http://infor.seaninstitute.org/index.php/infokum/index
JURNAL INFOKUM, Volume 10, No.1, Desember 2021 ISSN : 2302-9706

ANALYSIS OF ELEARNING QUALITY MEASUREMENT WITH WEBQUAL METHOD AT POLITEKNIK MBP MEDAN

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Article Info
Received : 29 September 2021
Revised : 29 October 2021
Accepted : 04 November 2021

Abstract

The development of information technology today has also changed the lifestyle and way of life of many people. By using information technology, many people can explore the world without being limited by space and time through the internet. Information technology has become a tool that has the power as a driving force that changes business, economics, socio-politics and other fields without limits. One of the things that has experienced major changes in lifestyle and way of life in the field of education is teaching and learning activities. The Politeknik MBP Medan college, which was also affected by Pandami, had to change the teaching-learning method using the Learning Management System service which is the right teaching-learning method to provide learning materials to students, in this case called students. In order to obtain the quality of this service, first, the satisfaction level of service users is measured based on the standard of comparison (gap) between reality and the expectations of users of the service. Based on the results of quality measurements from e-learning at the Politeknik MBP Medan for the academic year 2020/2021 in the even semester using the Webqual method, it was concluded that the Webqual method along with its attributes can provide analytical results to be used in improving the performance quality of e-learning. The results of measuring the quality of the data processing of respondents' answers are obtained that the User Satisfaction Level Score is -0.18, this indicates that the quality of e-learning as a whole is not in line with the expectations of users. The results of the analysis of 22 statement attributes from the Webqual method show that all attributes get the results of the "Tingkatkan" pattern analysis and none of the statement attributes get the "Pertahankan" pattern.

Keywords: Webqual, e-learning, Learning Management System, Satisfaction Level, Website Quality

1. Introduction

The development of information technology today also changes the lifestyle and way of life of many people. By using information technology, people can explore corners of the world without being limited to space and time over the internet. Information technology is becoming a means of having the

power to transform business, economy, socio-politics and other fields without limits. These changes have also affected the education sector in recent years. One of the things that has undergone major changes in lifestyle and way of life in the field of education is teaching-learning activities. Teaching-learning activities that are usually done face-to-face in a building or room have switched implementation using a mixed approach by combining online teaching and learning activities. Online learning methods are also called electronic learning (elearning) in its implementation utilizing World Wide Web (WWW) technology. The part of elearning that utilizes the World Wide Web is known as the Learning Management System (LMS). Learning Management System is a web-based software that provides facilities for users in this case called teachers to create and deliver teaching materials, carry out teaching and learning activities and provide assessments of user performance in this case called students. The advantage of learning management system is the availability of learning resources that can always be accessed by users (teachers and learners) from anywhere and anytime without having to be limited by space and time while still connected to the internet.

With the condition of the Covid-19 pandemic that spread to all corners of the world and is still ongoing to this day, universities as educational service providers are forced to immediately change the method of online teaching and learning activities. No exception with mbp medan polytechnic college which is also affected by pandami must change the method of teaching-learning using learning management system services which is the right teaching-learning method to provide learning materials to learners in this case called students. Learning Management System owned by Politeknik MBP Medan has long been built and used before the pandemic. But since it was built and used, learning management system services are not yet known the quality. Whether the quality of this service has met the expectations of its users. Both perceived in terms of appearance, ease of use and navigation, the quality of information contained in it presented to users and the quality of interaction experienced by users that can create confidence and empathy. The quality of this service needs to be known so that it can be used as a reference for learning management systems to improve the quality of services that lack maximum performance or still maintain good service performance. To get the quality of this service, first measure the level of satisfaction of the service user based on the standard comparison (gap) between reality and the expectations of the user of the service. In measuring the quality of the service, it should be done scientifically using existing methods. One method that is often used to measure the quality of web-based services is Website Quality (Webqual) and has now reached version 4.0[2].

In short, Webqual is a method specifically used to measure the quality of a website. This method is a development of the Service Quality (Servqual) method that has been widely used to measure the quality of service services. This method is based on three dimensions of quality, namely Usability Quality (ease of use), Information Quality (information quality) and Interaction Quality (quality of information). In its development since 1998, this method has undergone several interactions in the arrangement of dimensions and attributes of its questions.

The results of the analysis of quality measurements from the Politeknik MBP Medan Learning Management System using the Webqual method are expected as considerations or inputs that can help decision makers, especially for managers to be able to take the necessary actions in an effort to improve and improve the quality of services to achieve the successful use of Learning Management System in the Politeknik MBP Medan environment.

2. Method

2.1 Research Approach

This research is quantitative with the phenomenon studied to measure the quality of the research object, namely https://elearning.politeknikmbp.ac.id. The variables in this study are grouped into two, namely independent variables are variables that affect or cause changes or arise bound variables [5]. These free variables consist of Usability Quality (X1), Information Quality (X2) and Service Interaction Quality (X3). And dependent variables are variables that are affected or that are resulted from the presence of free

variables [5]. This variable consists of User Satisfaction (Y). The relationship between the two free variables and the bound variables is shown in Figure 1.

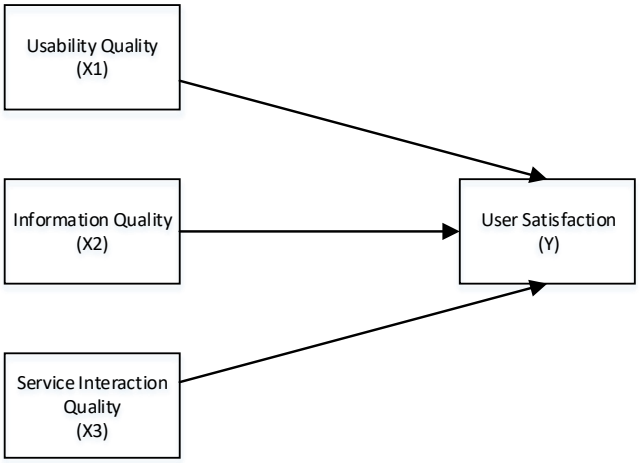

Figure 1. Relationship of Free Variables and Bound Variables

2.2 Research Design

To achieve the objectives of the topic studied, here is outlined a research design that describes the steps applied in conducting research. This is applied so that this research can be done gradually and structured as seen in Figure 2.

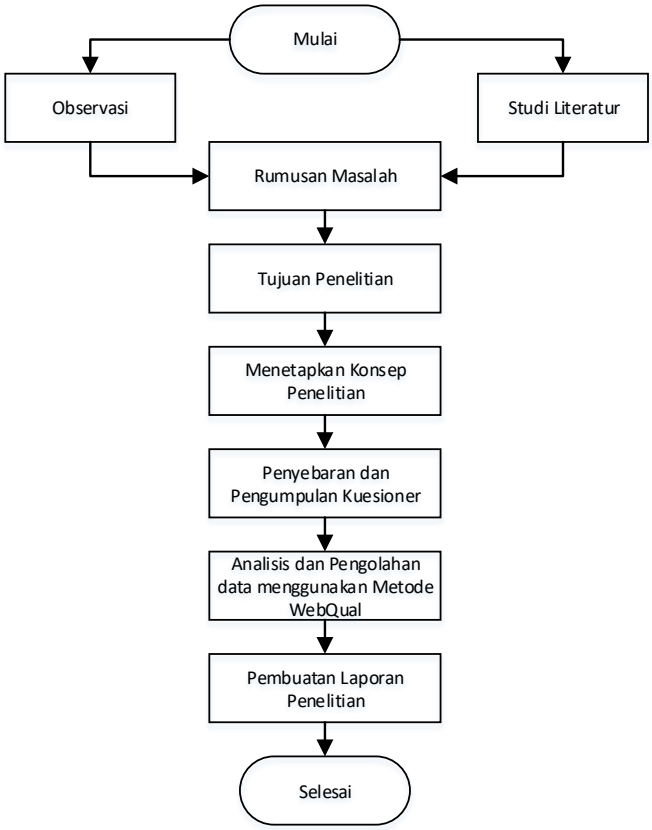

Figure 2. Research Design

2.3 Population and Sample

The population of this study is an active student of the Even Semester of the Academic Year 2020/2021 which amounted to (population) 551 people. This population is a customer of the college that will analyze the level of satisfaction in using elearning by comparing the performance of college elearning against the expectations of students. While the sample studied amounted to 232 people, calculated based on the formula Slovin [3].

2.4 Data Collection Methods

Based on the nature of the research, the data used in this study consists of two types, namely: Quantitative Data, which is data in the form of number symbols and numbers and Qualitative Data, which is data in the form of information that contains sentences that do not form number symbols or numbers [4].

Based on the function and characteristics of this study. This research data is divided into two categories, namely: Primary data, data in this category is obtained based on information from the original source or collected at the time the researcher makes field observations. Data obtained directly from data providers and sources who are considered knowing and trustworthy. In this study, the data source in question came from the Higher Education Database website which is located in the https://forlap.kemendikbud.go.id and academic section, the information center section as an elearning manager, Lecturers and Students. Secondary data, obtained from sources of documentation. Data is collected from documents, scientific books, research reports, scientific essays, lecture notes, and other

written sources that are still closely related to elearning, the methods that researchers use in the analysis of quality measurements of elearning.

2.5 Data Collection Technique

In the collection of data of this study, conducted through: Questionnaire, researchers get a general description of students, regarding the expectations and reality of elearning performance felt by students. Interview, this technique is used by researchers when conducting preliminary studies to find problems to be studied. Semi-structured interviews are included in in-depth interviews. With interview techniques, researchers intend to know the opinions of managers and users of elearning in online learning during the Covid-19 pandemic. And Documentation, data collection is done by taking material or references from books, other literature related to this research that is documentation.

2.6 Data Collection Tools

The data collection tool used in this study is a questionnaire consisting of 22 multi-attributes (Table 1) based on the WebQual 4.0 method and shared with students as respondents. Determination of student satisfaction levels of each statement attribute using a five-level scale (likert).

Table 1. Kuesinoner

No.	*Statements*	*Dimensions*
1	I find Politeknik MBP Elearning easy to learn for its operation	Usability Quality
2	My interaction with Politeknik MBP Elearning is clear and easy to understand	
3	I find it easy to navigate the Politeknik MBP Elearning	
4	I find Politeknik MBP Elearning easy to use	
5	Politeknik MBP elearning has an interesting look	
6	The design is in accordance with the type of Elearning	
7	Politeknik MBP Elearning contains the competencies delivered	
8	Politeknik MBP elearning creates a positive experience for me	
9	The information provided is accurate	Information Quality
10	The information provided can be trusted	
11	Information provided on time	
12	The information provided is relevant	
13	The information provided is easy to understand	
14	The level of detail of the information provided is precise	
15	Format the information presented in the appropriate format	
16	The website has a good reputation	Service Interaction Quality
17	I feel safe to make transactions	
18	I feel like my personal information is safe	
19	Websites provide space to change users' personal information	
20	The website provides space for the community	
21	The website provides ease of communication with the organization	

22	I feel confident that the service will be delivered as promised

Table 2. Likert scale

No.	*Expectations*		*Perceptions*	
	Information	**Score**	**Information**	**Score**
1	Sangat Tidak Penting (STP)	1	Sangat Tidak Setuju (STS)	1
2	Tidak Penting (TP)	2	Tidak Setuju (TS)	2
3	Cukup Penting (CP)	3	Cukup Setuju (CS)	3
4	Penting (P)	4	Setuju (S)	4
5	Sangat Penting (SP)	5	Sangat Setuju (SS)	5

3. Results and Discussion

3.1 Characteristics of Respondents

Respondents in this study were active students from Politeknik MBP Medan for the 2020/2021 School Year period in the even semester and as users of elearning during the Covid-19 pandemic. The dissemination of questionnaires was carried out by teaching lecturers to 232 respondents. Based on the results of the questionnaire collection, the following presented the characteristics of respondents based on gender that can be seen in Figure 3.

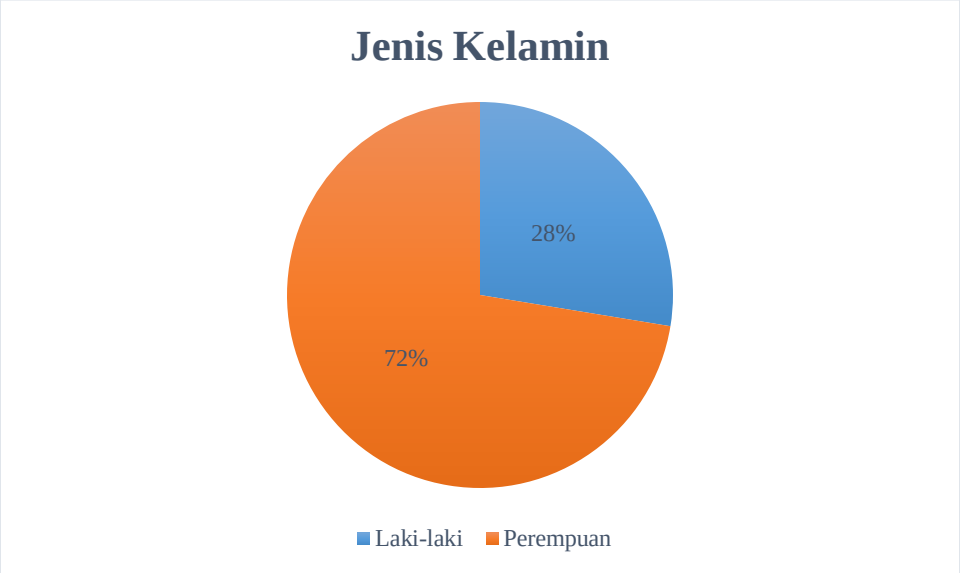

Figure 3. Characteristics of Respondents Based on Gender

Based on Figure 3 shows that respondents with female gender as much as 72% (168 people) and with male sex as much as 28% (64 people).

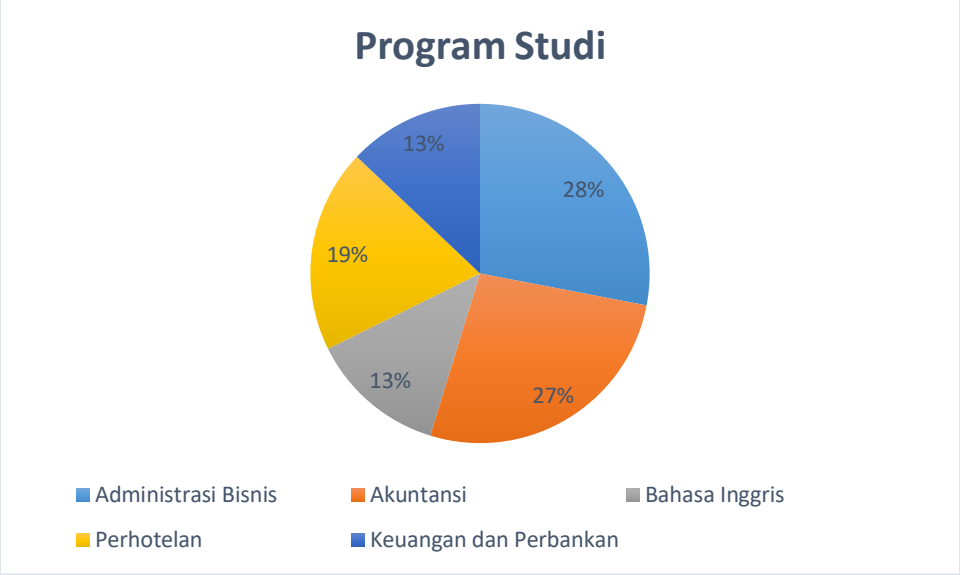

Figure 4. Characteristics of Respondents Based on the Study Program

Furthermore, based on Figure 4 shows the most respondents came from business administration study programs as many as 28% (65 people), followed by accounting study programs 27% (62 people), Hospitality 19% (45 people), English 13% (30 people) and Finance and Banking study programs 13% (30 people).

3.2 Data Processing with Webqual

The results of the processing of questionnaire data in Table 3 showed that the quality of elearning as a whole had not been in line with the expectations of the user. The statement did not match the user's expectations derived from Webqual's satisfaction level score of -0.18. The statement was also supported by a comparison of the percentage of user satisfaction levels of "Tidak Puas" users of 56.03% or 130 respondents and "Puas" of 43.97% or 102 respondents out of a total of 232 people who were sampled for the study.

In Table 3, overall dependent variables show the Gap Score of each attribute's satisfaction level derived from the difference between reality and expectations. The Gap score of those attributes indicates that the entire attribute has not matched the expectations of the user because all of those attributes get a negative Gap Score. Likewise, based on the dimensions of Webqual, all of them are negative, meaning that the level of satisfaction of the dimensions has not been in accordance with the expectations of the user.

Table 3. Score Gap Statement Attributes

No.	*Variable*	*Average Score*		*Gap Score*	*Average*
		Expectations	*Perceptions*		
Usability Quality					
1	X1.1	3,81	4,07	-0,26	-0,21
2	X1.2	3,37	3,97	-0,19	
3	X1.3	3,72	4,06	-0,34	
4	X1.4	3,84	4,07	-0,23	
5	X1.5	3,78	4,04	-0,26	
6	X1.6	3,94	4,03	-0,09	

7	X1.7	3,89	4,02	-0,13	
8	X.18	3,94	4,09	-0,15	
Information Quality					
9	X2.1	3,99	4,16	-0,17	-0,16
10	X2.2	4,04	4,15	-0,11	
11	X2.3	3,92	4,08	-0,16	
12	X2.4	3,93	4,05	-0,12	
13	X2.5	3,86	4,11	-0,25	
14	X2.6	3,95	4,10	-0,15	
15	X2.7	3,99	4,14	-0,15	
Service Interaction Quality					
16	X3.1	4,02	4,13	-0,11	-0,17
17	X3.2	3,95	4,12	-0,17	
18	X3.3	3,96	4,14	-0,18	
19	X3.4	3,94	4,10	-0,16	
20	X3.5	3,92	4,05	-0,13	
21	X3.6	3,86	4,08	-0,22	
22	X3.7	3,93	4,14	-0,22	
		LEVEL OF SATISFACTION			-0,18

3.3 Results of Analysis of Webqual methods

From the collection of questionnaire data using the previous Webqual method can then be taken the results of the analysis for suggestions of improvement. Suggestions for improvement are taken based on the provisions described in the previous section.

The results of the analysis of the 22 statement attributes from Webqual as seen in Table 4 show that all attributes get the results of the " Tingkatkan " pattern analysis. The most priority improvement suggestions or those that must be improved performance are in variable X1.3 which gap score of -0.34 with the attribute of the statement "I find it easy to navigate on Politeknik MBP Elearning", variable X1.1 variable whose Gap score is -0.26 with the attribute of the statement "I find Politeknik MBP Elearning is easy to learn for its operation", and variable X1.5 whose Gap score is -0.26 with the attribute of the statement "Politeknik MBP Elearning has a good look Interesting".

Table 4. Webqual Analysis Results Pattern of Statement Attributes

No.	***Variable***	***Gap Score***	***Pattern Results***
Usability Quality			
1	X1.1	-0,26	Tingkatkan
2	X1.2	-0,19	Tingkatkan
3	X1.3	-0,34	Tingkatkan
4	X1.4	-0,23	Tingkatkan
5	X1.5	-0,26	Tingkatkan
6	X1.6	-0,09	Tingkatkan
7	X1.7	-0,13	Tingkatkan
8	X.18	-0,15	Tingkatkan
Information Quality			

9	X2.1	-0,17	Tingkatkan
10	X2.2	-0,11	Tingkatkan
11	X2.3	-0,16	Tingkatkan
12	X2.4	-0,12	Tingkatkan
13	X2.5	-0,25	Tingkatkan
14	X2.6	-0,15	Tingkatkan
15	X2.7	-0,15	Tingkatkan
Service Interaction Quality			
16	X3.1	-0,11	Tingkatkan
17	X3.2	-0,17	Tingkatkan
18	X3.3	-0,18	Tingkatkan
19	X3.4	-0,16	Tingkatkan
20	X3.5	-0,13	Tingkatkan
21	X3.6	-0,22	Tingkatkan
22	X3.7	-0,22	Tingkatkan

4. Conclusions

Based on the results of quality measurements from Politeknik MBP Medan elearning period 2020/2021 in even semester using webqual method, it was concluded that webqual method along with its attributes can provide analytical results to be used in improving the performance quality of elearning. The results of quality measurements from the processing of respondents' answer data obtained that the user Satisfaction Level Score of -0.18, this indicates that the quality of the overall elearning has not been in line with the expectations of the user. The analysis of the 22 statement attributes of the Webqual method showed that all attributes received the results of the "Tingkatkan" pattern analysis and none of the statement attributes got the "Pertahankan" pattern. For suggestions of improvement the results of the quality measurement analysis obtained that improvements that have a top priority or that must be improved performance as soon as possible are on attributes with No. 3 in the dimension of Usability Quality (Variable X1.3) with a Gap Score of -0.34 with the attribute of the statement "I find it easy to navigate on Elearning Politeknik MBP", then attribute with No. 1 in the dimension of Usability Quality (Variable X1.1) with a Gap score of -0.26 with the attribute per "I find Politeknik MBP Elearning easy to learn for its operation", and lastly on the attribute with No. 5 in the dimension of Usability Quality (Variable X1.5) with a Gap Score of -0.26 with the statement attribute "Politeknik MBP elearning has an attractive appearance".

Acknowledgements

We always offer thanks to God Almighty, for the blessings, graces and opportunities given to us so that we can complete this research. On this occasion we also thank the parents who have given birth to us and Kementerian Pendidikan, Kebudayaan, Riset dan Teknologi who fully funded this research through the research grant of the Penelitian Dosen Pemula Scheme (PDP) 2020 implementation in 2021. We also did not miss to thank all ranks at the Lembaga Layanan Pendidikan Tinggi Wilayah (LLDIKTI) I, MBP Foundation, AMIK Medan Business Polytechnic, Politeknik Mandiri Bina Prestasi (MBP) which gave us space and time in carrying out this research until completion.

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