Factors Affecting the Failure and Success of Online Learning in Samarinda

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Abstract

This study aims to determine the implementation of online learning at schools and colleges in Samarinda, as well as what factors become obstacles and influence the success of online learning. With the COVID-19 pandemic, schools, teachers and local governments are required to be more active, creative, and concerned about evaluating learning models and distance learning readiness, either through LMS, online learning, mobile learning, blended or hybrid learning. This study uses literature reviews, observations, questionnaires and field interviews to collect relevant data from various sources of respondents. Based on the research results, there are several problems with distance education, including; readiness of students, readiness of parents, readiness of schools, and readiness of internet facilities. The other supporting variables in this study are; age, motivation to learn, educational background, ease of application, user psychology, and learning support facilities. The data processing method uses the Structural Equation Model and Descriptive Statistics using the Lisrel and SPSS applications. The place where this research was conducted was Public School and University, namely Junior High School 1, Senior High School 2, Senior high school 3 and Mulawarman University with a total of 186 respondents. The result of this research is that Samarinda is quite ready to implement online learning, with 10 recommended benefits and obstacles that still need to be fixed.

Keywords: Online Learning, Readiness, Structural Equation Model, User Benefit Model, User Interface.

I.   INTRDUCTION

Online Learning has been around for decades and is one of the most significant recent development in IS industry. The purpose of online learning like any other learning approach is to achieve the learning objective. Online learning has been viewed as synonymous with web-based learning (WBL), internet based training (IBT), advanced distributed learning (ADL), web based Instruction (WBI), and open/flexible learning (OFL). Some crucial critical successful factors in online learning are; information technology, student related, instructor related, institution support, developer and designer, learning content and admin. Online learning model are synchronous (real time) and asynchronous (anytime and any where) or mix of two. The interesting problem when some online learning website seems to be more successful than other (Ramadiani, 2017), (Kenneth, 2015) and (Karmila,2015).

Online learning is a distance learning system which offers several training courses that has custom tailored to leaner's need (Ramadiani, 2013). As we know, online learning is one of the supporter methods in education world. The delivery of course content in electronic media, such as; internet, intranet, satellite broadcast, interactive TV, audio/video, smartphone etc. It is expected to facilitate the weakness that existed or found in the conventional education

(Ozlem, 2015). Through Online learning is hoped education become more accessible, cheaper, more fun and easier to share and to learn. But in reality, the online learning was not entirely successful as expected (Ramadiani, 2015). They are many causes why the students rarely use online learning.

There are some features in the user interface still less efficient, Ramadiani (2016). Unusable user interfaces are probably the single largest reasons why on all sides of interactive systems computers fail in actual use. The design of applications purposes in term of ease of use is not an easy of task. Usability is important to determine whether something is useful. It matters that something is easy but it's not what you want. Many theories that discuss the interface evaluation design, but the fact still weak and do not work in accordance with the online learning user interface expected, Ramadiani (2017) and Guralnick (2006).

The first and the most important reason why online learning doesn't function properly because are not in accordance with the user need. According to Davis, 1989, in his TAM theory said that the actual usage of the system that depends on the intention to use, whereas the intention to use is directly impacted by Attitude toward the use (Minsun, 2020). A toward the use was divided into 2 causes, perceived usefulness and perceived ease of use. Perceived Usefulness is the degree to which users believe that using online learning would enhance their productivities. Whereas Perceived ease of uses is the degree an individual believes that using online learning should be free of effort (I-Fan Liu, 2010). Based on this theory, the students does not use the online learning because of these reasons, PU and PE of U. if they feel the system has benefit and help to solve their problem, automatically the usage of Online learning will be increase (Ramadiani, 2016).

The other reason the student rarely use online learning because the purpose the application to provide ease of use, not to answer the difficulties was faced by students. The matter is, the application is easy to use but it is not what you want or need. Unusable user interface on all interactive system computer fall in actual usage because of the online learning interface design purpose in term of ease to use, is not an easy task. To design interface should be determined by 'how people learn' and 'the task they need to perform in the program'.

Based on the statement problems above, it can be concluded that the issues to be examined in this research are: User Interface is very important to encourage using the application (Ramadiani, 2019). Many theories had discussed about the interface usability evaluation and user technology acceptance separately, to enhance online learning process. Therefore, the evaluation model for online learning interface acceptance is considered important to investigate.

II. METHOD

User online learning interface acceptance which is measured by the user benefits categories. 4 hypotheses; 1 independent variable, 3 dependent variables and 9 criteria. Respondents of this research are 185 respondents from Junior High School 1, Senior High School 2, Senior high school 3 and Mulawarman University students. Online learning Software uses LMS Moodle v1.9. Statistics Software; EXCEL, SPSS, SEM, LISREL, PRELIS, SIMPLIS. The aim of this research is to evaluate the factors affecting the failure and success of online learning In Samarinda based on user acceptance and user benefit model (Ramadiani, 2018).

Requirement Specification

A requirement is always needed in all designers. Requirement is any simple statements describing any functionalities and behaviors that someone expected of system. The more details we have in requirement, the easier for us to test. Acceptance in human physiology is a person's assent to the reality of a situation, recognizing a process or condition without attempting to change it. The concept is close in meaning to agreement. The acceptance of a system means you are confident it will give benefit to the user. It will give anything

positive influence to the user (Ramadiani, 2020), (Katherine,2017) and (Rhonda, 2017). Not all individuals view the technology as beneficial. Some individuals are uncomfortable with technological change, do not enjoy the uncertainty and are quiet to embrace these tools and ideas whereas others welcome them and enjoy the challenge. A person who believes that system performing will lead to positive outcomes, will hold a favorable attitude, but if they believe the system performing will lead to negative outcomes, will hold unfavorable attitude. The user benefits in this research: Media Elements, Communicativeness, User expectation (Tabel 1).

Table 1. User Benefits Model

User Benefits		Variables
Media Elements	Measure of capability of a software product to help users pursue what he/ she aim in a specified context of GUIs-style applications.	Variations in the form of exam and practice questions To update Material Unclear function icon Menu back forward
Communicativeness	In formativeness, guidance, explanation ability, expressiveness, esthetic/cultural acceptance.	Group Discuss Share video, photos and Information Message
User expectation	Can be generally different from one to another user with the context of users' characteristics and task characteristics.	To finish their work rapidly To get the best grade To complete their tasks To enhance their knowledge To prepare for their exam To practice some material To spent their leisure time

The acceptance of a system means you are confident it will give benefit to user. It does not mean that it only meets the original specification as requested (Ramadiani, 2019) and (J.R.van, 2012). It is realized that it will give anything positive to user, or may even damage the institution. In this research, there are four hypotheses (Figure 1);

H1 Is there any relationship between Media elements and User Benefits
H2 Is there any relationship between Communicativeness and User Benefits
H3 Is there any relationship between User expectation and User Benefits
H4 Is there any relationship between User Benefits and User Interface Acceptance
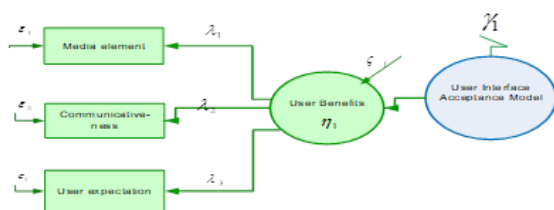

Figure 1. User Benefits Model

Factor analysis: Use to test hypotheses about underlying structure or to understand underlying structure. SEM: Combine factor analysis, canonical correlation, and multiple regressions. The technique evaluates whether the model provides a reasonable fit to the data and the contribution of each of IVs and DVs. (Ramadiani, 2010). Path Analysis: Utilizes multiple applications of multiple regression to estimates causal relations among several variables and to test the acceptability of the causal model hypothesized by the researcher (Ramadiani, 2018). Path coefficients are calculated to estimate the strength of the relationships in the hypothesized causal model. LISREL consist of two distinct parts; the confirmatory factor model and the structural equation model. The Confirmatory factor model specifies the relations of the observed factor to their hypothesized underlying construct. The structural equation model specifies the relationship of the constructs to one another as hypothesized by research model (Ramadiani, 2020).

III. RESULTS AND DISCUSSION

A. Result

In this research, there are 186 respondents; 107 males and 79 females (Figure 3). The media used for online teaching and learning are MOLS, Internet, Social Media, WA group, zoom https://mols.unmul.ac.id/dosen/login (Figure 4).
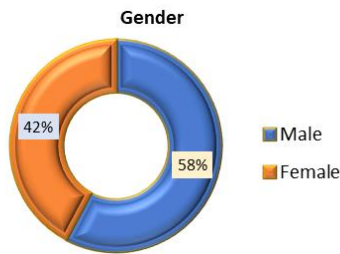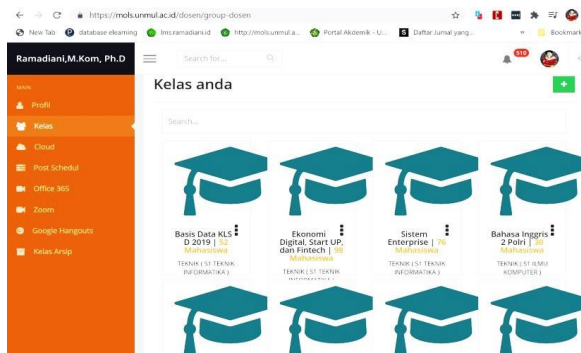

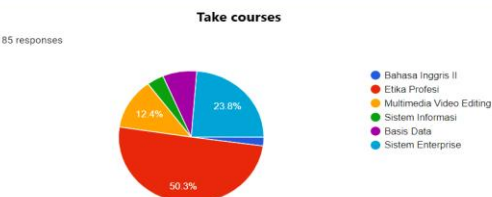Figure 3. Students Gender
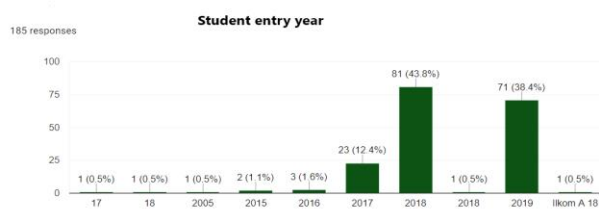

Figure 4. Online Learning Too

Figure 5. Students as Research respondents

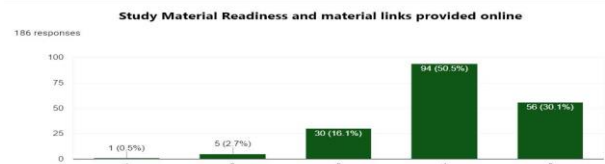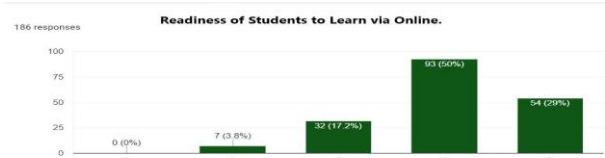Readiness of Students and Material in Online Learning in Figure 6.

Figure 6. Readiness of Students and Material in Online Learning

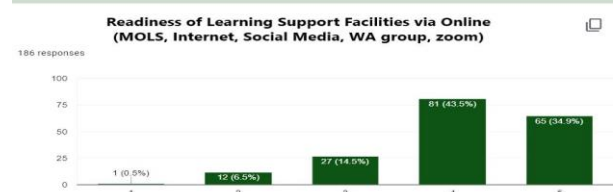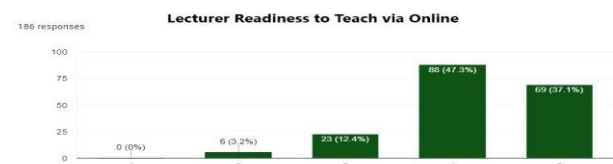Readiness of Lecturer and Learning Support Facilities in Figure 7.

Figure 7. Readiness of Lecturer and Learning Support Facilitie

Readiness of Exam, Discussion and Presentation via online in Figure 8.
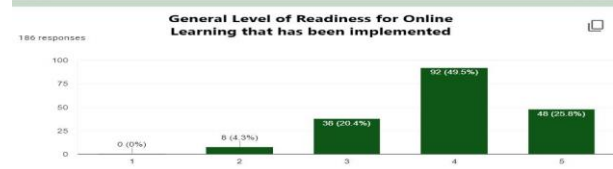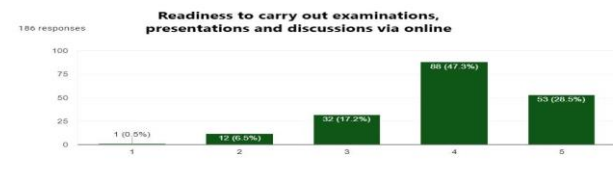

Figure 8. Readiness of Exam, Discussion and Presentation via online

The advantage and disadvantages of online learning according to these research respondents, we can see in Table 2.

Table 2. The 10 advantages and the disadvantages of online learning in Samarinda

No.	The advantages of online learning	The disadvantages of online learning
1.	Learning online is very helpful because we don't need to leave the house during the Covid-19 pandemic	Lack of motivation
2.	Save time, cost and effort	Internet network is not stable
3.	The material can be accessed anywhere	Internet quota fee increases
4.	Study time can be at any time	Lack of understanding of the material
5.	Ease of time management	Remote areas are difficult to get the internet
6.	Flexible	Lack of interaction, the lecturer did not pay attention
7.	Learning material is more varied	Lots of homework
8.	Learning is easier	Lack of discipline, not attending lectures
9.	Learning is cheaper	Less focus on learning, not paying attention
10.	The teaching and learning process can be documented	e-learning server sometimes down

B. Discussion

The data collected in this study is ordinal data and the estimation method used is the method of maximum likelihood (Ramadiani, 2010). The data was processed by using SEM and Lisrel v8.80. The result of model measurement is very significant correlation between variables Ramadiani (2019). Variable indicator User's benefits are consisting of Y1, Y2, Y3, in the measurement estimation (Table 3 and Table 4) for the hypotheses results. User Benefits: t value = 7.04, λ=0.80, R^2 = 0.63. Tabel 5 is the construct validity and reliability for User Benefits model.

Table 3. The Measurement Estimation

Variables	Estimates (λ)		Standardized Solution (λ)		
	User Benefits	Err (ε)	User Benefits	Err (ε)	R^2
Y1	0.93	0.56 (0.10) 5.58	0.78	0.39	0.61
Y2	0.97 (0.11) 8.93	0.30 (0.080) 3.80	0.87	0.24	0.76
Y3	5.54 (0.80) 6.94	39.91 (6.00) 6.66	0.66	0.67	0.43

Table 4. Research Hypothesis Results

Variables	Factors	Lambda (λ) Gamma (γ)	T value	H0	Research Hypothesis
Y1	Media element	0.93	5.58	rejected	H103 accepted (Significant)
Y2	Communicativeness	0.97	3.80	rejected	H113 accepted (Significant)
Y3	User expectation	5.54	6.66	rejected	H123 accepted (Significant)
η1	User Benefit	0.80	7.04	rejected	H154 accepted (Significant)

Table 5. Validity and Reliability

Variables	Construct Reliability (>0.70)	Variance Extracted (>0.50)
User Benefit	0.86	0.60
Acceptance	0.73	0.69

• Construct Reliability user Benefit;

$(\sum$ Standardized Loading$)2 = (0,77 + 1,06 + 0,44)^2 = 2,27^2 = 5,1529$

$\sum \varepsilon j = 0,41 + 0,15 + 0,52 = 1,08$

Construct Reliability User Style = $5,1529/5,1529+1,08 = 5,3361/6,2329 = $ **0,86**

• Variance Extracted user Benefits;

$\sum$ Standardized Loading$2 = 0,77^2 + 1,06^2 + 0,44^2 = 0,5929+1,1236+ 0,1936 = 1,9101$

$\sum \varepsilon j = 0,41 + 0,15 + 0,52 = 1,08$

Variance Extracted User Style = $1,9101/1,9101+ 1,08 = 1,8009 / 2,9901 = $ **0,60**

IV. CONCLUSION

Online learning is not going to work if the system is not used in accordance with user needs. User Interface is very important to encourage using the application. Failure in using online learning interface because the reason of application development doesn't provide ease of use, neither answer the difficult task faced by its users. Many theories has discussed about user interface benefits evaluation and technology acceptance separately, so we need to make correlation between interface usability evaluation and user acceptance to enhance online learning process. Therefore, the evaluation model for online learning interface acceptance is considered important to investigate.

Based on the statistical value in the model, the model of online learning user benefits has a highly significant correlation values and strong construction between variables, which is evidenced by the size of the construct reliability values above 0.70 and the value of its variance extracted 0.50. According to the research questioner analysis and Goodness of Fit measurement, it is shown that the high reliability in this study indicates that an indicator variable is consistently high in measuring latent constructs. Test reliability used two types of measurements composite construct reliability and variance extracted measure.

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