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The Elementary School Teachers Adoption of Learning Management System: A UTAUT Model Analysis

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ABSTRACT

This study investigates how primary school teachers are integrating Learning Management Systems (LMS) using the Unified Theory of Acceptance and Use of Technology (UTAUT) approach. A four-point Likert scale questionnaire including characteristics like Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, and Habit was used in this study, which involved 426 instructors from 84 public and private primary schools. Google Forms was used to collect the data, and structural equation modeling (SEM) was used to analyze it. The results of the study show that these factors have a strong correlation with teachers' behavioral intentions and user behavior with reference to LMS, demonstrating excellent reliability and validity. These results align with the UTAUT model, contributing to the understanding of factors influencing LMS adoption among elementary school teachers. The implications suggest that policymakers and practitioners can utilise these findings to design more effective strategies for enhancing technology adoption in future educational contexts.

1. INTRODUCTION

In order to improve teaching and learning, learning management systems, or LMS, are quickly becoming a necessary tool in contemporary education. Technology integration in primary schools has the potential to improve content delivery [1, 2], promote interactive learning [3, 4], and streamline administrative procedures. However, the successful adoption of an LMS by elementary school teachers presents complex challenges that require careful examination.

The primary challenge is figuring out the precise variables that affect elementary school teachers' adoption of LMS [4]. As frontline educators, their attitudes, perceptions, and technological readiness significantly impact the system's effective implementation [5]. Additionally, the unique characteristics of elementary education contexts, including diverse teaching methodologies and the need for age-appropriate technology integration, demand focused investigation.

Despite the increasing deployment of LMS in various educational settings, previous research has often lacked a comprehensive exploration of the specific considerations relevant to elementary school teachers [6, 7]. Understanding the factors influencing their adoption behavior is important for designing interventions and strategies that fit their unique needs and challenges.

Previous studies have explored technology adoption in educational contexts [8], but detailed analyses specific to elementary school teachers and their LMS adoption are still very limited. Some studies focus on higher education or general educational settings [9], which may ignore critical nuances that characterize elementary school settings. Furthermore, little study has been done using broad theoretical frameworks like the Theoretical Model of Acceptance and Use of Technology (UTAUT) [10] in examining LMS adoption among elementary school teachers [11, 12].

This study is significant for a number of reasons. Using the UTAUT model and concentrating on elementary school teachers, this study firstly closes a large gap in the literature by offering a more thorough explanation of the factors driving their adoption of LMS. It is envisaged that the results of this study would furnish educational policymakers, administrators, and technology developers with practical perspectives that will direct the creation of resources and interventions that cater to the distinct needs of basic education.

This study's primary goal is to use the UTAUT model to provide a thorough analysis of the variables that affect elementary school teachers' adoption of LMS. Specifically, the study aims to identify key determinants, assess their impact, and provide recommendations to enhance the successful integration of LMS into elementary education environments. Through this goal, this research seeks to provide valuable knowledge that can guide educational practice, policy development, and future research initiatives in technology adoption in elementary education.

2. THEORETICAL FRAMEWORK

2.1 Learning management systems (LMS)

Learning Management Systems (LMS) make learning easier in a variety of settings. Since the first open-source LMS, Moodle, was created in 2000, allowing users to select the information they wish to export or keep, individualized learning has been made possible [13]. According to Foreman [14], Multi-user software, or LMS, is typically accessed using a web browser. Its main purpose is to assist enterprises in the administration of blended learning, self-paced courses, and training events. With the help of automation offered by LMS, time-consuming and costly manual labor may be replaced, and content, data, and learners can be organized. Additionally, it logs and reports on training exercises and outcomes. Organizations are turning to platforms like LMS, which assist instructors in providing students with activities and learning materials while monitoring their progress and involvement through data and assessment systems as technology becomes more prevalent in classrooms [15].

LMS has experienced significant development since the 1990s. One of the first LMS, FirstClass, was developed by Soft Arc in 1990 and used by the UK Open University for online learning. Open source LMS, such as Moodle, has allowed adaptation and modification by anyone since its introduction in 2002 [16]. This provides excellent flexibility in learning approaches, including distance education, flipped learning, and other e-learning projects.

Cloud-based technologies have powered LMS since 2008, providing benefits such as lower initial costs, enhanced data security, and better accessibility [17]. LMS may now be accessed from a variety of devices, including computers, tablets, mobile phones, and internet-connected devices, thanks to cloud-based infrastructure. Administrators, instructors, and students using the LMS may all conveniently access their accounts from any location in this situation.

Modern LMS is designed for flexibility in the 21st century [14]. They enable the sharing of content in various formats and provide teachers with quick insight into student progress to meet individual student needs. With features like announcements, discussion boards, and multimedia feedback, technology may change how engaged students are in the classroom.

One of the difficulties in using LMS is that students may have a bad experience with it because of technological issues [18]. These obstacles can be surmounted, nevertheless, with the right technical assistance and hands-on training [19]. Additionally, LMS can facilitate a variety of learning methods, including remote learning and blended learning, which let instruction be tailored to each student's requirements and interests [20].

2.2 Teacher acceptance and usage of LMS

Acceptance and use of LMS have become increasingly important as time goes by. In many elementary and secondary schools, teachers and students are increasingly engaged with the use of LMS in the learning process [21]. In response to these trends, schools are adopting new LMS and strategies to enhance their learning environments [22]. When schools integrate LMS into learning, seven main categories referring to the UTAUT2 Model put forward by Venkatesh et al. [10] must be considered: performance expectancy, effort expectancy, social influencing, facilitating conditions, hedonic motivation, price values, and habit. Visually, the UTAUT2 model can be seen in Figure 1.

A major factor in the acceptance and application of contemporary technology is the attitudes and opinions of educators toward the usage of LMS. Perceptions about the LMS's usability and convenience of use, as well as views about its worth and efficacy, have an impact on people's attitudes [23]. Teachers are more willing to employ technology if they believe it is user-friendly and enhances their instruction [23]. Conversely, if they find the LMS difficult or useless, they may be reluctant to adopt it [24]. Thus, in order to offer the proper assistance, school administrators must comprehend instructors' attitudes and ideas on the LMS.

LMS use training and professional development are also critical in supporting teacher acceptance and use of the LMS. Teachers may become more proficient and confident in their ability to use LMS in the classroom with the right training [25]. This training should also be designed to help teachers understand the benefits and efficient use of the LMS [23, 26]. With adequate professional development, teachers can more easily overcome the fears and challenges that may arise in adopting an LMS [27].

A crucial element in the effective deployment of LMS in schools is leadership support. When school leaders have a clear vision of the importance of LMS in education and provide active support to teachers, they create an environment conducive to LMS adoption by all teachers [28]. This support can take the form of building teacher capacity, developing strategic plans, and providing the necessary motivation and encouragement [29].

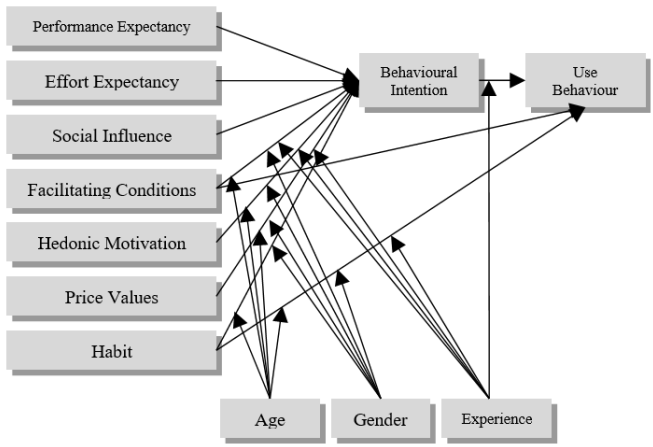

Figure 1. UTAUT2 model analysis

Teachers' adoption and usage of LMS are significantly influenced by social influence as well. Teachers are more willing to attempt implementing technology themselves if they observe their colleagues doing so successfully [23, 26]. Therefore, collaboration between teachers and learning from best practices is very important in increasing technology acceptance [30, 31].

Subjective norms and behavioral intentions may also influence teachers' use of an LMS. If teachers feel that the use of technology is supported by the norms in their environment and they have a strong intention to use it, they are more likely to adopt the LMS [31].

Using an LMS is not only about its performance and

functionality but also about a positive experience that meets the emotional needs of users. Therefore, hedonic motivation also needs to be analyzed to explore the intrinsic aspects and personal enjoyment of teachers in using LMS, such as joy and aesthetic satisfaction [32]. If teachers expect an emotionally satisfying and engaging experience, the likelihood of adopting an LMS will increase [33].

Price value is a reflection of how teachers weigh the perceived advantages of the learning management system against the expenses associated with using it [34]. The likelihood of instructors adopting the LMS increases if they think the advantages exceed the disadvantages. However, some teachers will also calculate carefully when spending their money on LMS. Therefore, to anticipate this, the costs for using the LMS should not be borne by teachers. Policymakers can create a budget plan to allocate LMS funding so that it can be used by all teachers.

If teachers have formed habits regarding the use of LMS for every lesson they do, this can directly influence teacher intentions and behavior. Habit in the context of UTAUT presents a psychological dimension where automatic and habitual actions act as factors that can strengthen LMS adoption by reducing the awareness barrier and effort required by teachers [35].

Based on the constructs built in UTAUT2, the hypothesis of this research is as follows:

H1: Performance expectancy has a significant effect on teachers' behavioral intention when using LMS.

H2: Effort expectancy has a significant effect on teachers' behavioral intention in using LMS.

H3: Social Influence has a significant effect on teachers' behavioral intention in using LMS.

H4: Facilitating conditions have a significant effect on teachers' behavioral intention in using LMS.

H5: Hedonic motivation has a significant effect on teachers' behavioral intention in using LMS.

H6: Price value has a significant effect on teachers' behavioral intention in using LMS.

H7: Habit have a significant effect on teachers' behavioral intention when using LMS.

H8: Habit have a significant effect on teacher user behavior when using LMS.

H9: Behavioral intention has a significant effect on teacher-user behavior when using the LMS.

3. METHOD

The research population consisted of 3,321 teachers in 231 public and private elementary schools in Surakarta City, Central Java. Determining the number of research samples refers to Kline [36] and Rahman [37], who say that the recommended sample size for SEM analysis is more than 200 for a research model that is too complex and has a non-normal distribution. So, with a total of 426 teacher respondents involved in 84 public and private elementary schools, this has exceeded the minimum requirements for SEM analysis. All participating teachers had experience using LMS. To maximize respondents' responses, we contacted each school's principal to coordinate the filling out of the questionnaire. Empirical data was collected using a questionnaire distributed via Google Forms.

Twenty-seven items in Table 1 were modified based on previous research conducted by Rani et al. [9], Venkatesh et al. [10], Duman [38], and Thomas [39] with a four-point Likert scale. The following are the instruments used to collect data.

Table 1. Questionnaire Items

Construct	Code	Question
Performance Expectancy (PE)	PE1	I believe the use of a LMS will improve student learning outcomes.
	PE2	I believe the use of a LMS will increase the effectiveness of my teaching.
	PE3	I think using a LMS will benefit my professional development.
Effort Expectancy (EE)	EE1	I feel that using a LMS does not require a lot of effort.
	EE2	I believe the LMS is easy to use.
	EE3	I thought using a LMS would not make me burn out.
Social Influence (SI)	SI1	My colleagues often recommend using a LMS.
	SI2	I felt encouraged to use a LMS by influential people in my environment.
	SI3	I get support from my superiors or school leaders to use the LMS.
Facilitating Conditions (FC)	FC1	I have easy access to technical resources that support the use of the LMS.
	FC2	The school provides adequate training for the use of the LMS.
	FC3	The LMS is integrated with the school's technology infrastructure.
Hedonic Motivation (HM)	HM1	I feel happy and satisfied when using the LMS.
	HM2	LMS provides an enjoyable teaching experience.
	HM3	Using the LMS gives me personal satisfaction.
Perceived Cost (PC)	PC1	I feel the cost of using a LMS is worth the benefits I get.
	PC2	I believe that using a LMS will not incur excessive costs.
	PC3	I believe investing time and money in using a LMS is worth it.
Habit (HB)	HB1	I routinely use the LMS in my daily teaching activities.
	HB2	I tend to use LMSs without thinking.
	HB3	Using a LMS has become my habit in planning lessons.
Behavioral Intention (BI)	BI1	I intend to use LMSs actively in my teaching activities.
	BI2	I intend to provide full support for integrating LMSs into the learning process.
	BI3	I am committed to utilising LMSs as an integral part of my teaching approach.
User Behavioral (UB)	UB1	I actively use the LMS in my daily teaching activities.
	UB2	I often interact and engage with the features provided by the LMS.
	UB3	I implement or integrate the recommendations and features of the LMS in my teaching process.

In this study, structural equation models (SEM) are analyzed using the Jamovi program. SEM examines the claim that the suggested theoretical model accounts for the gathered data [40]. SEM is also used because of its flexibility in handling sample sizes and data that are not normally distributed [36]. Item validity refers to the loading factor value, where the higher the loading factor, the greater the item's contribution to the construct measured by the latent factor.

According to Hair et al. [41], the minimum loading factor value is 0.5. Meanwhile, the minimum acceptable reliability value is 0.7. The model fit index values refer to Kline [36], Hair et al. [41], and Hu and Bentler [42]. Hypothesis testing is based on the p-value, where, according to Hair et al. [41], if the p-value <0.0001, then the hypothesis is accepted.

4. RESULT AND DISCUSION

4.1. Respondent demographics

The features of the respondents in this study are highlighted by the demographic data in Table 2. In terms of gender, the majority of respondents were women (74.90%), with only 25.10% of respondents being men. This phenomenon reflects a general trend in education, where teaching staff at the elementary school level are generally dominated by women.

There are significant variations in the age groups of respondents. The 36-40-year age group is the largest group, with 34.98%, indicating that most respondents are in the middle or mid-career phase. Meanwhile, the younger age group (21-35 years) is also well represented, with the 31-35 year age group having the highest frequency at 27.93%. Although older age groups have lower representation, they still contribute to the research.

The majority of respondents had between six and fifteen years of teaching experience, with the group with eleven to fifteen years having the biggest share (36.38%). This suggests that significant teaching experience may play a role in elementary school teachers' perception and adoption of Learning Management Systems. Groups with less than 5 years or over 15 years of experience had lower representation, indicating that they may be less involved in adopting learning technology. Differences in gender, age, and teaching experience create diversity in perspectives and experiences, which can influence how elementary school teachers adopt Learning Management Systems.

Table 2. Respondent demographics

Category	Forms	Number of Observations	Frequency
Gender	Male	107	25.10%
	Female	319	74.90%
Age	21-25	59	13.85%
	26-30	75	17.61%
	31-35	119	27.93%
	36-40	149	34.98%
	41-45	7	1.64%
	46-50	14	3.29%
	51-55	3	0.70%
Experience	1-5	49	11.50%
	6-10	151	35.45%
	11-15	155	36.38%
	16-20	69	16.20%
	21-25	2	0.47%

4.2. Descriptive statistics of variables

The mean, standard deviation, and Cronbach's alpha for the variables this study examined are shown in Table 3. With an average of 3.307, the Performance Expectancy variable is the highest. Effort Expectancy and Social Influence come in second and third, respectively, with values of 3.153 and 3.133. At 2.323, Habit has the lowest mean among the following variables: Behavioral Intention, Perceived Cost, Hedonic Motivation, Facilitating Conditions, and Habit. These results can indicate the extent to which respondents in this study have uniform or varied perceptions of each variable.

Table 3. Descriptive statistics of variables

Variables	Mean	Standard Deviation	Cronbach's Alpa
PE	3.307	0.820	0.873
EE	3.153	0.871	0.853
SI	3.133	0.892	0.850
FC	3.087	0.765	0.801
HM	2.547	0.761	0.807
PC	2.567	0.709	0.890
HB	2.323	0.773	0.831
BI	3.173	0.665	0.864
UB	3.097	0.824	0.763

The internal consistency or dependability of the measuring device is gauged using Cronbach's alpha. An instrument's dependability increases with its Cronbach's alpha value. Every variable in this study had high Cronbach's alpha values, which ranged from 0.763 to 0.890. This suggests that each variable was measured consistently by the study tools. With a high degree of dependability and fluctuating mean and standard deviation values that represent the dispersion of the data, these findings offer a solid foundation for additional research into the variables influencing primary school teachers' adoption of LMSs.

4.3 Measument model

The data pertaining to the validity and reliability of variables within the framework of the technology adoption model provide satisfactory outcomes that bolster the caliber of the measuring tool. Table 4 data indicates that the research variables have excellent construct reliability, sufficient Average Variance Extracted (AVE), and substantial loading factors. These findings suggest that the measuring items can accurately represent the ideas under assessment.

Performance Expectancy, Effort Expectancy, Social Influence, and Hedonic Motivation, with high loading factor values and good reliability, strengthen the reliability in measuring these constructs. Likewise, the Behavioral Intention variable, which is key in the adoption model, shows high factor loading (0.992) and excellent reliability (0.939), confirming the model's fit to the data. Secara visual, dapat dilihat pada gambar 2 berikut.

Overall, these results provide confidence that the measurement instruments used are reliable and valid in measuring concepts in the context of technology adoption. This research provides a solid foundation for further analysis of factors influencing technology adoption and can contribute to practical understanding in designing more effective strategies to increase technology adoption in various contexts.

Table 5 displays the variable correlation matrix. The goal is to demonstrate that there isn't any undue association between the variables that might jeopardize the research's objectivity. The value found by taking the square root of the AVE for the given variable is found on the diagonal of the matrix. To make it easier to find certain values in the table, they are displayed in bold. The discriminant validity of the model is verified using the variable correlation matrix. The values on the diagonal must be greater than every value below in order to satisfy this requirement.

Based on the data in Table 5 above, as a result of the

correlation test, it can be concluded that the proposed model achieves discriminant validity, where the values on the diagonal of the correlation matrix (PE, EE, SI, FC, HM, PC, HB, BI, UB) higher than the value below it. This conclusion supports the model's integrity and provides clear insight into the extent to which exogenous variables influence behavioral intention and user behavior in the context of this research. These findings align with the UTAUT framework, which has been tested and applied in various contexts, such as previous studies cited in related references.

Table 4. Reliability and validity of the model

Variables	Items	Loading Factor	AVE	Construct Realibility
PE	PE1	0.743	0.526	0.859
	PE2	0.752		
	PE3	0.679		
EE	EE1	0.665	0.580	0.831
	EE2	0.711		
	EE3	0.701		
SI	SI1	0.817	0.606	0.821
	SI2	0.756		
	SI3	0.762		
FC	FC1	0.575	0.576	0.814
	FC2	0.769		
	FC3	0.834		
HM	HM1	0.881	0.768	0.901
	HM2	0.913		
	HM3	0.833		
PC	PC1	0.846	0.743	0.895
	PC2	0.844		
	PC3	0.896		
HB	HB1	0.930	0.811	0.917
	HB2	0.852		
	HB3	0.917		
BI	BI1	0.992	0.888	0.939
	BI2	0.890		
	BI3	0.941		
UB	UB1	0.562	0.524	0.852
	UB2	0.572		
	UB3	0.613		

Table 5. Correlation matrix of variables

	PE	EE	SI	FC	HM	PC	HB	BI	UB
PE	**0.73**								
EE	0.66	**0.76**							
SI	0.63	0.66	**0.78**						
FC	0.32	0.52	0.61	**0.76**					
HM	0.60	0.51	0.52	0.50	**0.88**				
PC	0.58	0.53	0.44	0.53	0.82	**0.86**			
HB	0.68	0.41	0.50	0.48	0.82	0.80	**0.90**		
BI	0.57	0.53	0.61	0.48	0.62	0.70	0.65	**0.94**	
UB	0.68	0.44	0.50	0.33	0.37	0.43	0.49	0.35	**0.72**

Finding the kind and degree of correlation between the model's variables is the next stage. First, goodness-of-fit measurements are analyzed in order to quantitatively verify that the model being used matches the data that has been gathered. The model fit indices are displayed in Table 6.

It is possible to infer that the suggested model fits the observed data rather well based on the model fit index values in Table 6. First, a value of 88.59 with a p-value larger than 0.05 is displayed by the Chi-Square p-value test. The good fit of the model to the data is supported by these findings, which show no discernible discrepancy between the model and the data.

Table 6. Model Fit Indices

Model Fit Indices	Values	Acceptable Values	Fitness
Chi Square p value	88.59	>0.05	Yes
RMSEA	0.06	<0.08	Yes
GFI	0.97	>0.90	Yes
CFI	0.97	>0.90	Yes
AGFI	0.95	>0.90	Yes
SRMR	0.05	<0.06	Yes
TLI	0.96	>0.90	Yes
NFI	0.96	>0.90	Yes
IFI	0.97	>0.90	Yes
PNFI	0.79	>0.05	Yes
PGFI	0.65	>0.05	Yes

Moreover, additional evidence for model fit was given by a number of other model fit indices. With a value of 0.06, RMSEA is less than the 0.08 criterion, suggesting that the model fits the data well. The model exhibits a satisfactory degree of fit to the data when the values of GFI, CFI, and AGFI are more than 0.90. A good model fit is shown by the SRMR value of 0.05, which is likewise below the 0.06 requirement.

A sufficient degree of fit was also shown by the values obtained by various indices, including NFI, IFI, and TLI, all of which were over 0.90. Despite having lower values, 0.79 and 0.65, respectively, PNFI and PGFI nevertheless fulfill the requirements for a good model fit with values over 0.05.

All things considered, the fit indices model's outcomes demonstrate that the model is sufficiently appropriate for the observed data. It is clear from the great agreement between the model fit index values and the approved threshold values that this model appropriately captures the conceptual framework put forward in this study.

4.4 Structural model

The study's findings, which are summed up in Table 7 below, show how exogenous and endogenous factors have a substantial link within the suggested model framework. The degree to which external factors affect behavioral intention and user behavior may be observed through correlation analysis between variables.

The positive and statistically significant correlation coefficient (p-value<0.0001) shows that all exogenous variables really influence behavioral intention. The results are consistent with other research [43, 44], which highlights the significant influence that several factors have on behavioral intention, including performance expectation, effort expectation, social influence, facilitating conditions, hedonic motivation, price value, and habit.

Table 7. Correlation between exogenous and endogenous

Exogenous	Endogenous	Coef	S.E	P-Value
PE	BI	0.361	0.053	< 0.0001
EE	BI	0.244	0.054	< 0.0001
SI	BI	0.295	0.059	< 0.0001
Fc	BI	0.213	0.051	< 0.0001
HM	BI	0.343	0.060	< 0.0001
PC	BI	0.435	0.063	< 0.0001
HB	BI	0.217	0.055	< 0.0001
HB	UB	0.262	0.057	< 0.0001
BI	UB	0.394	0.060	< 0.0001

The correlation results are also supported by the outcomes of hypothesis testing on the link between the variables.

Regarding the connection between external factors and behavioral intention/user behavior, all hypotheses are acknowledged. Thus, it can be said that the user's behavioral intention is mostly shaped by performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit.

Table 8. Status of hypothesis

Hypothesis	Correlation	Outcome
H1	Performance Expectancy-Behavioral Intention	Accpeted
H2	Effort Expectancy-Behavioral Intention	Accpeted
H3	Social Influence-Behavioral Intention	Accpeted
H4	Facilitating Conditions-Behavioral Intention	Accpeted
H5	Hedonic Motivation-Behavioral Intention	Accpeted
H6	Perceived Cost-Behavioral Intention	Accpeted
H7	Habit-Behavioral Intention	Accpeted
H8	Habit-User Behavior	Accpeted
H9	Behavioral Intention-User Behavior	Accpeted

All of the proposed hypotheses in Table 8 are supported by the study's hypothesis testing results, suggesting that a variety of factors, including price value, habit, social influence, hedonic motivation, performance expectation, effort expectation, and facilitating conditions, have a big impact on user behavior and behavioral intention. This aligns with a number of earlier research studies on the use of technology in educational settings [1, 2].

How do the results of these hypothesis tests influence LMS adoption by elementary school teachers? First, the performance expectancy factor, which reflects teachers' perceptions of how effective the LMS is in improving their performance in teaching, was accepted. This suggests that teachers adopt LMS because they believe it will improve student learning outcomes [38]. Then, Effort Expectancy, which reflects teachers' perceptions of how easy it is to use the LMS, was also accepted. This shows that the simpler the LMS, the greater the teacher's willingness to adopt it [10].

The behavioral intention of instructors using LMS was also found to be influenced by other elements, such as price value, hedonic motivation, social influence, and facilitating conditions, showing support from others. These conditions facilitate LMS use, personal motivation, and price value, all of which play an important role in teachers' decisions to adopt LMS in learning [5, 25]. Apart from that, teachers' habits in using LMS also influence their behavioral intention and user behavior. This suggests that previous experience in using technology can influence their tendency to adopt LMS [38].

It is possible to develop targeted strategies or intervention measures to help primary school instructors embrace LMS in the context of technology. First, intensive technology training for teachers is needed to increase their understanding of how to use LMS effectively [2]. This training should include developing interactive learning materials and integrating technology into daily teaching processes [1].

Second, support from school management is very important. School management must provide adequate technological infrastructure and the necessary resources to implement the LMS effectively [4]. They must also create an environment encouraging innovation and experimentation with new technologies [5]. Furthermore, ongoing professional development is also important for teachers. Teachers must continuously develop their skills in using technology in teaching. This can be done through workshops, seminars, or other professional development programs focusing on integrating technology into the curriculum [3].

Creating a successful LMS adoption plan may be accomplished by utilizing a methodology grounded in UTAUT [10]. This indicates that while creating technology adoption initiatives, politicians and educational professionals need to take into account elements like performance, effort, social impact, facility conditions, hedonic incentives, price value, and habits [25].

5. CONCLUSIONS

Using UTAUT paradigm, this research examined the complex dynamics surrounding primary school teachers' adoption of LMS. With 426 teachers from public and private primary schools participating in the study, a thorough analysis of the variables affecting teachers' behavioral intention and user behavior when using LMS was possible.

The research hypotheses, grounded in the UTAUT model, were meticulously examined. The findings revealed that Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, and Habit significantly contribute to shaping teachers' behavioral intention to use LMS. Moreover, these variables also play a crucial role in influencing teachers' actual user behavior when it comes to LMS adoption. The robustness of the Structural Equation Modeling (SEM) analysis indicated the validity and reliability of the research model, emphasizing the relevance of UTAUT in understanding technology adoption in educational settings.

The validity and reliability of the research variables were validated by the measurement model analysis, which increased the trust in the study's findings. A careful analysis of the correlations between the variables ensured that there was no very strong link that would jeopardize the objectivity of the research. The structural model elucidated the significant correlations between exogenous variables and teachers' behavioral intention and user behavior. All hypotheses related to these relationships were supported, confirming the pivotal role of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, and Habit in shaping teachers' attitudes and actions towards LMS.

This study has implications for practitioners and policymakers in the field of education. Comprehending the intricate interactions among these elements can direct the creation of customized tactics and regulations to promote a more efficient and extensive integration of technology, namely Learning Management Systems, among primary school educators. In addition to adding to the theoretical framework of technology adoption, this research provides useful insights for improving the use of educational technology in a variety of settings.

While all hypotheses in this study were accepted, the research has limitations in terms of population and sample representation. Indonesia is a vast country with diverse geographical conditions, which often pose barriers for teachers and schools to access technology. Meanwhile, Surakarta City, the location of this study, is a city where all teachers and schools can easily access LMS. Thus, the findings of this study do not yet represent the adoption of LMS throughout Indonesia. Therefore, broader research is needed, covering all populations of teachers and schools in Indonesia.

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