A Technology Acceptance Case of Indonesian Senior School Teachers: Effect of Facilitating Learning Environment and Learning Through Experimentation

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A Technology Acceptance Case of Indonesian Senior School Teachers:
Effect of Facilitating Learning Environment and Learning Through Experimentation

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ABSTRACT

Based on the immense importance of technology acceptance among the teachers and its vital role in education, the current study aims to bridge the theoretical gap by investigating the association between the school teachers' perception of facilitation learning environment and learning through experimentation among senior school teachers in Indonesia. Data was collected from the senior school teachers of Indonesia using a cross-sectional field survey. The final dataset of 163 respondents was then analyzed using SmartPls3 to test the measurement and structural models. Results revealed that the external variables like facilitation learning environment and learning through experimentation were positively associated with the perceived usefulness, perceived ease of use, and actual use of the educational technology among the senior school teachers. This study provided insights that the technology supportive learning through experimentation gives a feeling of comfort and ease to teachers, further leading towards the actual usage of modern technology in classroom settings.

KEYWORDS

Attitude Towards Educational Technology, Facilitating Learning Environment, Learning Through Experimentation, Senior School Teachers, Technology Acceptance Model (TAM)

INTRODUCTION

Technology is an integral part of bringing change in any organization and also at the societal level. Introducing a technological change in an organization and then maintaining it effectively has always been a great challenge for the decision-makers, especially change practitioners. In today's world, usage and integration of new technology has enormous prominence. In the current educational system, creating knowledge through new technology is vital for both teachers and students (Nedal & Alcoriza, 2018; Vincent-Lancrin et al., 2019). Thus, schools, especially teachers, need to use the technology in their teaching practices for constructive learning and better transformation of the knowledge (Admiraal et al., 2017).

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Teachers' motivation to use technology in their classrooms is vital in creating a learning environment (Shute & Rahimi, 2017). Although the research on use of technology by teachers is of Although the research on use of technology by teachers is of immense importance Although the research on use of technology by teachers is of immense importance Although the research on use of technology by teachers is of immense importance Although the research on use of technology by teachers is of immense importance in E-Learning and education research literature, it still lacks in determining factors that influence the actual usage of technology in classroom settings. Past research has resulted in various contextual (e.g., culture) and individual characteristics (e.g. personality traits) in determining the human behavioral process and response to technology. There are several factors that may have an impact on a teachers' technology integration (Baturay, Gökçearslan, & Ke, 2017). Earlier studies have identified various factors playing a role in the process of embracing technology by teachers using the Technology Acceptance Model (Davis, 1989).

The Technology Acceptance Model (TAM) model has been used by many researchers to explain the technology acceptance process ranging from external factors to actual technology adoption (Li et al., 2019). This model consists of distinct variables that explain the whole process of technology acceptance, including perceived usefulness, perceived ease of use, attitude towards use, intention to use, and actual usage. This model has been useful due to its utilization by many researchers in a different context (Ursavaş, Yalçın, & Bakır, 2019), especially in understanding teachers' acquisition of technology. The integration of technology in the educational system is very much needed to enhance the effectiveness of teaching and learning (Siefert et al., 2019); however various challenges are also associated with this phenomenon (Cloete, 2017).

Past studies in the educational field determined various tools and factors helping or obstructing the teaching and learning process such as eLearning, technology integration, computer-assisted education, etc. (Baturay et al., 2017; El Alfy, Gómez, & Ivanov, 2017; Talmo & Stoica, 2017; Wasike, 2017). But still, there is a shortage of research in the educational area that are the vital factors that help teachers in the actual adoption of technology. Likewise, a recent study Perienen (2020) recommended future researchers to examine the factors that may influence technology acceptance, such as facilitation learning climate and experimental learning through technology. None of the previous studies has explored these two specific external factors vital for schools, school teachers, and their link with technology acceptance. Therefore, this study aims to fill the gap by determining and responding to future research recommendations by examining the two vital factors that may highly impact the teachers in the integration of technology in their classrooms. The research aims to help educational practitioners understand the whole technology acceptance process by extending the TAM model. This extension is intended to bridge the gap between these two external factors, their use in education research and their significance in e-learning and technology acceptance literature.

The current study is going to utilize the facilitation learning climate and learning through experimentation' as two external factors of the technology acceptance model which will assist in identifying that how a teacher is motivated towards the actual usage of technology from climate and experiences effect to developing the attitude and then finally on the way to the actual adoption of technology. The facilitation learning climate is, in fact, a dimension of the learning climate that refers to the perception of organizational climate, which facilitates the learning process. While learning through experimentation is the extent to which an individual acquires new knowledge or uses existing skills and experience with the help of trying new techniques and methods (Nikolova et al., 2014a). Thus, the current study uses the Technology Acceptance Model (TAM) that will explain the teachers' attitude towards the usage of technology in the classrooms. Based on the above discussion, the current study is going to answer the following questions:

1. How can the TAM model be extended using external factors such as facilitation learning climate and learning through experimentation?

2. How do facilitation learning climate and learning through experimentation factors help teachers in the integration of technology?
3. How facilitation learning climate and learning through experimentation as two external factors, TAM and Indonesian school settings are integrated together to result in enhanced level of teacher's motivation to perceived and actual usage of technology for better learning outcomes.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Facilitation Learning Climate and Actual Use of the Technology

School climate can also refer to the school environment, which is the extent to which everyone performs in the school, including teachers and students (Johnson & Stevens, 2006). It is about the perceptions held by students, staff, teachers, and other members of the school regarding social interactions (Rudasill et al., 2017). Whereas the facilitation learning climate is the climate that facilitates the teachers in terms of providing all the required facilities which help them adapt latest technologies (Nikolova et al., 2014a). Previous studies identified how school climate can impact on various outcomes. For example, a study by Jia et al. (2016) accurately predicted the dropout rates due to a authoritative school climate. Another study by Aldridge et al. (2018), analyzed the effect of school climate on students' victimization by bullying. Whereas, the current study is specifically conducted to find out the association between the facilitation learning climate and actual use of the technology among the senior school teachers based on the facilities provided to them to utilize the modern technologies while teaching. Therefore, we posit that;

$H1a_0$: *There is no a positive association between facilitation learning environment and actual use of educational technology among senior school teachers.*

$H1a_A$: *There is a positive association between facilitation learning environment and actual use of educational technology among senior school teachers.*

Facilitation Learning Climate and Perceived Usefulness

When describing or operationalizing the conditions that specify organizational climate, scholars often refer to "support of", "facilitation of", and "opportunities for" certain practices (Kyndt et al., 2009). In the era of technology, teachers should also recognize the benefit of technology to get a competitive edge as today, almost every organization is improving its performance with the help of technology (Akcil et al., 2017; Sawatsuk et al., 2018). In a study, Hansen, Saridakis, and Benson (2018) identified that perceived risk and perceived trust are factors that can affect the perceived ease of use of the technology. By extending the TAM model, Cui et al. (2018) explained that some social factors affect perceived ease of use, which impact the acceptance of the technology. Whereas, in the current study, we posit that when the facilitating learning climate provides necessary resources to incorporate the technology in classrooms such as appliances and training, the teachers' perception of easy to use the technology becomes stronger. Therefore, it is hypothesized that;

$H1b_0$: *There is no a positive association between the facilitation learning climate and perceived usefulness of educational technology among senior school teachers*

$H1b_A$: *There is a positive association between the facilitation learning climate and perceived usefulness of educational technology among senior school teachers*

Facilitation Learning Climate and Perceived Ease of Use

According to Marsick and Watkins (2003), organizational support for professional development is essential for employees' actual learning. According Perienen (2020) and Nikolova et al. (2014b), when

organizations provide appealing educational facilities, resources to develop competencies i.e., training to use the modern technologies, the actual usage of the technology by the employees increases. In a study, Palumbo and Manna (2019), found that the school learning climate positively affects academic achievement. Any organization's facilitation learning climate may produce positive outcomes such as a creative work approach, technology acceptance, and performance, etc. (Jaiswal & Dhar, 2015; Sadeghi et al., 2018). In line with the previous studies, we hypothesize that.

H1c$_0$: *There is no a positive association between the facilitation learning climate and perceived ease of use of educational technology among senior school teachers.*

H1c$_A$: *There is a positive association between the facilitation learning climate and perceived* ease of use of educational technology among senior school teachers.

Learning Through Experimentation and Actual Use of the Technology

Learning through experimentation is defined by Nikolova et al. (2014a) as the act of acquiring new or expanding existing knowledge, skills, abilities, and other characteristics through experimenting with new working methods and practices. The literature suggests that different experiments can motivate or restrain someone from doing some action (Bazelais & Doleck, 2018). Furner and Kumar (2007) stated that when mathematics teachers are given the ease of choice to utilize different methodologies/ techniques to teach students, they are more apt to use modern teaching techniques in classrooms. Whereas, the current study posits that when teachers are given liberty by the school authorities to apply different work methods, and find new solutions to different problems and assigned tasks, than they perceive the use of technology easier to be implemented and further use the technology. Therefore, it is hypothesized that;

H2a$_0$: *There is no a positive association between learning climate through experimentation and actual use of educational technology among senior school teachers*

H2a$_A$: *There is a positive association between learning climate through experimentation and actual use of educational technology among senior school teachers*

Learning Through Experimentation and Perceived Usefulness

Perceived usefulness refers to the teachers' belief that performance can be improved by using technology (Siyam, 2019). The use of technology adds value to the effectiveness of the task itself (Aydin, 2019). As discussed in the earlier sections of this research learning through experimentation is an external factor that may be associated with the usage of technology. This learning through experimentation also gives the perception of blimey and the feelings that by using technology, one can improve his/her performance. The TAM model shows that perceived usefulness is the indication that a person would be using technology in the future. As the person's motivation or his intention to use technology are the outcomes of his perceived usefulness. Before developing attitudes, which refers to a sense of goodness and benefit towards technology usage (Admiraal et al., 2017), the TAM model signifies the importance of how learning through experimentation helps the person towards perceived usefulness. By keeping in mind the above definitions, we can describe that when an individual considers that his or her organization providing them the required resources and allowing them to use technology in freedom, then it leads to the person's thoughts about technology usefulness (Alshammari, Ali, & Rosli, 2016). Hence, the following hypothesis is suggested:

H2b$_0$: *There is no a positive association between learning climate through experimentation and perceived usefulness of educational technology among senior school teachers*

$H2b_A$: *There is a positive association between learning climate through experimentation and perceived usefulness of educational technology among senior school teachers*

Learning Through Experimentation and Perceived Ease of Use

Although some past studies (Elkaseh, Wong, & Fung, 2016; Islahi, 2019; Nordlöf, Hallström, & Höst, 2019; Wang et al., 2017) from the perspective of school teachers concluded that due to various reasons, perception of easy to use the latest technology was developed among the teachers. In a study, Alsabawy, Cater-Steel, and Soar (2016) showed that Information Technology (IT) infrastructure, system quality, and information quality affect the perceived ease of use. Qashou (2020) suggested that using a new system or introducing innovation is not possible and may not be effective if it is not compatible with the values, beliefs, and norms of that organization. In another researcher, Palumbo and Manna (2019) discovered factors affecting perceived ease of use i.e., experience, subjective norms, enjoyment, computer anxiety, self-efficacy, etc. Whereas, in the current study based on the review of the literature and understanding of the fact that when teachers are provided with the modern technologies and are allowed to use them in best possible manners with their own choice as well as they are provided with the facilities required to use those technologies. It leads towards the perception of more easy to use modern technologies. Therefore, we posit that;

$H4c_0$: *There is no a positive association between learning through experimentation and perceived ease of use of educational technology among senior school teachers*

$H4c_A$: *There is a positive association between learning through experimentation and perceived ease of use of educational technology among senior school teachers*

Theoretical Framework of the Study

A theoretical framework of study shown in figure 1 which derived from the previously formulated hypothesis.

RESEARCH METHODOLOGY

To empirically examine the hypothesized links, a quantitative cross-sectional survey was conducted among the senior school teachers of the Banjarmasin city situated in South Kalimantan Province in Indonesia. A convenience random sampling technique was used by researchers for data collection. Different schools in the city were identified and approached by the researchers. After taking consent from the school authorities' and teachers' voluntary willingness to participate in the survey, they were explained about the purpose of the survey and questionnaires were distributed among the teachers who were requested to complete the survey; also, anonymity was ensured to them. In total, 230 questionnaires were distributed and collected among the senior school teachers in three months' time frame. Out of 230 questionnaires, 189 questionnaires were filled out. After a careful screening of the received questionnaires, those with unengaged responses and missing values (i.e., 26) were excluded from further analysis. Therefore, in total 163 questionnaires were included in the current study analysis, generating a final response rate of 70.86%.

Measures of The Study

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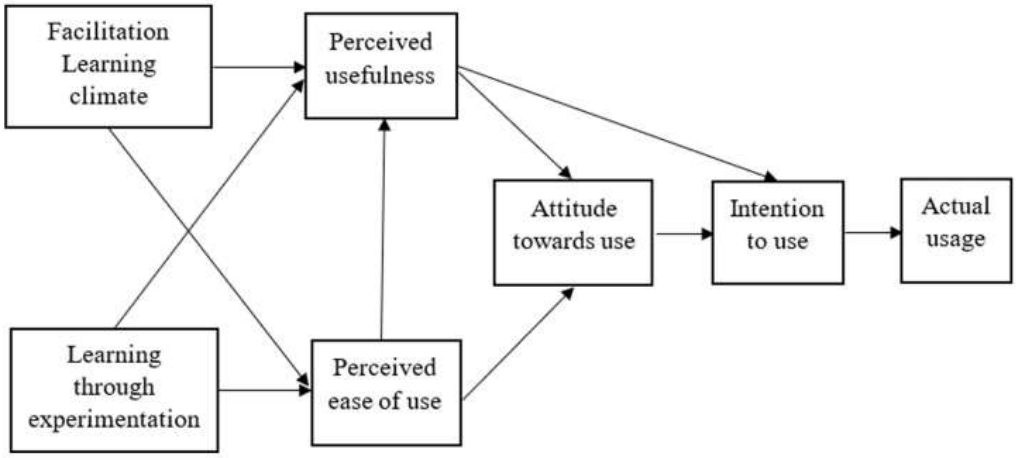
The questionnaire used in this study was composed of 23 items. Participants were asked to indicate their level of agreement (for attitudes) or the frequency (for actual usage) on a 5-point Likert scale. Actual use was measured with a 3-items adapted from Moon and Kim (2001). Behavioral intentions to use was measured using a 3-items adopted from Mathieson, Peacock, and Chin (2001). Whereas, attitude towards usage was measured with a 3-items adopted from Masrom (2007) and Alharbi and Drew (2014). Perceived usefulness was measured by a 6-items adopted from Davis (1989); perceived

Figure 1. Theoretical framework of the study



ease of use was measured with a 6-items adopted from Alharbi and Drew (2014). External variable, facilitation learning climate was measured by using a 3- item adopted from Nikolova et al. (2014b). Finally, learning through experimentation was measured with a 3-items adopted from Nikolova et al. (2014a).

Demographic Characteristics of The Respondents

The sample characteristics depict that 49.7% of respondents were female, and 51.3% were male. The majority of the respondents (59.8%) had master's degrees. 31.9% were having either MS/Phill degrees, and 9.3% were graduates. 20% of respondents were 20-30 years old. 45.2% of respondents were 31-40 years old, whereas 18.2% and 16.6% teachers were 41-50 years of age, respectively. As far as the experience is concerned, 25.6% of teachers/respondents had an experience of 1-5 years, 36.2% and 5-10, 23.3% teachers had an experience of 10-15 years respectively, and 14.9% were having an experience of more than 15 years.

DATA ANALYSIS AND RESULTS

This study used SPSS version 25 to perform descriptive statistics, correlation analysis, and one-way ANOVA to find out the information about control variables. ANOVA results revealed that the experience of the respondents had a significant and positive effect on the dependent variable therefore, the experience was controlled during further analysis to avoid the biases in the results. It reflects that more experienced people are more apt towards adopting new technologies when they are provided with a climate with more facilities within the school vicinity. In addition, SmartPLS 3 was used to access the measurement and structural model. A two-stage analytical procedure was adopted to validate the instruments. The measurement model was tested first, followed by the testing of hypothesized associations via structural model (Mansoor, Fatima, & Ahmed, 2020).

Assessing The Measurement Model

SmartPLS3 was used to conduct a confirmatory factor analysis to assess the psychometric properties of the measures. To check the reliability of the scale, "composite reliability (CR)" and "Cronbach's α" were calculated. Table 1 depicts the reliability of all the reflective measures based on values of Cronbach's α (above 0.70) and CR. In addition, measures' "convergent and discriminant validity"

was assessed (Mansoor, Awan, & Syed, 2020). As "factor loadings" of all indicator variables were => 0.60 with significant loading of each item ($p < 0.001$) onto its underlying variable and "average variance extracted" AVE of latent variables was above 0.50 for all study constructs, therefore, "convergent validity "was established.

Discriminant Validity

Henseler, Ringle, and Sarstedt (2015) suggested that Heterotrait-Monotrait (HTMT) ratio is a more accurate measure of discriminant validity while using smart PLS. The value of HTMT ratio should be less than 0.9, as depicted in Table 2 that all values were less than 0.9 for the entire model.

Assessing The Structural Model

Hypothesized results were confirmed through ß-coefficient, *t*-value, and *p*-value. The overall model fitness or change in the model was also measured by a Coefficient of Determination (R^2). The results of the R^2 show that there was a 63.1% change in teachers' perception of the usefulness of the technology due to external factors i.e., facilitation learning climate and learning through experimentation. Whereas R^2 results also revealed there was a 33.2% change in teachers' perception of ease of use of the technology due to external factors i.e., facilitating learning climate and learning through experimentation. These values of R^2 represent a good fit for the model with all hypothesized associations. In Table 3 the results presented show facilitation learning climate is positively and significantly related to actual technology usage (ß = .384***, t=6.913) perceived usefulness (ß = .500***, t=13.071) and perceived ease of use (ß = .493***, t=12.503) respectively. Likewise, results further depicted that learning through experimentation is positively and significantly related to actual technology usage (ß = .210***, t=4.993) perceived usefulness (ß = .247***, t=5.959) and perceived ease of use (ß = .144**, t=3.706) respectively. Therefore, all hypothesizes of the study i.e., $H1a_A$, $H1b_A$, $H1c_A$, $H2a_A$, $H2b_A$, $H2c_A$, are fully supported.

Agreement With Original TAM Constructs

Additional paths of the original TAM constructs also revealed the positive and significant associations. Additionally, the impact of perceived usefulness, perceived ease of use, and attitudes towards usage on actual usage were also significant and positive. Table 4 lists the results of the associations among internal variables.

It is clear from the results that all the findings are in line with the results of Davis (1989) regarding the originally proposed TAM model. The current study depicts that perceived usefulness and perceived ease of use were both determinants of attitudes towards using technology, with a stronger impact of perceived usefulness. In addition, perceived ease of use impacted perceived usefulness. Figure 3 summarizes the results of all hypotheses links as well as the results of the original TAM model.

DISCUSSION, IMPLICATIONS, LIMITATIONS, AND FUTURE DIRECTIONS

Findings of The Study

The current study examined the relationship among school teachers' perception of facilitation learning climate and learning through experimentation as external factors of the TAM model and their association with technological acceptance. At the same time, several previous studies explored different factors affecting the technology acceptance in reference to teachers. This study bridged the gap by discovering some factors which can externally impact on the TAM model in the context of teachers. The study results provided insights that facilitation learning climate and learning through experimentation are positively associated with the actual use of the technology. The results also revealed that facilitation learning climate and learning through experimentation are positively associated with perceived usefulness and perceived ease of use of technology in consistent with

Table 1. Factor loadings, reliability, and validity

Constructs	Factor Loadings							AVE	CR	Cronbach's α
	1	2	3	4	5	6	7			
Actual Use								0.676	0.862	0.796
AU1	0.829									
AU2	0.819									
AU3	0.818									
Intentions to use										
ITU1		0.788						0.553	0.786	0.787
ITU2		0.792								
ITU3		0.640								
Attitude Towards Usage								0.516	0.761	0.726
ATU1			0.711							
ATU2			0.673							
ATU3			0.768							
Perceived Ease of use								0.515	0.809	0.765
PEOU1				0.732						
PEOU2				0.737						
PEOU3				0.674						
PEOU4				0.726						
Perceived Usefulness								0.641	0.877	0.812
PU1					0.809					
PU2					0.809					
PU3					0.837					
PU4					0.744					
Facilitation Learning Climate								0.625	0.833	0.782
FLC1						0.724				
FLC2						0.825				
FLC3						0.819				
Learning Through Experimentation								0.541	0.778	0.790
LTE1							0.660			
LTE2							0.719			
L							0.818			

"Note: CR, composite reliability; AVE, average variance extracted"; AU= Actual Use; ITU= Intentions to Use; ATU= Attitude Towards Usage; PEOU= Perceived Ease of Use; PU= Perceived Usefulness; FLC= Facilitation Learning Climate; LTE= Learning Through Experimentation

Table 2. Heterotrait-Monotrait Ratio

Constructs	Mean	STD	1	2	3	4	5	6	7
AU	3.70	0.78	**0.822**						
ITU	3.88	0.61	0.561	**0.743**					
ATU	4.01	0.59	0.556	0.418	**0.718**				
PEOU	3.90	0.78	0.513	0.403	0.511	**0.717**			
PU	4.07	0.54	0.395	0.343	0.307	0.329	**0.800**		
FLC	4.31	0.33	0.623	0.547	0.418	0.400	0.301	**0.790**	
LTE	4.26	0.30	0.572	0.614	0.542	0.328	0.313	0.432	**0.735**

Note: The square roots of AVEs of the constructs are shown in bold in diagonal. *AU= Actual Use; ITU= Intentions to Use; ATU= Attitude Towards Usage; PEOU= Perceived Ease of Use; PU= Perceived Usefulness; FLC= Facilitation Learning Climate; LTE= Learning Through Experimentation*

Figure 2. Full Measurement Model

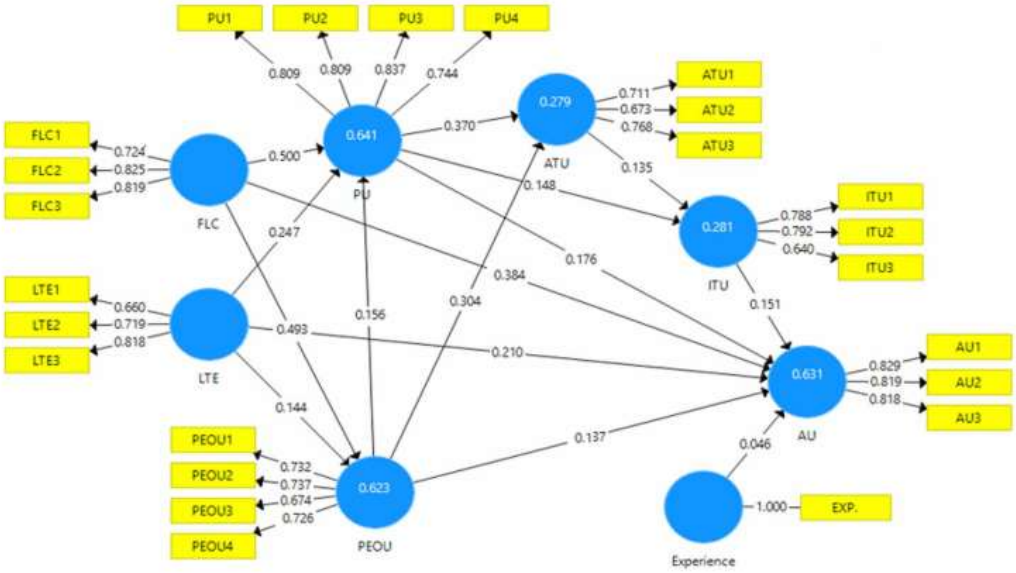


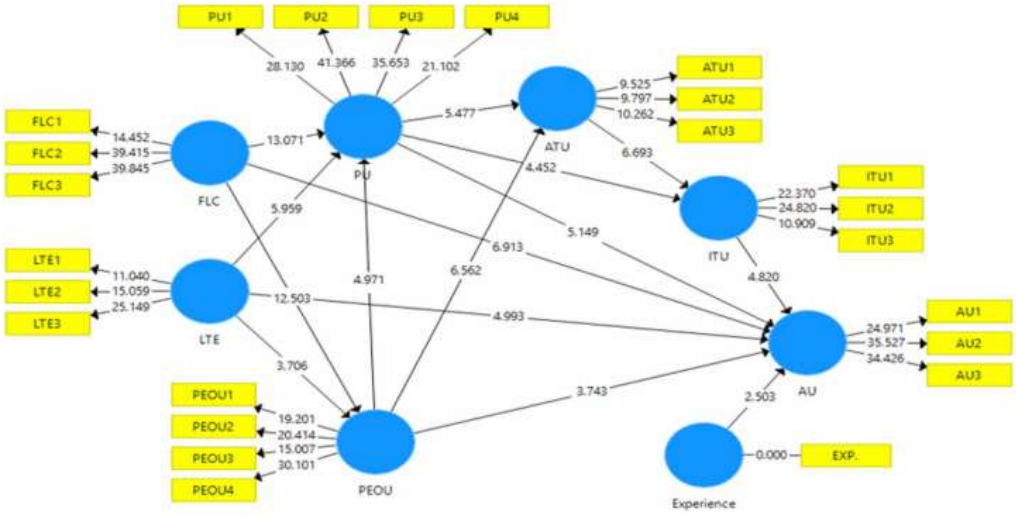
Table 3. Summary Statistics of Regression Analysis

Hypothesized relationships		Std. ß	t-value	*p* value	Findings
H1a$_A$	FLC →AU	0.384	6.913	≤ 0.001	Supported
H1b$_A$	FLC →PU	0.500	13.071	≤ 0.001	Supported
H1c$_A$	FLC →PEOU	0.493	12.503	≤ 0.001	Supported
H2a$_A$	LTE → AU	0.210	4.993	≤ 0.001	Supported
H2b$_A$	LTE → PU	0.247	5.959	≤ 0.001	Supported
H2c$_A$	LTE → PEOU	0.144	3.706	≤ 0.01	Supported

Table 4. Additional Regression Analysis Results

Dependent Variable	Independent Variable	Std. ß	t-value	*p* value
Actual Use	Perceived Usefulness	0.176	5.149	≤ 0.001
Actual Use	Perceived Ease of Use	0.137	3.743	≤ 0.01
Attitude Towards Usage	Perceived Usefulness	0.370	5.477	≤ 0.001
Attitude Towards Usage	Perceived Ease of Use	0.304	6.562	≤ 0.001
Perceived Usefulness	Perceived Ease of Use	0.156	4.971	≤ 0.001
Intentions to Use	Perceived Usefulness	0.148	4.452	≤ 0.001
Intentions to Use	Attitude Towards Usage	0.135	6.693	≤ 0.001
Actual Use	Intentions to Use	0.151	4.820	≤ 0.001

Figure 3. Full Structural Model



other researcher (Jaiswal & Dhar, 2015; Özden, 2007; Yamamori, 2019). Moreover, distinct studies highlighted the importance of technology (Cloete, 2017; Siefert et al., 2019; Stover & Yearta, 2017; Dalle et al., 2020; Dalle et al., 2021), extending the TAM model. In line with these existing studies, we contributed to the literature which focused on acceptance of technology by teachers. This study suggests that the schools' authorities should provide a facilitation learning climate to their teachers due to which they feel comfortable in employing their decisions in the school. For example, teachers can utilize technology in the classroom while teaching their students, but this is possible when they have perceptions of support in their surroundings. Therefore, finally, this study suggests that this support can be in the form of that facilitation learning climate and learning through experimentation. Overall, all of hypotheses are supported.

Theoretical and Practical Implications

With the increasing importance of technology everywhere, educational institutes are also moving towards the usage of technology during the teaching and learning process. Thus, the demand for

using technology is increased especially from teachers at the senior level school. As the teachers are an influencer for their students, so they need to make teaching decisions accordingly. Although the use of technology got significance by teachers, various challenges are also attached to its efficacious implementation. In response to various technological challenges, teachers need to resolve these issues by knowing the factors which may help them in the successful technology integration process. Thus, this study contributes to educational technology literature by helping school decision-makers, especially principals, in identifying the factors through which they can facilitate teachers in the effective usage of technology. For example, they can provide such an environment of support and facilitation in which teachers can use technology more effectively. Moreover, it also helps teachers in identifying factors especially learning through experimentation, which may affect the actual usage of technology by teachers. Finally, this study also contributes to extending the TAM model by adding two factors in the model. As per the authors' knowledge, none of the previous studies has investigated this unique relationship with these specific external factors and technology acceptance. Additionally, examining this novel relationship in the Indonesian cultural context is also a unique contribution to the body of knowledge. In summary, this study identifies the factors, i.e., learning through facilitation and learning through experimentation, which may affect the senior school teachers' acceptance of the technology.

Recommendations

The current study provides several suggestions for school management and teachers. This study recommends that principals/authorities should support their teachers in each possible way by providing them, the required resources. A school that provides a facilitation learning climate enhances the perceived usefulness and perceived ease of use for using technology among the teachers. It further suggests that learning through experimentation, including collective norms, values, and rules is an important external factor that can play a significant role in giving teachers a positive perception about their organization. Thus, it is necessary for bringing positive changes in the schools, and also the school's decision-makers should involve teachers' suggestions while making strategic decisions.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Like most studies, the current research also has some limitations which can be avoided by future researchers. Future researchers should try to collect more data to get précised and more generalizable results. Further, this study utilized the cross-sectional design, which can be the limitation of the study. Future researchers should collect time wave data by using a longitudinal design. This study presented two external factors (School's facilitating learning climate and learning through experimentation), which can be helpful for future scholars in exploring other factors that may impact the technology acceptance among the employees of different organizations. These findings may also be validated and contrasted in other regions and parts of the world for cultural differences in study settings. Future studies should find some individual factors to extend the TAM model such as personality traits, knowledge, demographics, etc. More studies should be conducted in the context of school teachers, which can explain the process of how technology is embraced at the school level. An experimental study with facilitating learning climate and learning through experimental groups along with control groups, can further shed light on the significance and contribution of these two important external factors with the Technology Acceptance Model and E-learning research.

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Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this paper

Data Availability

Access to data is restricted due to commercial confidentiality.

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