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USING WEBQUAL 4.0 METHOD TO ANALYZE STUDENT SATISFACTION ON DIGITAL ENTREPRENEUR WEBSITES

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Abstract
The Digital Entrepreneur website is an application designed for students so that they can learn to become digital entrepreneurs by utilizing the applications they have created. The problem that occurs is that there are still students who are dissatisfied with using the Digital Entrepreneurship Website application. The aim of the research is to analyze and measure the quality of Digital Entrepreneurship Websites in the student learning process. The method used to measure website quality is WebQual 4.0. Quality assessment uses a questionnaire designed for instruments with dimensions of usability, information quality and interaction quality. The applications used to test the relationship between variables from WebQual 4.0 and user satisfaction are SPSS and Matlab. Research findings reveal that quality is the lowest valued dimension, however, the score for the WebQual 4.0 indicator reaches 70%, categorizing it as Good, leading users to use this website as a valuable educational resource in higher education.

Keywords: website, digital entrepreneur, webQual 4.0, SPSS, matlab

1. INTRODUCTION
Technological developments not only make it easier for users to access information, but also make it easier and helpful in the learning process (Creely & Lyons, 2022) (Pasang & Najib, 2022). Conventional learning, which was previously carried out face-to-face, has become a benchmark for success in the teaching and learning process. However, as technology becomes more advanced, learning models also develop. E-learning is a model that was born from technological developments. The use of e-learning finally began to spread and then became a learning model that was accepted in various circles (S. Ningsih et al., 2019).

The learning model is a pattern that is always used as a guideline in classroom learning and tutorials for lecturers at universities. The learning model must refer to the approach that will be used, including learning objectives, environment, and classroom management (S. R. Ningsih et al., 2021). The best quality of service for consumers is with the aim of creating consumer satisfaction (Rukmi et al., 2017) (Fujianto, 2019). Satisfaction is an implication of efforts to fulfill something, which may be the beginning of undesirable impacts (Briliana, 2013). This definition is very simple, but when viewed from the perspective of management and consumer behavior the term becomes very complex. Satisfaction is the level of user feelings obtained after the user does or enjoys something (Purbasari & Permatasari, 2018).

Several technology-based applications that carry out the learning process online (on the network) and can be used in the learning process, one of which is the Website Digital Entrepreneur application. The Website Digital Entrepreneur application is an application that allows the creation of classrooms in cyberspace. The Website Digital Entrepreneur application is a learning medium for student assignments. This application service is assumed and expected to be an alternative in answering problems and obstacles to learning in the classroom. Such as limited time available in the classroom and lack of time for discussions in reviewing lesson material. Apart from that, the Website Digital Entrepreneur application can be a means of distributing assignments, submitting assignments and even assessing assignments that have been submitted (Khairunnisa, 2020).

Webqual 4.0 is used in this research as a method for evaluating the Website Digital Entrepreneur application which is used as an online learning tool. To see how the evaluation is carried out, assessment variables are needed as seen in the image below. The variables used refer to three variables from Webqual 4.0, namely Usability, Information and Service Interaction (Yasir & Rusmala, 2021).

Previous research written by Fahredi et all (Fahredy et al., 2023), with the title analysis of student satisfaction with the Academic Information System (AIS) application, also used the webqual method. The research results show that the level of student satisfaction with the SIA application is quite satisfied with an average satisfaction of 3.030. The level of student satisfaction with the usability dimension is quite satisfied with an average satisfaction of 3.160, with the information quality dimension quite satisfied with an average satisfaction of 3.124, and with the interaction quality dimension quite satisfied with an average satisfaction with an average of 2.806. The results of the analysis using Webqual 4.0 show that the level of student satisfaction can be seen from the usability of the website.

However, the author only uses the webqual 4.0 method to determine the level of student satisfaction.The problem that occurs is that there are still student complaints when using the Website Digital Entrepreneur application in online learning, and student dissatisfaction with using the Website Digital Entrepreneur application. Apart from that, there is no analysis of the obstacles and difficulties for students in using the Website Digital Entrepreneur Application as an online learning medium, especially for Metamedia University students.

The purpose of this study is to conduct an analysis to determine the level of satisfaction of Metamedia University students who use this learning application. This study only analyzes the Digital Entrepreneur Website application which is one of the online learning that is specifically given to students to improve their entrepreneurial spirit, using the Webqual 4.0 method. From the results of this study, students can measure the level of difficulty in the Digital Entrepreneur Website application, so that in the future this application can be relied on for use in higher education.

2. RESEARCH METHODS

Research stages or also known as research flow are the stages carried out by a researcher in his research work and are the stages that the researcher must go through in carrying out his research plan. The following are the stages/flow of the research which can be seen in Figure 1:

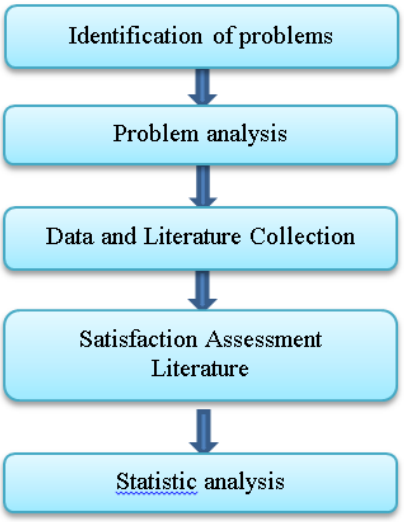

Figure 1. Research Stages

From Figure 1, the research stages can be explained as follows:

a. Problem identification, at this stage a review is carried out on the problem to be researched and a deeper study of the existing problems. This stage is the first step to find out the problems that occur and provide solutions to these problems.

b. Problem analysis, after knowing the existing problems, the author then carries out an analysis of the problem, so that he can find out the next stage of solving the problem.

c. Data and Literature Collection, the data collection techniques used in the research are as follows:

1) Observation, namely making direct observations to obtain learning data, the level of difficulty and obstacles experienced. Apart from that, you can also get library literature related to the problem.

2) Interviews, conducted with students who have used the Website Digital Entrepreneurapplication to obtain information regarding student satisfaction with the Website Digital Entrepreneur application

that has been implemented.

3) Questionnaire, create a list of questions that have been determined based on the WebQual 4.0 method. Arrange these questions in an online questionnaire which is equipped with assessment weights and will later be filled in by students who have used Website Entrepreneur Digital. The number of respondents for this study is 60 students at a university.

d. Satisfaction Assessment Literature, namely looking for literature on student satisfaction with the use of the E-Assigment application using the Webqual 4.0 method.

e. Statistical Analysis, namely using the Likert Scale and the Matlab program as an application to carry out statistical analysis and obtain the results of the analysis.

The research method used in measuring the quality of the Website Digital Entrepreneur application is WebQual 4.0. This research was carried out using research instruments created based on WebQual 4.0 indicators and then distributed to students of the Information Systems study program. WebQual 4.0 is an instrument that assesses the quality of a website from the end user's perspective (Liani et al., 2020) (Mude et al., 2020).

The Likert scale was chosen because it is suitable for measuring user perception quantitatively, is easy to understand, and can be analyzed statistically. The Webqual method was chosen because it is a comprehensive and user-centered website quality evaluation method, and has been proven relevant and reliable in various studies. Webqual 4.0 is used in this research as a method for evaluating the Website Digital Entrepreneur Application which is used as an online learning tool. To see how the evaluation is carried out, assessment variables are needed as seen in the image below. The variables used refer to three variables from Webqual 4.0, namely Usability, Information and Service Interaction. Validity and reliability indicate the extent to which the questionnaire measures what it is supposed to measure, and produces consistent results. To ensure this, several types of testing are carried out, including involving experts in their fields.

This research develops the WebQual 4.0 measurement model into one construct to identify the level of user satisfaction. Webqual is a development of a measurement model originally called Servqual. Webqual is a tool for assessing the usefulness (benefit) of information, quality of information, and quality, of service interactions from web pages on the internet. Webqual is a method or technique for measuring website quality based on site user perceptions. WebQual 4.0 changes the site quality dimension to the Usability dimension(Padmowati & Buditama, 2019) (Mustopa et al., 2020).

The hypothesis proposed in developing the research model above can be stated as follows: H1 = WebQual 4.0 has a significant effect on User Satisfaction (Kurniawan et al., 2022). This research method uses a quantitative approach. Data collection was carried out by distributing questionnaires to students.

The data processing technique used in this research is associative quantitative using a reliable questionnaire. According to "Quantitative associative research is research by obtaining numbers which aims to determine the degree of relationship and pattern/form of influence between two or more variables, where with this research a theory will be built which functions to explain, predict and control a phenomenon.

3. RESULTS AND DISCUSSION

The measurement scale that researchers used in this research was the Likert scale. Using the Likert scale method, assessing the quality of the Website Digital Entrepreneur Application for learning media uses a questionnaire designed with a Likert scale using instruments with the dimensions of usability, information quality and interaction quality. The measurement scale for satisfaction level is 1 (Strongly Disagree), 2 (Disagree), 3 (Agree), 4 (Strongly Agree). The formula for calculating the Likert scale is: (Faqih Amirudin et al., 2022) (Nainggolan, 2022):

Average assessment score (STS*1) + (TS*2) + (S*3) + (SS*4)/ number of respondents.

Matlab is a program that can be used to validate research results using various methods (Arhami, M & Desiana, A, n.d.). Apart from that, research results can also be visualized clearly. Matlab is a high-level, closed, and case sensitive programming language in the world of numerical computing developed by MathWorks. One of its most popular advantages is the ability to create graphs with the best visualization (Khlifi, 2020). Matlab has many tools that can help various scientific disciplines. This is one of the reasons

why industry uses Matlab (Jamaaluddin & Indah, 2021) (Sugandi & Halim, 2020). Apart from that, Matlab has many libraries which are very helpful for solving mathematical problems such as creating function simulations, mathematical modeling and GUI design. An overview of the questionnaire results from the dimensions of usability, information quality and interaction quality can be depicted in the following Matlab software:

1. Usability Dimension

In the usability dimension, the results of the Likert scale interval calculation consisting of 8 questions are input, so that a graphic description of the Matlab application is obtained as shown in Figure 2.

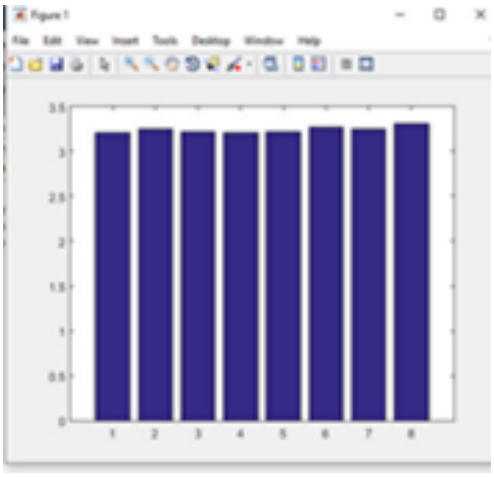

Figure 2. Matlab Results For Usability Category

From Figure 2 it can be seen that in the usability category, question number 8 has the highest level of agreement, namely with an average value of 3.31. This shows that many student respondents agree that the Website Digital Entrepreneur Application website can be easily accessed for novice users. The lowest value is shown in graph number 4 with an average value of 3.21 which shows that few student respondents agree that the Website Digital Entrepreneur Application has an attractive appearance and is easy to learn.

2. Dimensions of Information Quality

In the information quality dimension, the results of the Likert scale interval calculation consisting of 6 questions are input, so that a graphic image of the Matlab application is obtained as shown in Figure 3.

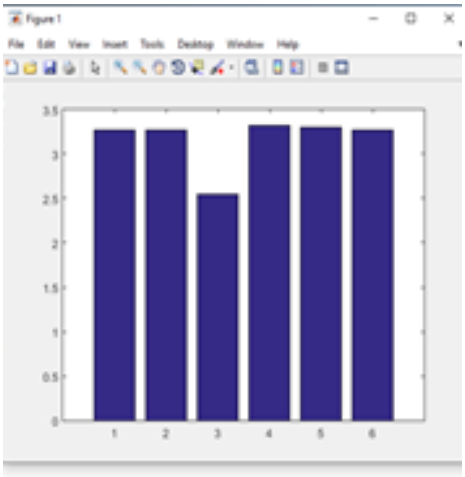

Figure 3. Matlab Results For The Information Quality Category

From Figure 3 above, it can be seen that in the information quality category, question number 4 has the highest level of agreement, with an average value of 3.32 and number 3 has the lowest level of agreement, with an average value of 2.55. This shows that many student respondents stated that the Website Digital

Entrepreneur Application provided reports on time. However, very few student respondents agreed that the Website Digital Entrepreneur Application provided accurate reports.

3. Dimensions of Interaction Quality

In the information quality dimension, the results of Likert scale interval calculations consisting of 4 questions given to 60 student respondents were input, so that a graphic image of the Matlab application was obtained as shown in Figure 4.

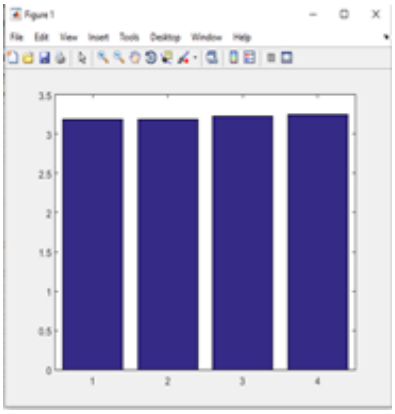

Figure 4. Matlab results for interaction quality category

From the figure 4 above, it can be seen that in the interaction quality dimension, question number 4 has the highest level of agreement and questions 1,2 and 3 on average have almost the same level of agreement, namely the highest score with an average of 3.26. This shows that student respondents agreed that the Website Digital Entrepreneur Application was in accordance with the expected use.

After collecting data from the questionnaire results from respondents based on 3 question criteria including usability quality, information quality and interaction quality services. From the results of calculating Likert scale intervals, a table can be created to calculate the level of respondent satisfaction with the quality of the Website Digital Entrepreneur application service using a Likert scale.

Score: The total number of each variable:

Average: Assessment score (STS*1) + (TS*2) + (S*3) + (SS*4) / number of respondents.

The results of calculating Likert scale intervals for the three dimensions of usability quality, information quality and interaction quality services can be seen in Table 1.

Table 1. Likert Scale Interval Calculation Results

Webqual Dimensions	Measured variables	Average	Information
Usability	Website Digital Entrepreneur Application operation is easy	3,23	Agre
	The Website Digital Entrepreneur application is able to encourage student enthusiasm for learning	3,27	Agre
	The Website Digital Entrepreneur application is useful as an online learning medium	3,24	Agre
	The Website Digital Entrepreneur application has an attractive appearance and is easy to learn	3,23	Agre
	The Website Digital Entrepreneur Application Website page has a clear appearance and is	3,24	Agre

	easy to understand		
	The Website Digital Entrepreneur Application Website is capable of storing various types of files	3,26	Agre
	Website Digital Entrepreneur Application Website can save time and costs	3,27	Agre
	The Website Digital Entrepreneur Application Website is easy to access for novice users	3,31	Agre
Information Quality	The Website Digital Entrepreneur application provides reports that are easy to understand	3,29	Agre
	The Website Digital Entrepreneur application provides the most complete and detailed reports	3,27	Agre
	The Website Digital Entrepreneur application provides accurate reports	2.55	Agre
	The Website Digital Entrepreneur application provides reports according to time	3,32	Agre
	Website Digital Entrepreneur application provides relevant reports	3,32	Agre
	The Website Digital Entrepreneur application provides reports according to the format	3,29	Agre
Interaction Quality	The Website Digital Entrepreneur application makes it easy for students to communicate with lecturers	3,19	Agre
	The Website Digital Entrepreneur application provides a large class capacity as a place for lecturers and students	3,20	Agre
	The Website Digital Entrepreneur application provides security for student user information	3,25	Agre
	The Website Digital Entrepreneur application is in accordance with the expected use	3,27	Agre

The indicator with the lowest score is in Information quality, namely The Website Digital Entrepreneur application provides accurate reports with a score of 2.55 and the highest score is at 3.32 which states that the Website Digital Entrepreneur application provides relevant reports. The data above is summarized and simplified according to the results of Likert scale interval calculations as shown in table 2 below:

Table 2. Conclusion Of Likert Scale Interval Calculation Results

Aspect Dimensions	Average Total	Category
Usability	3.17	Agre
Information Quality	3,24	Agre
Interaction Quality	3,23	Agre
	3,21	Agre

Based on Table 2, it can be seen that there are three aspects of the webqual 4.0 dimensions based on student responses via questionnaire. The average value is an assessment from students which includes, among others: (1) Usability obtained 3.17 with the agree category, (2) Information Quality obtained 3.24 with the agree category, (2) Information Quality obtained 3.23 with the agree category, (3) Interaction Quality was obtained at 3.23 in the agree category and the overall

average was 3.21 in the agree category. These results indicate that the quality of the website in the Website Digital Entrepreneur Application is stated to be satisfactory for student use in online learning. The results of the total Likert scale can be depicted on the graph in Figure 5.

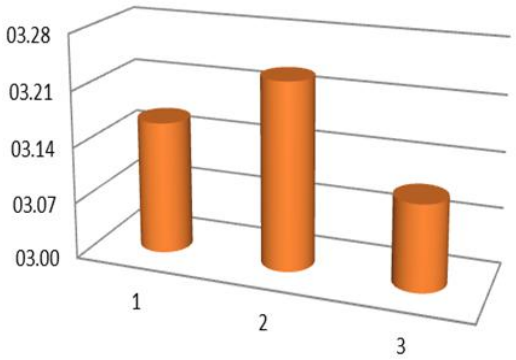

Figure 5. Graph of Likert Scale Results

Figure 5 which shows a graph of the Likert scale results shows a significant value that is almost the same as getting a total average of 3.19, which means that respondents agree with the dimensions of the questions asked using the Webqual 4.0 method.

4. CONCLUSION

Based on the results of research regarding the application of WebQual 4.0 which is used to measure the quality level of the Website Digital Entrepreneur application as a learning medium, researchers can draw conclusions from the results of the value of each WebQual 4.0 indicator that the Usability value in measuring the quality level of the Website Digital Entrepreneur application is 72% with the category Good. This explains that the Website Digital Entrepreneur application is easy to use as an online learning medium.

The Information Quality value in measuring the quality level of the Website Digital Entrepreneur application is 67% in the Good category. This explains that the information provided by the Website Digital Entrepreneur application is trustworthy, relevant, easy to read, up to date, accurate and understandable. The Interaction Quality value in measuring the quality level of the Website Digital Entrepreneur application is 69% in the Good category. This explains that the services provided by the Website Digital Entrepreneur application can provide convenience for students and lecturers as a means of learning media and provide maintained security. The overall score of the WebQual 4.0 indicator obtained was 70% in the Good category, so that users considered that the Website Digital Entrepreneur application was of good quality as a medium for conducting student lectures in tertiary institutions.

This study has limitations in scope and time, because it was only conducted in one institution and in one period. Therefore, further research is recommended to be conducted longitudinally and cover various institutions in order to obtain more comprehensive and generalizable results. In addition, the use of a mixed approach can also provide a deeper understanding of user perceptions and experiences of website service quality.

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