8	0	0

Table 2 shows the findings on the quality of the UMP library system. For question 1a. The information system is easily accessible. As many as 5 (20%) respondents answered Strongly Agree, 17 (68%) respondents answered Agree, 2 (8%) respondents answered Uncertainly, and only 1 (4%) responded Disagree. For question 1b. The information system provided has intuitive features, and 4 (16%) respondents answered Strongly Agree, 19 (76%) respondents answered Agree, and only 2 (8%) respondents responded Uncertainly. Further to question 1c. Efficient and sophisticated, it was found that 4 (16%) respondents answered Strongly Agree, 17 (68%) respondents answered Agree, 2 (8%) respondents responded Doubts, and only 2 (8%) respondents answered Disagree. For question 1d. Ease of operation was found in as many as 3 (12%) respondents who responded Strongly Agree, 17 (68%) respondents answered Agree, 2 (8%) respondents answered Doubt, and only 2 (8%) respondents gave the answer Disagree. Finally, for question 1e. The time taken to respond was quick. It was found that 5 (20%) respondents answered Strongly Agree, 17 (68%) respondents answered Agree, 2 (8%) respondents answered Doubt, and only 1 (4%) response gave the answer Do not agree.

2. Information Quality Survey Results

Table 3.
Information Quality Survey Results

No	Question	SA	%	A	%	D	%	DA	%	SDA	%
2a.	Complete information provided	2	8	18	72	5	20	0	0	0	0
2b.	The information received is the latest information	3	12	17	68	4	16	1	4	0	0
2c.	Information received is accurate	3	12	21	84	1	4	0	0	0	0
2d.	Information received at the desired time	4	16	19	76	1	4	1	4	0	0

Table 3 shows the findings on the quality of UMP library information. For question 2a. The complete information provided was found that as many as 2 (8%) respondents answered Strongly Agree, 18 (72%) respondents answered Agree, and only 5 (20%) respondents responded Uncertainly. For question 2b. The information received is

the most recent report found. As many as 3 (12%) respondents answered Strongly Agree, 17 (68%) respondents answered Agree, 4 (16%) respondents answered Doubt, and only 1 (4%) response gave responded Disagree. Further to question 2c. The information received was accurate. It was found that 3 (12%) respondents answered Strongly Agree, 21 (84%) respondents answered Agree, and only 1 (4%) respondent answered Uncertainly. Finally, for question 2d. Information received precisely at the desired time was found in as many as 4 (16%) respondents responded Strongly Agree, 19 (76%) respondents answered Agree, 1 (4%) respondent answered Uncertainly, and only 1 (4%) responded, answering is Disagree.

3. Information Quality Survey Results

Table 4.
Information Quality Survey Results

No	Question	SA	%	A	%	D	%	DA	%	SDA	%
3a.	Services provided on request	2	8	21	84	2	8	0	0	0	0
3b.	Appropriate responsiveness	4	16	19	76	2	8	0	0	0	0
3c.	The response given is fast and precise	2	8	17	68	5	20	1	4	0	0
3d.	Good after-service (follow-up service)	5	20	17	68	3	12	0	0	0	0

Table 4 shows the findings on the quality of UMP library services. For question 3a. The services provided are by request. It was found that 2 (8%) respondents answered Strongly Agree, 21 (84%) respondents answered Agree, and only 2 (8%) respondents responded Uncertainly. For question 3b. Appropriate responsiveness, it was found that 4 (16%) respondents answered Strongly Agree, 19 (76%) respondents answered Agree, and only 2 (8%) respondents responded Uncertainly. Next to question 3c. The response given was quick and accurate. It was found that 2 (8%) respondents answered Strongly Agree, 17 (68%) respondents answered Agree, 5 (20%) respondents answered Doubt, and only 1 (4%) response gave responded Disagree. Finally, for the 3d query. Good follow-up service, it was found that 5 (20%) respondents answered Strongly Agree, 17 (68%) respondents answered Agree, and only 3 (12%) respondents responded Uncertainly.

4. Sistem System Usage Survey Results

Table 5.
System Usage Survey Results

No	Question	SA	%	A	%	D	%	DA	%	SDA	%
4a.	Users often use information systems	4	16	19	76	2	8	0	0	0	0
4b.	Users use the information system provided properly	3	12	18	72	4	16	0	0	0	0

Table 5 shows the findings on the use of information systems in UMP libraries. For question 4a. Users often use information systems. It was found that 4 (16%)

respondents answered Strongly Agree, 19 (76%) respondents answered Agree, and only 2 (8%) respondents responded Uncertainly. For question 4b. Users use the information system provided well. It was found that 3 (8%) respondents answered Strongly Agree, 18 (72%) respondents answered Agree, and only 4 (16%) respondents responded Uncertainly.

5. User Satisfaction Survey Results

Table 6.
User Satisfaction Survey Results

No	Question	SA	%	A	%	D	%	DA	%	SDA	%
5a.	Information systems that are accessed in accordance with user expectations	3	12	18	72	1	4	3	12	0	0
5b.	Information needs by users can be met	5	20	15	60	5	20	0	0	0	0
5c.	Users want to recommend the use of information systems	6	24	14	56	3	12	2	8	0	0
5d.	User wants to make a return visit	6	24	14	56	4	16	1	4	0	0

Table 6 shows the results of monitoring user satisfaction in UMP libraries. For question 5a. The information system accessed is by the user's expectations. It was found that 3 (12%) respondents answered Strongly Agree, 18 (72%) respondents answered Agree, 1 (4%) respondent answered Doubt, and only 3 (12%) responded -give a Disagree answer. For question 5b. The information needs of users can be met. It was found that 5 (20%) respondents answered Strongly Agree, 15 (60%) respondents answered Agree, and only 5 (20%) respondents responded Uncertainly. Further to question 5c. Users want to recommend the use of information systems. It was found that 6 (24%) respondents answered Strongly Agree, 14 (56%) respondents answered Agree, 3 (12%) respondents responded Doubtfully, and only 2 (8%) respondents answered No Agreed. Finally, for question 5d. Users want to make a return visit. It was found that 6 (24%) respondents responded Strongly Agree, 14 (56%) respondents answered Agree, 4 (16%) respondents replied Doubtfully, and only 1 (4%) response gave the answer Do not agree.

6. Net Benefit Survey Results

Table 7.
Net Benefit Survey Results

No	Question	SA	%	A	%	D	%	DA	%	SDA	%
6a.	User productivity increases with the use of information systems	5	20	19	76	1	4	0	0	0	0
6b.	Performance in doing tasks can be improved	5	20	17	68	3	12	0	0	0	0
6c.	Searching for information is easier and received in a short	3	12	19	76	3	12	0	0	0	

time

Table 7 shows the results of the findings on the net benefits obtained from using information systems in the UMP library. For question 6a. User productivity increases with the use of information systems, found as many as 5 (20%) respondents answered Strongly Agree, 19 (76%) respondents answered Agree, and only 1 (4%) respondent answered Doubtfully. For question 6b. Improving achievement in carrying out tasks, found as many as 5 (20%) respondents responded Strongly Agree, 17 (68%) respondents answered Agree, and only 3 (12%) respondents replied Doubtfully. Finally, for question 6c. Searching for information is more accessible and received in a short time found as many as 3 (12%) respondents answered Strongly Agree, 19 (76%) respondents answered Agree, and only 3 (12%) respondents responded Doubtfully.

The evaluation was done by relating the six elements set from the results obtained after the monitoring. If the elements have a positive relationship, we can see that the library has a sound information system.

The first variable is the quality of the system. This element is vital in internal efficiency and has strategic organizational benefits. The aspects seen are accessibility, efficiency, intuitiveness, and ease of operation. From the results obtained, we can see that a total of 21 people, or 83% of the total respondents, agree that the quality of the information system in the university library is good and meets their expectations. While only four people doubted and disagreed.

Furthermore, the second element is the quality of information. Information quality is defined as the cause of information use. This quality can be determined by whether the information is by the intended purpose and also affects the satisfaction of information system users. The aspects seen are completeness, accuracy, currency, and reliability. From the results obtained, as many as 22 people, or 87% of the total respondents, agreed that the quality of the information provided in the information system in the library is good and meets the aspects that have been determined. While only three people were skeptical and disagreed

Next is the service quality element. This quality can be measured by the service's performance and the expected level of service. According to DeLone and McLean (2003), three components influencing service quality are assurance, empathy, and responsiveness. Then these aspects will be seen when evaluating. The results of the monitoring carried out, overall for service quality, as many as 22 people, i.e., 87% of the total respondents, agreed that the service quality was by their expectations. In contrast, only three respondents were hesitant and disagreed with this. See This proves that the service of this information system is good and meets the needs of the respondents.

The fourth element is the use of the system. This element focuses on how often the information system in the library is used and whether users tend always to use the information system. Looking at the data collected, as many as 22 people, or 88%, agreed that they often use the information systems in this library and use them wisely and sparingly, while only three people have doubts about their use.

Next is user satisfaction. User satisfaction refers to the user's attitude toward an information system. Users' attitude when interacting with an information system is essential in measuring its success or failure to meet the expected results. The aspects

that are seen are whether the user wants to make a return visit to use the information system or whether the user wants to recommend it to other users. The results of the monitoring carried out, overall for user satisfaction, as many as 21 people, namely 81% of the total respondents, agreed that they like and are happy with the information system they use. In contrast, the four respondents are unsure of their satisfaction.

Finally, the net benefit element. There is a relationship between the quality of the system, the quality of information, and the measurement of net benefits. The aspects that are seen are effectiveness and productivity. From the results, we can see that 23 people, or 93% of the total respondents, agreed that they benefited from using the information system provided. At the same time, only two people are doubtful. This shows that the information system in the UMP library is in good condition.

The benefit from research results is a theoretical benefit, which is to help other researchers by providing basic information about the success level of the information system that has been studied. Furthermore, there are also practical benefits, and it is hoped that libraries can also use this research as a reference in improving their information systems. Finally, this research can also help and open up opportunities for readers or other researchers to develop the application of information and communication technology, such as information systems, in learning and research.

E. CONCLUSION

Monitoring and evaluation carried out at the library are expected to help the library better understand its information system and know more about users' views about it. The review of the six determined elements provides results and data showing that the library information system under study is reasonably good. The goal that is also expected to be achieved is to obtain information about the stage of service provided by the library to the needs of the user, and it is proven that the level of service provided is decent. Furthermore, they can obtain data and information about the information system in the library and know that the library carries out its duties as a center for disseminating information by providing a sound information system and assisting users in carrying out their duties.

In future research, the researcher hopes that if the standard guidelines can be issued by the authorities to get more precise and satisfying findings to the library, from the results, they find they can improve and pay attention to the shortcomings voiced by users. Furthermore, for this evaluation, comparisons with standards cannot be carried out because there are no standards relating to information systems or mentioning how the information system of a library should be displayed, so detailed comparisons with standards cannot be carried out, and this reduces one of the objectives of monitoring and monitoring. This evaluation is generated. So, if there are no standards that researchers and libraries can refer to, the review may be carried out by the library management or in collaboration with information system vendors. Therefore, the researcher suggests that the authorities, such as the Malaysian State Library (PNM), publish standards related to information systems that must be realized to realize a harmonized information system for all libraries involved.

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