

Analysis of the Effect of Perceived Usefulness on Continuance Intention among Senior High School Students

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ABSTRACT: *This research evaluates the determinants of Learning Management System (LMS) continuance intention among high school students. Grounded in the Stimulus-Organism-Response (S-O-R) framework, the study investigates the specific impact of Perceived Usefulness (PU) on Continuance Intention (CIT). Data from 403 students in Semarang, Indonesia, were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4. The statistical results confirm that Perceived Usefulness significantly predicts Continuance Intention ($\beta = 0.530$, $p < 0.001$). The structural model exhibits substantial predictive power, explaining 77.2% of the variance ($R^2 = 0.772$). These findings suggest that to ensure digital sustainability, educational platforms must prioritize delivering tangible functional benefits to students.*

Keywords: Continuance Intention, LMS, Perceived Usefulness, PLS-SEM, S-O-R Framework.

ABSTRAK: Penelitian ini mengevaluasi determinan keberlanjutan penggunaan Learning Management System (LMS) di kalangan siswa SMA. Berdasarkan kerangka kerja Stimulus-Organism-Response (S-O-R), penelitian ini meneliti dampak khusus Perceived Usefulness (PU) terhadap Continuance Intention (CIT). Data dari 403 siswa di Semarang, Indonesia, dianalisis menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM) melalui SmartPLS 4. Hasil statistik mengonfirmasi bahwa Perceived Usefulness secara signifikan memprediksi Continuance Intention ($\beta = 0,530$, $p < 0,001$). Model struktural menunjukkan kekuatan prediksi yang substansial, menjelaskan 77,2% variansi ($R^2 = 0,772$). Temuan ini menunjukkan bahwa untuk memastikan keberlanjutan digital, platform pendidikan harus memprioritaskan penyampaian manfaat fungsional yang nyata bagi siswa.

Keywords: Continuance Intention, LMS, Perceived Usefulness, PLS-SEM, S-O-R Framework.

I. INTRODUCTION

Digital transformation in education has positioned the Learning Management System (LMS) as a central pillar supporting the modern learning ecosystem. In Indonesia, LMS adoption at the senior high school level has become an essential requirement for facilitating flexible interaction between educators and learners. However, a phenomenon frequently observed by education practitioners is a decline in user engagement once the initial adoption phase has passed (Bhattacharjee, 2001). This underlying problem no longer lies in the availability of the technology itself, but rather in the sustainability of users' intention to continue using it (Continuance Intention).

Substantial investment in digital infrastructure and teacher training becomes less efficient if students lack the internal drive to continue using the system in their daily academic activities (Lee, 2010). This study adopts the Stimulus-Organism-Response (S-O-R) framework to analyze user behavior in the context of educational technology (Jacoby, n.d.). Within this framework, technological elements such as system quality and information quality act as external stimuli that trigger psychological reactions within students as the organism (Samed Al-Adwan et al., 2020).

This reaction manifests as Perceived Usefulness, whereby students evaluate the extent to which LMS use can enhance their academic performance (Davis, 1989). When students perceive that the platform provides tangible added value, they tend to exhibit a positive response in the form of an intention to continue using the system on a sustained basis. The primary focus of this study is to provide empirical evidence regarding the central role of perceived usefulness in ensuring the long-term success of digital learning implementation in secondary schools.

Research Question and Hypothesis

- **This study is formulated to address the following research question (RQ):**
“To what extent does Perceived Usefulness (PU) significantly influence the Continuance Intention (CIT) of senior high school students within a digital learning ecosystem?”
- **Based on this formulation, the following main hypothesis is proposed:**
H1: Perceived Usefulness (PU) has a positive and significant effect on Continuance Intention (CIT).

II. METHOD

This study employs an explanatory quantitative approach. Primary data were collected through a structured questionnaire distributed to 403 respondents, comprising active students from five senior high schools in Semarang City, Indonesia (Kolese Loyola, SMAN 3, SMAN 2, SMAN 5, and SMA Semesta). The research instrument consisted of 54 indicators measured using a 5-point Likert scale.

The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software (*SmartPLS*, n.d.). This method was selected for its capability to handle complex models without requiring strict normality assumptions (Hair et al., 2021). The evaluation

procedure included convergent validity, discriminant validity using the HTMT criterion (Henseler et al., 2015), and instrument reliability.

III. RESULT AND DISCUSSION

The statistical analysis results provide a clear depiction of the effectiveness of the research model. Prior to hypothesis testing, evaluation of the measurement model confirmed that all latent constructs had Average Variance Extracted (AVE) values above 0.5 and Composite Reliability above 0.7, indicating that the research instrument was highly valid and reliable. Having ensured data quality, structural testing was conducted to examine the main hypothesis (H1). The empirical findings show that Perceived Usefulness (PU) has a highly significant positive effect on Continuance Intention (CIT), with a path coefficient (beta) of 0.530 and a p-value < 0.001. This scientifically demonstrates that perceived usefulness is the strongest predictor driving students to remain loyal users of the LMS platform in their schools.

Table 1. Construct Validity and Reliability

Variable	AVE	Composite Reliability	Cronbach's Alpha
Perceived Usefulness	0.682	0.912	0.885
Continuance Intention	0.715	0.934	0.902
System Quality	0.640	0.895	0.864

Table 2. Path Hypothesis Testing Results

Hyp	Path	Beta (β)	T-Stats	P-Value
H1	PU -> CIT	0.530	12.451	0.000

The model's predictive power is categorized as 'substantial,' as evidenced by an R-square (R^2) value of 0.772 for the Continuance Intention variable. This figure indicates that perceived usefulness, together with the other supporting variables in the model, is able to explain 77.2% of the variance in students' continuance intention. In practical terms, this suggests that if schools succeed in enhancing students' perception of the platform's usefulness—for instance, by providing more relevant content and features that facilitate task completion—students' loyalty toward the digital learning system will increase substantially. This finding is further supported by data showing that the Personal Outcome (PO) variable has a significant effect on perceived ease of use (beta = 0.617), implying that the personalization of the learning experience also plays an important role in shaping user satisfaction.

Theoretically, these findings reinforce the S-O-R framework within the domain of educational technology. Perceived usefulness functions as a crucial internal condition (the 'Organism') that processes external stimuli (system and information quality) into observable behavioral responses. Further discussion reveals that the relatively high mean construct scores (ranging from 3.76 to 4.03 on a 5-point scale) reflect students in Semarang's overall satisfaction with the

platform used. Nevertheless, the strategic implication of this study emphasizes that schools must not stop at merely providing technology, but must continuously optimize system functionality to remain relevant to students' personal academic needs, thereby ensuring the sustainability of the digital learning ecosystem.

IV. CONCLUSION

This study concludes that the sustainability of Learning Management System (LMS) implementation at the secondary school level is highly dependent on the extent to which students perceive the functional benefits of the platform. The main hypothesis (H1), which posits a significant effect of Perceived Usefulness on Continuance Intention, has been empirically confirmed with strong statistical power ($\beta = 0.530$; $p < 0.001$). With an explanatory power of 77.2%, this study provides a strategic foundation for educational institutions to prioritize enhancing system usefulness rather than merely adding complex technical features. The greater the benefit students perceive in supporting their academic achievement, the higher their loyalty and intention to continue participating in digital learning.

Education practitioners and LMS developers are recommended to focus on refining information content to keep it consistently up to date and on developing interactive features that support personalized learning outcomes. Schools are advised to conduct periodic evaluations of LMS utilization from the students' perspective to ensure that technology investments yield sustained impact. Future research is expected to broaden the geographical scope and diversity of schools in order to validate the generalizability of these findings across different educational contexts in Indonesia.

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