

## **ANALYSIS OF THE INFLUENCE OF PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE ON USER SATISFACTION IN THE USE OF LEARNING MANAGEMENT SYSTEMS IN SCHOOLS**

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### **ABSTRACT**

The use of the Learning Management System (LMS) in schools still encounters several challenges that may affect user satisfaction. This study aims to examine the influence of Perceived Usefulness and Perceived Ease of Use on User Satisfaction in the use of LMS. The research employed an explanatory survey method with a quantitative approach. Data were collected through questionnaires distributed to 106 twelfth-grade students majoring in Office Management and Business Services (MPLB), using proportionate stratified random sampling. The data were analyzed using multiple regression analysis. The findings reveal that Perceived Usefulness has a positive effect on User Satisfaction, Perceived Ease of Use has a positive effect on User Satisfaction, and jointly, Perceived Usefulness and Perceived Ease of Use have a significant positive effect on User Satisfaction, contributing 87.2% with a very strong level of correlation. The implication of this study highlights the need for LMS development through the enhancement of learning progress reports and task reminders, the provision of interactive user guides and quick search features, as well as the diversification of learning content formats to further optimize user satisfaction.

**Key words:** Perceived Usefulness, Perceived Ease of Use, User Satisfaction, Learning Management System

### **INTRODUCTION**

Digital transformation has become a key feature in global dynamics, including in the education sector. Technology-based learning has now become an important element in the modernization of education systems because it can create learning processes that are more adaptive and flexible to the times (Sukmawati et al. 2022; Waruwu et al. 2024). In this context, many educational institutions have integrated technologies such as Learning Management Systems (LMS) as platforms to support online, structured, and efficient teaching and learning processes (Rasyid et al. 2021).

LMS itself has undergone significant development since it was first introduced through the FirstClass platform by SoftArc in 1990 (Chaubey & Bhattacharya, 2015). This system became a pioneer in digital learning management and continues to evolve until it is widely adopted in various countries, including Indonesia. The implementation of LMS in Indonesia has become increasingly widespread since the issuance of Circular Letter Number 4 of 2020 by the Ministry of Education and Culture, which encourages all educational institutions to implement distance learning (Kemdikbud 2020). In this situation, LMS has become the main solution in providing access to learning materials, assignments, and evaluations online (Mustika et al. 2024).

In Indonesia, various LMS platforms are used by schools and universities, such as Moodle, Google Classroom, Edmodo, and Sekolah.id, a local platform specifically designed to support online learning and educational administration management (DetikInet 2020). However, the success of LMS implementation is not only determined by the completeness of its features, but also by the suitability of the system to the needs and expectations of its users. Wardhani & Setiyawati (2022) state that proper user-oriented system design will increase learning effectiveness and satisfaction. In practice, there are still a number of obstacles in the use of LMS in schools, such as limited access, suboptimal use of features, and lack of integration with teachers' learning strategies (Adawiyah et al. 2024); Larasati dan Andayani, 2019).

Pre-research findings at a public vocational school in Bandung show that students experience various obstacles in using LMS. These obstacles include a slow system, technical disruptions during exams, limited access to several important features such as attendance, and inconsistent use of LMS across all subjects. Meanwhile, students have high expectations of the LMS, including the desire for smooth access, complete and attractive features, an easy-to-use interface, and comprehensive application in all learning activities. This gap between expectations and reality shows that the LMS has not fully met the needs of its users.

In addressing these issues, the Technology Acceptance Model (TAM) developed by Davis (1989) can be used to analyze the factors that influence technology acceptance by users. This model focuses on two main variables, namely Perceived Usefulness and Perceived Ease of Use, which are considered the main determinants in shaping attitudes towards technology use. On the other hand, the success of an information system can also be measured by the level of user satisfaction, as explained in the IS Success Model by DeLone & McLean (2003) (Wixom & Todd, 2005)

However, most previous studies on LMS user satisfaction have focused on widely used international platforms such as Moodle or Google Classroom. Few empirical studies have examined how perceived usefulness and perceived ease of use influence user satisfaction with locally developed systems such as Sekolah.id, particularly in vocational education settings.

Problems related to technical barriers, feature limitations, and lack of consistency in LMS utilization can affect students' perceptions of the usefulness and ease of use of the system. If the system is considered insufficiently helpful in the learning process or difficult to operate, user satisfaction with the LMS will decrease. Therefore, it is important to conduct an academic study to evaluate the extent to which the LMS is able to meet students' perceptions of usefulness and ease of use, as well as how this affects their level of satisfaction as end users.

Based on the above background, this study will analyze the influence of perceived usefulness and perceived ease of use on user satisfaction in the use of learning management systems in schools. The objectives of this study are to analyze the influence of Perceived Usefulness on User Satisfaction, to analyze the influence of Perceived Ease of Use on User Satisfaction, and to analyze the influence of Perceived Usefulness and Perceived Ease of Use on User Satisfaction.

## METHOD

This study used a quantitative approach with an explanatory survey design, aiming to examine the relationship between independent and dependent variables. The research focused on three variables, namely Perceived Usefulness ( $X_1$ ), Perceived Ease of Use ( $X_2$ ), and User Satisfaction ( $Y$ ). The research instrument used was a structured questionnaire developed based on indicators adapted from Davis (1989) in the Technology Acceptance Model (TAM) and relevant prior studies. Each variable was measured using several items on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Perceived Usefulness variable consisted of 6 items, Perceived Ease of Use consisted of 6 items, and User Satisfaction consisted of 5 items. The validity of each item was confirmed through Pearson Product Moment correlation, and all items were declared valid ( $r > 0.33$ ). The reliability test using Cronbach's Alpha showed values of 0.945 for Perceived Usefulness, 0.919 for Perceived Ease of Use, and 0.936 for User Satisfaction, indicating high reliability of the instrument.

The study population consisted of all twelfth-grade students majoring in Office Management and Business Services (MPLB) at a public vocational school in Bandung. Using proportionate stratified random sampling, a total of 106 respondents were selected to represent four classes. Data collection was conducted by distributing questionnaires on site, and the collected data were analyzed using descriptive statistics to describe the level of each variable, as well as multiple linear regression to examine the influence of Perceived Usefulness and Perceived Ease of Use on User Satisfaction in the use of the Learning Management System (LMS).

## RESULTS AND DISCUSSION

### Descriptive Findings of Research Variables

The results of descriptive statistical analysis show that the overall level of Perceived Usefulness of the Learning Management System (LMS) is categorized as moderately positive, with a mean score of 3,40 (Table 1). This indicates that, in general, students perceive the LMS as useful in supporting learning activities, especially in enhancing efficiency and task completion. Among the indicators, Work More Quickly obtained the highest mean score (3,58), implying that students considered the LMS effective in accelerating task performance. This aligns with Davis's (1989) concept of perceived usefulness, where technology is deemed beneficial when it enhances individual productivity and performance.

**Table 1. Description of Perceived Usefulness Variable**

Indicator	Mean Indicator
Work more quickly	3,58
Job performance	3,25
Increase productivity	3,44
Effectiveness	3,26
Make job easier	3,43
Useful	3,44
<b>Mean score</b>	<b>3,40</b>

The Perceived Ease of Use variable recorded a mean score of 3,65, indicating that students generally found the LMS easy to learn and operate (Table 2). The highest-rated indicator was Understandable (3,74), which reflects that the system interface and features were perceived as clear and accessible. This result supports the TAM assumption that perceived simplicity of a system increases user intention to adopt it (Venkatesh & Davis, 2000). The finding also resonates with Surbakti et al. (2024), who found that user-friendly system design positively influences students' willingness to use LMS platforms in learning environments.

**Table 2. Description of Perceived Ease of Use Variable**

Indicator	Mean Indicator
Easy to learn	3,65
Understandable	3,74
Controllable	3,65
Flexible	3,62
Ease of use	3,61
Easy to learn	3,65
<b>Mean score</b>	<b>3,65</b>

The level of User Satisfaction is also in the moderately positive category, with an average score of 357 (Table 3). The Format indicator obtained the highest score (3,67), suggesting that a clear and well-organized layout contributes significantly to students' satisfaction. This implies that a system interface that is visually structured, accurate, and easy to navigate can enhance learners perceived quality of digital learning. Consistent with Wixom and Todd (2005), satisfaction reflects the extent to which users' expectations of system performance and ease of interaction are met.

**Table 3. Description of User Satisfaction of Use Variable**

Indicator	Mean Indicator
Content	3,48
Accuracy	3,62
Format	3,67
Ease of Use	3,54
Timeliness	3,56
Content	3,48
<b>Mean score</b>	<b>3,57</b>

### Hypothesis Testing Results

The regression analysis results show that Perceived Usefulness has a positive and significant effect on User Satisfaction ( $\beta = 0.303$ ,  $p < 0.001$ ) (Table 4). This finding confirms that when students perceive the LMS as beneficial and supportive of their learning efficiency, they experience higher satisfaction with its use. These results support the Technology Acceptance Model (Davis, 1989) and are consistent with the studies of (Hutahaean & Respati 2025) and Fajriyah (2024), who also found that perceived usefulness significantly predicts satisfaction in digital learning platforms.

**Table 4. Hypothesis Testing Results**

Hypothesis	Estimation ( $\beta$ )	p-value ( $< 0,05$ )	Decision
Perceived Usefulness → User Satisfaction	0,303	0.000	H1: Supported
Perceived Ease of Use → User Satisfaction	0,630	0.000	H2: Supported
Perceived Usefulness & Perceived Ease of Use → User Satisfaction	351,958	0.000	H3: Supported

Similarly, Perceived Ease of Use exerts a positive and significant effect on User Satisfaction ( $\beta = 0.630$ ,  $p < 0.001$ ) (Table 4). This implies that the easier the LMS is to understand and operate, the higher the satisfaction level among users. Ease of use reduces user effort and cognitive load, fostering positive attitudes toward technology utilization. This finding corroborates the results of Rachmi et al. (2023) and Surbakti et al. (2024), who highlighted that usability and system simplicity are crucial determinants of LMS satisfaction in online learning settings.

When tested simultaneously, both Perceived Usefulness and Perceived Ease of Use show a strong and significant joint influence on User Satisfaction ( $F = 351.958$ ,  $p < 0.001$ ) (Table 4). The coefficient of determination ( $R^2 = 0.872$ ) indicates that 87.2% of the variance in user satisfaction can be explained by these two variables, while the remaining 12.8% is influenced by other factors not included in this study, such as system reliability, content relevance, or institutional support (Table 5). The very strong level of correlation demonstrates that students' satisfaction is highly dependent on how useful and easy to use they perceive the LMS to be, confirming the core relationships proposed in the Technology Acceptance Model (Davis, 1989).

**Table 5. Coefficient of Determination Results**

Hypothesis	R Square	Adjusted R Square
Perceived Usefulness & Perceived Ease of Use →	0,872	0,870

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 User Satisfaction
 

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### Discussion

The results of this study reinforce the theoretical proposition that perceived usefulness and perceived ease of use are central determinants of technology acceptance and satisfaction. From a pedagogical standpoint, students' satisfaction reflects not only system quality but also how well the LMS facilitates engagement, efficiency, and learning effectiveness. The finding that perceived ease of use has a stronger effect ( $\beta = 0.630$ ) than perceived usefulness ( $\beta = 0.303$ ) indicates that usability plays a more dominant role in shaping satisfaction within the vocational education context. This may be because vocational students prioritize operational simplicity and clarity when interacting with digital platforms over abstract functionality.

These findings extend prior works by Amalia & Fahrudi (2020) and Puji Lestari et al. (2024), emphasizing that LMS success depends on user-centered design and adaptability to learning contexts. The implications suggest that system developers and schools should focus on enhancing LMS accessibility, improving navigation interfaces, and integrating intuitive user support to increase satisfaction levels. Moreover, this research provides empirical evidence that locally developed platforms such as Sekolahan.id can achieve high user satisfaction when usability and perceived usefulness are effectively optimized, contributing to the growing body of knowledge on LMS implementation in Indonesian vocational education.

### CONCLUSION

The findings of this study confirm that perceived usefulness and perceived ease of use have a positive and significant influence on user satisfaction in the use of the Learning Management System (LMS) among vocational students. These results strengthen the Technology Acceptance Model (TAM) framework by demonstrating that both perceived usefulness and perceived ease of use play a crucial role in shaping satisfaction with technology adoption in the educational context. The stronger influence of perceived ease of use suggests that system simplicity and intuitive design are central to user experience in digital learning environments. Theoretically, this research contributes empirical evidence supporting TAM's applicability to locally developed LMS platforms such as Sekolahan.id, while practically emphasizing the importance of improving user interfaces, expanding content variety, and integrating performance-tracking features to enhance satisfaction. For educators, the study highlights the need to optimize LMS use through project-based learning and contextually relevant materials. Future research is encouraged to extend the model by including additional variables such as system quality, content relevance, or learning engagement, and to involve multiple educational institutions to obtain broader generalizability of the findings.

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