Factors Influencing Online Learning Students' Satisfaction in UIN Fatmawati Bengkulu

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ABSTRACT

The use of e-learning in education can increase efficiency and motivation in learning. The success of this online learning platform is influenced by student satisfaction. Students who are satisfied then they will be comfortable with using online learning. The success of the online learning system can be seen in student satisfaction when using the LMS and online learning software. So, this study aims to analyse student satisfaction with the online learning system. The sample of this research is students of the Tarbiyah Faculty of UIN Sukarno Fatmawati Bengkulu. The sampling technique used is convenience sampling. The independent variables used were computer self-efficacy (CSE), perceived usefulness (PU), and perceived ease of use (PEU). The dependent variable in this study was student satisfaction (SAT). This data analysis technique used Structural Equation Modelling (SEM) with SmartPLS software. The results of this study indicated that the computer self-efficacy had a significant positive effect on the perceived ease of use and the perceived usefulness. The perceived ease of use and perceived usefulness significantly positively affected the student's satisfaction.

Keywords: *Online Learning Higher Education, Students' Satisfaction, Structural Equation Modeling*

INTRODUCTION

In March 2020, the Indonesian government announced the first Coronavirus Disease 2019 (Covid-19) case in Indonesia (Asmuni, 2020). Covid-19 because it spread so quickly and almost spread to all countries. On March 11th, 2020, WHO declared this outbreak a global pandemic (Ministry of Health of the Republic of Indonesia, 2020; Moudy & Syakurah, 2020). All sectors have felt the extraordinary impact of the Covid-19 pandemic, and the education sector was no exception (García Docampo, 2021). The education sector is faced with the closure of educational institutions, which are expected to be able to reduce the spread of Covid-19 (Firman, 2020). Even though educational institutions are closed, the teaching and learning process must continue (Zhafira et al., 2020). Such conditions force educational institutions to carry out remote

education online from their respective homes (Government of the Republic of Indonesia, 2020).

The use of digital technology is predicted to be adopted by all Indonesian people in 2025 (Yanuarti et al., 2022). However, the existence of this pandemic has made the digitalization system develop faster than expected (Hermawansyah, 2021). The education system has also adopted technology for online learning systems (Angga Sugiarto, 2020). Various technologies can be used for online learning systems, such as zoom, google meet, Microsoft teams, and google classroom. This online learning system is an exploration of the history of education in the world (Jiang et al., 2021).

E-learning can help students adapt to new learning systems and fully integrate with information technology (Saifuddin, 2018). The use of e-learning or online teaching software cannot be adopted immediately. That is because it requires training as well as technological support. However, staff, educators, and students were not ready for a sudden system change during the last pandemic. Moreover, in a short time, lecturers have to prepare lessons and deliver lectures online but have not received proper technological support (Hodges et al., 2020).

Every university is starting to develop a learning management system (LMS) to support online learning systems (Fitriani, 2020). LMS has various features to support online learning, such as course management, assessment, learner progress tracking, grade book, communications, security, and smartphone access (Tatnall, 2020; Turnbull et al., 2021). The use of e-learning in education can increase efficiency and motivation in learning (Chen et al., 2020). Student satisfaction influences this online learning platform's success (Virtanen et al., 2017; Yuen et al., 2019; Mubin, M. N., et al., 2022) Students who feel satisfied will be comfortable using online learning. Chen et al. (2020), Islam et al. (2018), Islam & Sheikh (2020), Jiang et al. (2021), Zhang et al. (2019) state that student satisfaction in using online learning is influenced by perceived usefulness and ease of use, and perceived usefulness and ease to use are influenced by computer self-efficacy.

Students can use computers connected to the internet to assist the online learning process (Pakpahan & Fitriani, 2020). They can operate their computers to access LMS or online teaching software. According to Islam et al. (2018), it follows the concept of computer self-efficacy. Computer self-efficacy significantly impacts students' ability to engage in online learning as long as they are in a technology-enabled environment (Dong et al., 2020; Heckel & Ringeisen, 2019; Herrador-Alcaide et al., 2019; Wang et sal., 2019). Several studies explain that computer self-efficacy directly affects the perceived ease of use and usefulness of computer technology (Al-Azawei et al., 2017; Thomas K.F. Chiu, 2017).

Perception of ease of use refers to how easy or difficult it is to use computers and wireless internet services in the online learning process (Islam et al., 2018; Jiang et al., 2021). Students who find it easy to use online learning platforms will feel satisfied. In addition, an online learning platform can help students communicate directly with fellow students and lecturers virtually. Students do not want to use an online learning platform if the platform is challenging to use and is not valuable for the online learning process (Zhang et al., 2019). The ease and usefulness of the platform in helping the learning process can increase student satisfaction (Al-Azawei et al., 2017; Chen et al., 2020; Islam et al., 2018; Islam & Sheikh, 2020).

One of the universities in Indonesia that have implemented an online learning system is UIN Fatmawati Sukarno Bengkulu. UIN Fatmawati Sukarno Bengkulu began to develop a learning management system to support online learning systems. Online

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learning must, of course, be designed in such a way as to run optimally and more efficiently (Umirulliyanti et al., 2022). In addition, online lectures, lectures are conducted using online learning software. The success of the online learning system can be seen in student satisfaction when using the LMS and online learning software. So, this study aims to analyze student satisfaction with the online learning system.

METHOD

This research approach used a quantitative approach. The population of this study was students of the Tarbiah Faculty of UIN Fatmawati Soekarno Bengkulu. The sample of this study was students of the Tarbiah Faculty of UIN Fatmawati Soekarno Bengkulu. The sampling technique used was convenience sampling. The independent variables used were computer self-efficacy (CSE), perceived usefulness (PU), and perceived ease to use (PEU). The dependent variable in this study was student satisfaction (SAT). This study used a questionnaire with a Likert scale of 1 to 6. Where one was very dissatisfied, and 6 were very satisfied students. This data analysis technique used Structural Equation Modeling (SEM) with SmartPLS software.

RESULT AND DISCUSSION

Respondents from this study were students of the Tarbiah Faculty of UIN Fatmawati Soekarno Bengkulu. The number of questionnaires returned was 73 out of 150 questionnaires distributed. However, the questionnaires that met the requirements for testing were 68 questionnaires. Based on the test results, it can be seen that 80.88% of female respondents and 19.12% of male respondents (Table 1). The respondents' ages varied from 17 to 23 years, and most were 19 years old, namely 35.29%. The Faculty of Tarbiyah and Tadris has 4 study programs: Islamic Religious Education, Madrasah Ibtidaiyah Teacher Education, Indonesian Language Tadris, and Social Sciences Tadris. The highest number of respondents came from the Islamic Religious Education study program at 41.18% and the second most came from Indonesian Language Tadris. Respondents were also dominated by semester one students, as much as 54.41% (Table 1).

Table 1. Respondent Demographic Data

Characteristics	Sum	Percentage (%)
Gender		
Male	13	19.12
Female	55	80.88
Age		
17	2	2.94
18	17	25.00
19	24	35.29
20	5	7.35
21	9	13.24
22	9	13.24
23	2	2.94
Major		

PAI	28	41.18
PGMI	11	16.18
TBI	21	30.88
TIPS	8	11.76
Semester		
1	37	54.41
3	12	17.65
5	8	11.76
7	11	16.18

The next stage is model testing, where the model testing of student satisfaction consists of 2 stages, namely the outer model and the inner model.

1. Outer Model Testing
   a. Validity test results
      Based on the test results of the outer model, it can be seen that all indicators are valid. It can be seen from the outer loading value, which is greater than 0.7 (Figure 1 and Table 2). The validity of each construct has also met the requirements. The AVE value of each construct is greater than 0.5.
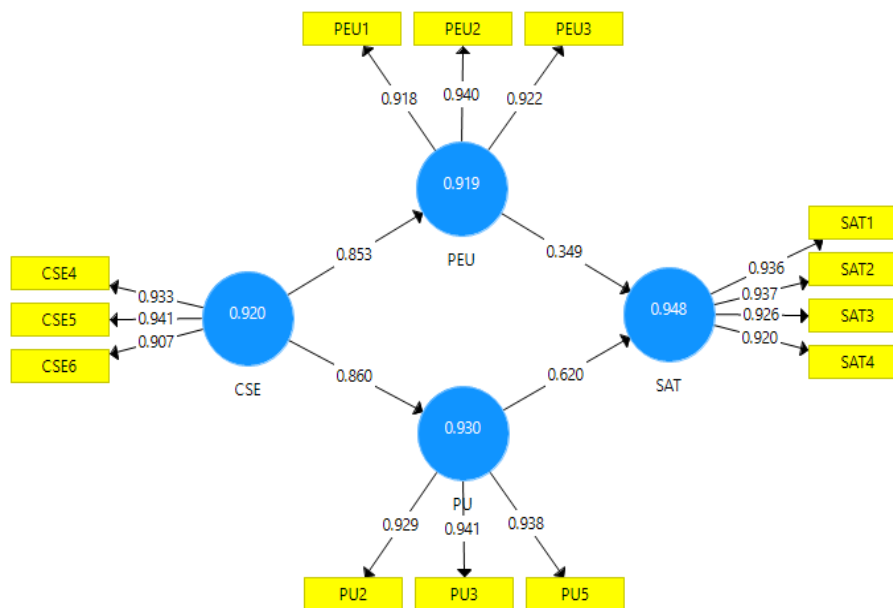
Figure 1. Outer Model

Table 2. Outer loading test results

Variable	Indicator	Outer Loading	AVE	Decision
CSE	CSE4	**0,933**	0,860	Valid
	CSE5	**0,941**		Valid
	CSE6	**0,907**		Valid
PEU	PEU1	**0,918**	0,859	Valid
	PEU2	**0,940**		Valid
	PEU3	**0,922**		Valid

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PU	PU2	**0,929**	0,876	Valid
	PU3	**0,941**		Valid
	PU5	**0,938**		Valid
SAT	SAT1	**0,936**	0,864	Valid
	SAT2	**0,937**		Valid
	SAT3	**0,926**		Valid
	SAT4	**0,920**		Valid

b. Multicollinearity Test

The next test is the multicollinearity test of each indicator. For indicators with a VIF value of more than 5, there is multicollinearity. The results from Table 3 showed that the indicators passed the multicollinearity test, where the value of each indicator was less than 5.

Table 3. Multicollinearity Test Results

Variable	Indicator	VIF	Decision
CSE	CSE4	3,770	No Multicollinearity
	CSE5	3,946	No Multicollinearity
	CSE6	2,742	No Multicollinearity
PEU	PEU1	3,053	No Multicollinearity
	PEU2	3,747	No Multicollinearity
	PEU3	3,224	No Multicollinearity
PU	PU2	3,451	No Multicollinearity
	PU3	4,012	No Multicollinearity
	PU5	3,802	No Multicollinearity
SAT	SAT1	4,673	No Multicollinearity
	SAT2	4,648	No Multicollinearity
	SAT3	4,172	No Multicollinearity
	SAT4	3,798	No Multicollinearity

c. Reliability Test

The data passed the reliability test if the CR and Cronbach's Alpha were greater than 0.7. Based on the processing test results in Table 4, all variables have passed the reliability test. All variables, computer self-efficacy, perceived ease of use, perceived usefulness, and students' satisfaction, have Cronbach's Alpha and Composite Reliability values greater than 0.7.

Table 4. Reliability Test Results

Variabel	Cronbach's Alpha	CR	Decision
CSE	0,918	0,948	Reliable
PEU	0,918	0,948	Reliable
PU	0,929	0,955	Reliable
SAT	0,948	0,962	Reliable

d. Construct Validity Testing
1) Discriminant Validity
a) Fornell-Lacker Criteria
All indicators passed the Fornell-Lacker Criteria test because the top value was greater than the value below (Table 5). For example, the CSE value of 0.927 was the largest compared to the value below.
b) Cross Loading
The data in Table 6 passed the discriminant cross-loading test. Where the value was the yellow block had a greater value than the inline value.

Table 5. Fornell-Lacker Criteria Test Results

|	CSE	PEU	PU	SAT
CSE	0,927			
PEU	0,853	0,927		
PU	0,860	0,880	0,936	
SAT	0,894	0,895	0,928	0,930

Table 6. Cross Loading Test Results

	CSE	PEU	PU	SAT
CSE4	0,933	0,774	0,783	0,799
CSE5	0,941	0,813	0,845	0,874
CSE6	0,907	0,784	0,763	0,811
PEU1	0,794	0,918	0,808	0,802
PEU2	0,828	0,940	0,846	0,854
PEU3	0,745	0,922	0,791	0,832
PU2	0,795	0,820	0,929	0,861
PU3	0,791	0,829	0,941	0,871
PU5	0,830	0,822	0,938	0,873
SAT1	0,910	0,844	0,862	0,936
SAT2	0,806	0,850	0,870	0,937
SAT3	0,831	0,816	0,836	0,926
SAT4	0,779	0,819	0,882	0,920

2. Inner model test results
The results of testing this inner model will discuss the hypothesis test that was built. The results of hypothesis testing can be seen in Figure 2.

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Figure 2. Inner Model
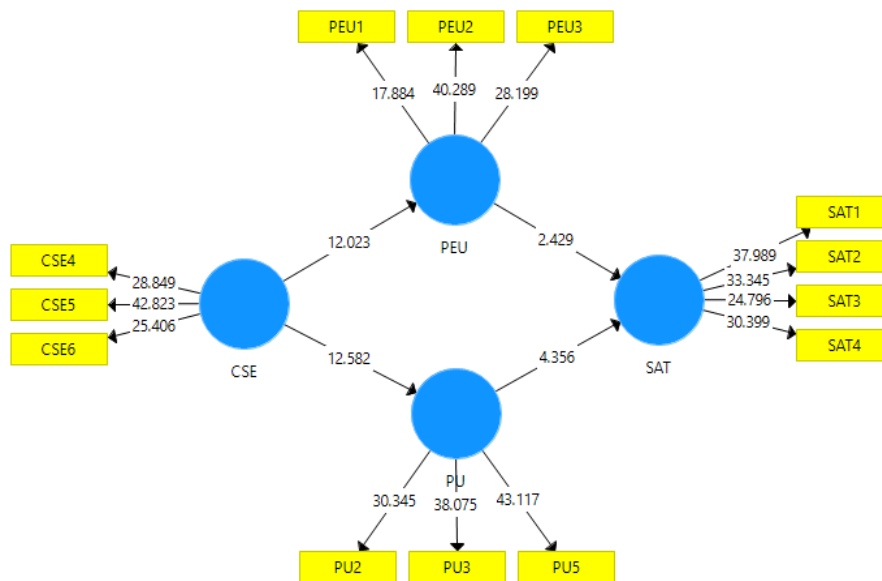
Based on Table 7 we can see that there are 4 variables that have a significant effect.

a. Computer Self Efficacy variable had a significant positive effect on the Perceived Ease of Use variable

The original sample value of the variable was 0.853, which meant that CSE had a positive effect. The T stat value for the CSE variable was 12.023, which was greater than 1.96, or the p-value was less than 0.05, which was 0.000. It can be seen that the CSE variable had a significant effect on the PEU variable. The conclusion was that the CSE variable significantly positively affected the PEU variable. When CSE is increased by 100%, it can increase the PEU variable by 85.3%.

b. Computer Self Efficacy variable had a significant positive effect on Perceived Usefulness variables

The original sample value of the variable was 0.860, which meant that CSE had a positive effect. The T stat value for the CSE variable was 12.582, which was greater than 1.96, or the p-value was less than 0.05, which was 0.000. It can be seen that the CSE variable had a significant effect on the PU variable. The conclusion was that the CSE variable significantly positively affected the PU variable. When the CSE was increased by 100%, it could increase the PU variable by 86.0%.

c. The Perceived Ease of Use variable had a significant positive effect on the Satisfaction variable

The original sample value of the variable was 0.349, and PEU had a positive effect. The T stat value of the PEU variable was 2.249, which was greater than 1.96, or the p-value was less than 0.05, which was 0.015. So, the PEU variable had a significant effect on the SAT variable. The conclusion was that the PEU variable significantly positively affected the SAT variable. When PEU was increased by 100%, it could increase the SAT variable by 34.9%.

d. The variable Perceived Usefulness had a significant positive effect on the variable Satisfaction

The original sample value of the variable was 0.620, which meant that PU had a positive effect. The T stat value for the SAT variable was 4.356, which was

greater than 1.96, or the p-value was less than 0.05, which is 0.000. It can be seen that the PU variable had a significant effect on the SAT variable. The conclusion was that the PU variable significantly positively affected the SAT variable. Where PU was increased by 100%, it could increase the SAT variable by 62.0%.

Table 7. Hypothesis test results

	Original Sample	T Statistics	P Values	Decision
CSE -> PEU	0,853	12,023	**0,000**	Accepted
CSE -> PU	0,860	12,582	**0,000**	Accepted
PEU -> SAT	0,349	2,429	**0,015**	Accepted
PU -> SAT	0,620	4,356	**0,000**	Accepted

R square results

The R square Adjusted result of the PEU variable was 0.723 or 72.3% (Table 8). This result meant that the CSE variable could explain the PEU variable by 72.8% while other variables outside the study explained the remaining 27.7%. The R square adjusted result from the PU variable was 0.737 or 73.7%. These results meant that the CSE variable could explain the PU variable by 73.7%, while other variables outside the study explained the remaining 26.3%. The result of the R square Adjusted from the SAT variable was 0.885 or 88.5%. This result meant that the SAT variable could be explained by the PU and PEU variables by 88.5% while other variables outside the study explained the remaining 11.5%.

Table 8. Results of R square

	R Square Adjusted
PEU	0,723
PU	0,737
SAT	0,885

Student satisfaction is essential to ensure a university's sustainability. When customers are satisfied with a service, that satisfaction will lead to customer loyalty (Pham et al., 2019). When students are satisfied with the service, the link that emerges is student loyalty to the campus they occupy. The success of tertiary institutions in providing service satisfaction to students will change the position of tertiary institutions in the contemporary economy and society. It is because student loyalty has a crucial role in supporting the development of the tertiary institution itself (Ganic et al., 2018). Student satisfaction can increase if the quality of service increases. Service quality is an urgent dimension for creating competitiveness in service marketing (Rosen et al., 2003). Service quality in a tertiary institution has a very important role because positive perceptions of service quality significantly impact student satisfaction. Measurement of student satisfaction is important to do because the measurement of satisfaction can act as organizational management feedback. The results of this feedback are used as evaluation material to improve the services of an organization (Abdi et al., 2019). One of the services in the field of education is the development of learning systems. In the past, the learning system was still required to be face-to-face, and lecture administration was also done manually. As technology continued to develop and was facilitated by increasingly sophisticated technology, the learning system can be done anywhere and anytime using an online learning system. Students

did not have to come to campus to conduct lectures. The online learning system allowed lecturers who were busy outside the city to be still able to teach. So the existence of an online learning system could provide benefits for both students and lecturers. The Covid-19 virus pandemic has also made the online learning system one of the systems used by all educational institutions. Online learning systems could be an alternative solution for education during the pandemic (Yumnah, 2021). Even though the pandemic has ended, the continuity of online learning continues until now. Even online learning is used as alternative learning to support the success of education. Student satisfaction in using online learning platforms can be caused by the perceived benefits of students and also the ease of using them.

Based on the result of Table 8, the CSE variable affected the PEU variable. The results of this study were also following research conducted by (Chen et al., 2020; Islam et al., 2018; Islam & Sheikh, 2020). Students with high efficacy would increase their confidence in using online learning systems to feel the convenience of the online learning system (Chen et al., 2020; Nurjanah, S., Dea, L. F., & Anwar, M. S. 2022). Universities could also provide training to students so that students' self-efficacy in using online learning systems increases (Islam et al., 2018; Islam & Sheikh, 2020). The students stated that the online learning system was easy to access and had started to become skilled in using it. They could also attend the courses they wanted. The benefits they felt that they had the knowledge and ability to use the online learning system, it was easy to download material provided by the lecturer, and it could be accessed from home. Based on Table 7, it can be seen that the CSE variable affected the PU variable. The results of this study were also following research conducted by (Azizan et al., 2022; Chen et al., 2020; Islam et al., 2018; Islam & Sheikh, 2020; Pakpahan & Fitriani, 2020). Students with high self-efficacy would gain high confidence in using computers (Islam & Sheikh, 2020). Students with high confidence in using computers would benefit more from an online learning platform (Chen et al., 2020). The students stated that the online learning system had benefits and had started to become skilled in using it. They could take lessons using online learning platforms, and online learning could meet lecture needs. Confidence in using online learning platforms could help them to complete more assignments than before. Besides that, confidence in using online learning platforms also felt the benefits of being more productive in learning.

The PEU variable affected the SAT variable (Table 7). The results of this study were also research conducted by bawa (Almusharraf & Khahro, 2020; Azizan et al., 2022; Chen et al., 2020; Islam et al., 2018; Islam & Sheikh, 2020; Jiang et al., 2021; Setyowati & Respati, 2017). Students who find it easy to use online learning platforms tend to be able to produce a positive and significant relationship to their satisfaction. Accessing online learning platforms would help make it easier for them to learn and understand courses, and the convenience obtained would make students work faster on their learning assignments.

The PU variable significantly affected the SAT variable (Table 7). The results of this study are under (Al-Azawei et al., 2017; Almusharraf & Khahro, 2020; Alomari et al., 2020; Azizan et al., 2022; Chen et al., 2020; Islam et al., 2018; Islam & Sheikh, 2020; Jiang et al., 2021; Mouakket & Bettayeb, 2015; Najmul Islam & Azad, 2015; Ozturk, 2022; Pavan Kumar, 2021; Rasmi et al., 2020; Setyowati & Respati, 2017). Students felt that online learning platforms could meet their needs related to lectures, make them complete more assignments than before, and increase productivity, so they would be motivated to use the platform. It indicated that the benefits they got from using online learning platforms could increase their satisfaction with attending lectures.

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Based on the explanation above, it can be known that computer self-efficacy can affect perceived usefulness and ease to use. Perceived usefulness and ease of use also affect student satisfaction using online learning systems. Indirectly, computer self-efficacy can affect student satisfaction. However, several other studies do not support the results of this study. Daneji et al. (2019), Ohliati & Abbas (2019), and Tu et al. (2012) explained that perceived usefulness does not affect student satisfaction in online learning systems. Calli et al. (2013), Lee & Mendlinger (2011) showed that perceived ease of use did not affect student satisfaction in online learning systems. The results of this study stated that computer self-efficacy had an indirect effect on student satisfaction. Still, the results of research by Lee & Mendlinger (2011) and Setyowati & Respati (2017) did not support the results of this study. The quality of service of the online learning system can be seen from the perceived ease to use and usefulness. Larasati & Andayani (2019) stated that the quality of service could have increased student satisfaction in using e-learning. Many factors can affect student satisfaction apart from the quality of service, such as the infrastructure of the system (Alsabawy et al., 2016) and the quality of technology (Shah & Attiq, 2016). Huang (2021) explains that perceived ease to use and perceived usefulness indirectly affect satisfaction and motivation for using e-learning as its intervening variables. The evaluation of the use of online learning systems is not only based on user satisfaction. But can be seen in terms of the use and activities provided in the online learning system (Dumford & Miller, 2018).

This research has important implications for ensuring the sustainability of online learning systems at universities. This online learning system lies in student satisfaction. If students are unsatisfied, learning with the online system cannot continue. That is because online learning will only hinder the teaching and learning process. Students will become uninterested in studying, lazy, and may also prefer to be absent to participate in learning. In addition, student satisfaction will make students loyal and enthusiastic about participating in lectures. The online learning system can indeed bridge between students and lecturers if the lecturer cannot attend. So that teaching and learning activities continue to run as they should. Evaluating the online learning system by involving student satisfaction can provide feedback to improve the facilities and services provided by the university. In addition, it can also be used for the development of learning systems.

Online learning requires an easy-to-use system. The ease of using the system can increase student satisfaction. For this reason, UIN Fatmawati Soekarno Bengkulu hopes to create an easy-to-use online learning system with various useful features to improve the learning system. This online learning system requires students' ability to use technology. UIN Fatmawati Soekarno Bengkulu can hold training to help students so that their ability to use technology and the level of student self-efficacy can increase.

The limitations of this study only focus on the relationship between computer self-efficacy, perception of usability, perception of ease of use, and student satisfaction in using online learning systems. Other factors that may affect student satisfaction were not included in the study. In addition, the research is carried out in a specific context, and the results may not be generalizable to other contexts. The number of samples in this study is still limited to the Tarbiyah Faculty of UIN Fatmawati Soekarno Bengkulu. The study did not examine the impact of online learning on academic performance or student learning outcomes, which could be a relevant limitation.

Further research can examine the dimensions of the quality of online learning, such as system quality, design quality, information quality, service quality, and infrastructure quality. In addition, research is also needed on what strategies to improve the online learning system so that it can increase student satisfaction. Computer self-efficacy significantly impacts perceived ease of use and usefulness, so subsequent research can identify effective strategies to improve student self-efficacy using online learning systems and student retention in college.

CONCLUSION

This study showed that computer self-efficacy could influence students' perceived usefulness and ease of using LMS or online learning platforms. The results of this study also show that perceived usefulness and ease of use could influence student satisfaction in attending lectures. The easier it was to use, and the more valuable an LMS was, the more satisfied it would be with the LMS. This research had a limited number of samples and was limited to only one faculty. It is hoped that future research can use more and wider samples, not limited to just one faculty. In addition, further research can bring up additional variables other than perceived usefulness and perceived ease of use which can increase the value of R Square.

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AUTHOR CONTRIBUTION STATEMENT

ENS and SM conceptualized the study; ENS and SM wrote the original draft; AR and AS reviewed, and edited the manuscript

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