Continuance Intention Factor of Online Learning Management System in Case on Faculty of Computer Science at Brawijaya University in Indonesia

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Abstract

The outbreak of the COVID-19 pandemic changed the model of the learning process. Online learning became one of the best solutions for many educational institutions, including the University, especially the Faculty of Computer Science, Brawijaya University. The continuance intention factor for using an online learning management system is important to ensure learning sustainability. To understand students' continuance intention this study proposes self determination model as a research model to find the factors affecting students' continuance intention toward online learning management systems. The proposed model is useful for investigating continuance intention factors. The study finds that intrinsic regulation, external regulation, identified regulation, and introjected regulation significantly positive impact on continuance intention in learning management systems. Finally, this study provides suggestions for the Faculty to improve the continuance intention of the student in using an online learning management system.

*Keywords:*Learning Management System, Self Determination, Continuance Intention

1. Introduction

Early in the Covid-19 pandemic, the disease's spread across many nations is unpredictable, and thus university educational programs should keep going. The covid-19 pandemic changes the model of the learning process from traditional to online. This condition enforces that the universities and all members of them are adaptive to improving the learning process. The students and lecturer are forced to learn online with limited facilities and strongly different learning processes from previous. In this situation, the capability for student and lecturer adaption is necessary with many problems such as experiencing difficulties to manage their resources and engaging in self-regulated learning, different profiles of adaptation emerged: the overwhelmed, the surrenderers, the maintainers, and the adapters[1].

Learning Management Systems, referred to as LMS, is a platform that assists in the delivery of content online for learning purposes[2]**.** LMS is used in both public and private educational institutions to implement learner-centered instruction as well as to facilitate innovation processes. Using an online LMS to achieve higher education institution aims has been shown to enhance the efficacy and efficiency of facilitating student learning.

Support from the university improves the relationship between the perceived impact of COVID-19 on degree completion and the future employment prospects of the students[3]. Faculty of Computer Science, the Brawjaya University implementing an online learning model on the learning process. During the Covid-19 Pandemic, the Brawijaya University, especially the Faculty of Computer science, uses online LMS to improve its learning process named ELING. ELING provides virtual classrooms that focus on quality online learning at the Faculty of Computer Science, Brwaijaya University. Until now, many lecturers and students are continuing to use the LMS for their daily courses.

Nowadays, the study of the human motivation of using technology is an interesting field of study. A study on human motivation investigates how humans feel more motivated to take action in the case of how they think and affect the outcome. Self Determination Theory is one of the methods that study human motivation and personality that represents several viewpoints of factors or variables from internal and external humans[4]**.**

This paper focuses on investigating the contribution of the variables on self determination model to continuance intention for the learning management system during the pandemic covid 19 and after in the case of the Faculty of

Computer Science, Brawijaya University, Malang-Indonesia. The finding of this study suggests a deeper understanding of Self Determination Factor that improves the policy-makers to better improve learning management system services.

2. Literature Review

2.1 Self Determination Theory

Self Determination Theory (SDT) is a theory of motivation that is well established[4]. SDT has two types of motivation such as intrinsic motivation and extrinsic motivation. Intrinsic motivation is related to doing something for its own purpose and extrinsic motivation refers to doing something for an external effect on the activity itself.

Self determination theory consists of four factors such as Intrinsic Regulation, Identified Regulation, Introjected Regulation, and External Regulation. Intrinsic Regulation defines as the activity with satisfaction that is motivated because of external prods, pressures, or rewards. Identified Regulation is defined as acceptance of regulation as being one's own. Introjection regulation remains as controlling people on perform such actions under pressure to avoid guilt or anxiety or to achieve ego enhancements or pride. Introjected regulations are distinguished by the individual's internalization of external regulations. External Regulation is defined as behaviors influenced by external conditions such as compliance, threat, punishment, or external rewards, etc.

2.2 Continuance Intention

Continuance intention is defined as a user's decision to continue using an Information Technology (IT) that they have previously used. Continuance intention is to explain people's decisions and motivation to use information technology in daily activities that help people solve their problems. Continuance intention is determined by user satisfaction and perceived usefulness to continue using the system[5]. User satisfaction related to information quality, system quality, service quality, perceived usefulness, perceived ease of use, and communication quality toward the learning management system[6]. Perceived usefulness is one of the main determinants of faculty members' behavioral intention to use a Learning Management System[7]. In the case of the learning management system in this research, continuance intention is important to improve the learning process. The continuance intention in this study refers to the behavioral motivations and attitudes of students to engage in the online learning management system.

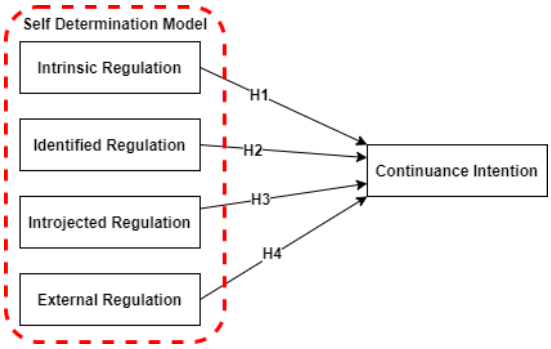

Fig. 1 The Research Hypothesis Model

3. Research Model and Hypothesis

Fig. 1Fig. 1 shows the research hypothesis model in this research. Current experiments focused on self determination models with continuance intention. The research model explains the result of investigating the factors from self determination model that have a strong relationship or impact on continuance intention. Investigating the factor by considering the hypothesis accepted or rejected.

This research drives the following hypotheses and every hypothesis will measure by the questionnaire that should answer by the student.

1. H1: The Intrinsic Regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System.
2. H2: The Identified Regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System.
3. H3: The Introjected Regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System.
4. H4: The External Regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System.

4. Methodology

4.1 Instrument for Data Collection

Collecting the data on this study uses a questionnaire on self determination theory related to the research on self determination and continuance intention [8]. The questionnaire gets the data by requesting the respondents

to answer a set of questions. The questionnaire collected the demography of the respondent such as age, gender, department, and year of study. The next information on the questionnaire is identified the learning process such as online, offline, or hybrid, and the application for online learning.

The respondent of the study are students in the Faculty of Computer Science at the Brawijaya University. Students answer the questionnaire with choose the Likert scale with a maximum score of five (strongly disagree to strongly agree). Intrinsic Regulation, Identified Regulation, Introjected Regulation, External Regulation, and Continuance Intention are among the five variables included in the questionnaire that is related to the hypothesis model.

4.2 Data Collection and Analysis

Data collected focus on the student who has used online learning in the learning process during the Covid-19 Pandemic. The questionnaire distributes online using Google Forms. The number of respondents is 423 which 23 respondents are answered offline learning process. The number of respondents uses on this 400, respondent which answer offline learning process was not included. Data cleaning for the questionnaire deleted the response which not use online learning and the data analysis uses the statistical approach.

The research of self-determination and continuance intention on learning management systems which type of research in the field of social science tries to investigate and explain the social condition by using quantitative methods which use statistical analysis techniques to evaluate data collected with questionnaires.

5. Data Analysis

The demography of respondent on this survey consist of 65.7% male and 34.3% female. Respondents in this study also had an age range from 18 years to 25 years from various study programs at the Faculty of Computer Science, Brawijaya University. This research does not perform the validity and reliability test because the questionnaire that using is standardized for self determination theory. This research uses normality test and homogeneity test to validate the sample of the respondents.

The Kolmogorov-Smirnov test produces test statistics that are used to test for normality[9]. The Kolmogorov-Smirnov test is used to test the null hypothesis that a set of data comes from a Normal distribution. The result of the normality test by using one sample Kolmogorov Smirnov shows that the score of significance is 0.507 that larger than 0.05 which means passed the normality test.

Table 1. Result of Regression Measurement

Hypotheses	Beta	Interpretation
Intrinsic Regulation to Continuance Intention	0.29	Positive Contribution (Hypothesis Accepted)
Identified Regulation to Continuance Intention	0.15	Positive Contribution (Hypothesis Accepted)
Introjected Regulation to Continuance Intention	0.06	Positive Contribution (Hypothesis Accepted)
External Regulation to Continuance Intention	0.26	Positive Contribution (Hypothesis Accepted)

6. Result and Discussion

Table 1 shows the result of statistical analysis using regression approach. By using the research model hypothesis, the research successfully investigated the contribution of self determination factor to continuance intention of the learning management system at the Faculty of Computer Science, Brawijaya University. The result shows that all hypothesis is accepted. The value of the contribution of the factor is related to the beta value. These findings suggested that a deeper understanding of intrinsic regulation, external regulation, identified regulation, and Introjected regulation will help policymakers to better design learning management system services. All percentage impact from self determination with continuance intention is lower than 50% and the interpretation such as follows.

H1: The intrinsic regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System. This hypothesis is accepted with 29% of the impact on continuance intention. To improve the percentage of intrinsic regulation the organization needs to focus to improve the service learning management system aspects such as user pleasure, satisfaction, and personal interest to continue using it.

H2: The identified regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System. This hypothesis is accepted with 15% of the impact on continuance intention. To improve the percentage of identified regulation the organization needs to ensure that the service learning management system improve the individual psychological feelings for acknowledgment and being owned to continue using it.

H3: The Introjected regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System. This hypothesis is accepted with 6% of the impact on continuance intention. To improve the percentage of introjected regulation the organization needs to focus on the service learning management system aspects such as user confidence, feeling of worth,

H4: The external regulation of the Learning Management System has a positive influence on user continuance intention of using the Learning Management System. This hypothesis is accepted with 26% of the impact on continuance intention. To improve the percentage of external regulation the organization needs to collaborate with external entities such as Student Organizations to inform the benefit of continue using the learning management system.

7. Conclusion

This research confirms the proposed self determination model successfully investigated the contribution of self determination factors to the continuance intention of the learning management system at the Faculty of Computer Science, Brawijaya University. The result shows that all hypothesis is accepted. All percentage impact from self determination factor to continuance intention is still lower than 50% which means that need to improve the service to increase the motivation of continuance intention on learning management systems.

Future research may implement and evaluate the suggestion for each self determination factor to know the improvement results.

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