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Optimizing Data Visualization for Research and Community Service Management : Evaluating SIMLPPM Universitas Jambi Using the HOT-FIT Model

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***Abstract**. The increasing demand for efficient data management in higher education has highlighted the need for advanced information systems that support research and community service activities. At Universitas Jambi, the Sistem Informasi Penelitian dan Pengabdian kepada Masyarakat (SIMLPPM) is the primary platform for managing research data. However, its usability remains limited due to restricted accessibility, unstructured data categorization, and inadequate visualization tools. This study aims to enhance SIMLPPM by developing an interactive dashboard to improve data presentation, user trust, and decision-making efficiency. The research employs the Human-Organization-Technology FIT (HOT-FIT) model to evaluate user satisfaction and system effectiveness by surveying 128 faculty members. The findings indicate that leadership support, organizational structure, and facilities significantly influence user satisfaction and system adoption, while information and service quality have minimal impact. The study underscores the importance of system usability and administrative support over purely technical attributes. Future research should explore AI-driven analytics and expand the evaluation across multiple institutions to enhance data accessibility and user engagement in research management.*

Keywords: *Data visualization, higher education information systems, HOT-FIT model, SIMLPPM, user trust*

1. INTRODUCTION

The integration of information technology has become indispensable in the higher education sector, where the availability of integrated data is essential for maintaining operational efficiency and competitiveness. The advancements in Information and Communication Technology have significantly influenced various aspects of academic and administrative operations, requiring higher education institutions to provide accurate data while upholding standards of reliability and transparency (Rahmanto, 2023).

However, the rapid progress of technology has resulted in a substantial accumulation of data across multiple sectors, including education, business, and research. The mere existence of extensive data does not ensure improved accessibility to information. Without adequate data processing and organization, an overwhelming volume of data may impede rather than facilitate information retrieval, leading to inefficiencies and delays in decision-making (Hariyanti, et al., 2011).

In alignment with the Tri Dharma of Higher Education—education, research, and community service—universities are expected to maintain high-quality standards. Given the dynamic nature of these quality benchmarks, higher education institutions require

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comprehensive monitoring and evaluation tools to guarantee compliance. Accurate and timely information is essential for effective decision-making, and recent technological advancements have greatly enhanced data availability. Automating administrative and research activities across various disciplines and institutional functions significantly contributes to the increase in data generation.

In this context, Universitas Jambi has developed numerous information systems to support its academic and administrative responsibilities, particularly in research and community service management. The Sistem Informasi Penelitian dan Pengabdian kepada Masyarakat (SIMLPPM) is the primary platform for managing research and community service data. Nevertheless, its current implementation exhibits several limitations. SIMLPPM requires user authentication as a closed system, thereby restricting public access to research progress and performance data. Furthermore, the existing system does not fully optimize data utilization due to various challenges, including an excessive volume of raw data that complicates interpretation, a lack of structured data categorization that hinders information retrieval, and limited data visualization tools that restrict user accessibility and readability. These challenges highlight the need for an advanced dashboard-based data visualization system that facilitates efficient data exploration, analysis, and presentation. Enhancing the usability of SIMLPPM is essential for improving user confidence and trust in the system, thereby ensuring its ongoing adoption and effectiveness.

This study aims to address these challenges by developing a data visualization dashboard for SIMLPPM that publicly presents Institutional Key Performance Indicators (IKUs) and accreditation data related to research and community service at Universitas Jambi. Furthermore, this study seeks to assess user trust in SIMLPPM and examine how an enhanced dashboard can improve decision-making support for university administrators. The effectiveness of the implemented dashboard will be evaluated using the Human-Organization-Technology FIT (HOT-FIT) model, which analyzes inter-variable relationships to measure user satisfaction and system efficacy.

By optimizing the availability of data through an interactive and publicly accessible dashboard, this study is anticipated to yield several significant benefits, including enhanced decision-making through real-time and structured data visualization, increased transparency and user confidence via improvements in system usability, and more efficient data utilization by simplifying the interpretation of research and community service performance metrics. Since the introduction of SIMLPPM in 2017, no formal evaluation of user trust and system effectiveness has occurred, rendering this study particularly relevant in addressing existing research gaps. Through a dashboard-based visualization approach, this research aims to enhance data accessibility, improve user engagement, and provide an evidence-based framework for optimizing research and community service management at Universitas Jambi.

2. LITERATURE REVIEW

User Trust in Information Systems

Trust is a critical factor influencing information system adoption and sustained utilization. Research has identified that users' trust in these systems is contingent upon various factors, including system reliability, perceived usefulness, ease of access, and data quality (Silic et al., 2018). Furthermore, trust is a fundamental component of both social and professional interactions, as it fosters system adoption and mitigates operational uncertainty (Wang & Emurian, 2005). Investigations within e-governance and business applications have revealed that users are more inclined to engage with systems that offer clear, accurate, and readily interpretable information (Sillence et al., 2007). Nevertheless, the applicability of these findings to academic information systems, such as SIMLPPM, remains an unresolved question.

The Human-Organization-Technology FIT (HOT-FIT) Model provides a theoretical framework for evaluating information system adoption. This model incorporates three primary components: human factors (user satisfaction and system use), organizational factors (management support and infrastructure), and technological factors (system quality, information quality, and service quality) (Yusof et al., 2008). Several studies have applied the HOT-FIT model to assess user adoption of healthcare information systems, enterprise resource planning (ERP) systems, and e-learning platforms (Delone & McLean, 2003). However, limited research has applied this model to academic research management systems, particularly in research and community service data management.

Data Visualization in Information Systems

Data visualization is an essential tool for improving the accessibility and interpretability of complex datasets. Effective visualization techniques help users identify trends, compare performance metrics, and derive actionable insights (Friedman, 2008). Research in data-driven decision support systems emphasizes that interactive dashboards can significantly enhance user engagement and system usability (Viegas & Wattenberg, 2011). According to Unwin (2020), the key principles of data visualization include presenting information clearly and informatively, whether through direct representations like scatterplots or statistical summaries like histograms. Visualization aids in data exploration, identifying patterns, trends, and anomalies while enhancing comprehension. Graphs must balance readability and accuracy, avoiding misleading representations. Additionally, data visualizations should be supported by explanatory text that provides context and interpretation. There is a distinction between exploratory graphics, used for discovering new insights, and presentation graphics, designed to communicate established findings to a broader audience effectively. Advances in technology enable dynamic and interactive graphics, further improving data understanding. However, visualizations should not be accepted uncritically; users must assess their accuracy and interpretation. Standardization and theoretical frameworks in data visualization are crucial to ensuring meaningful, reliable, and effective information communication.

In higher education, previous studies have demonstrated the effectiveness of dashboards in monitoring institutional performance and tracking key performance indicators (Bachtiar et al., 2017). Research by Januarita & Dirgahayu (2015) highlights the role of visual analytics in academic decision-making, particularly in evaluating faculty research productivity. Other studies emphasize that open-access dashboards increase institutional transparency and promote a data-driven culture within universities (Loka & Natalia, 2019). However, despite these advantages, challenges remain in adapting visualization techniques to institutional research data due to the complexity and heterogeneity of academic datasets.

Gaps and Contradictions in the Literature

While existing literature supports the importance of user trust, data visualization, and decision-support systems, several research gaps persist:

a. Limited Research on User Trust in Academic Research Management Systems – Most trust-related studies focus on commercial applications or healthcare systems, with limited empirical data on university information systems like SIMLPPM.
b. Lack of Comprehensive HOT-FIT Model Applications in Higher Education – Although the HOT-FIT model has been widely applied in business and healthcare IT systems, its use in evaluating research management platforms remains underexplored.
c. Challenges in Data Visualization for Research Performance Dashboards – Prior studies suggest data visualization enhances decision-making. However, academic institutions' methodologies for optimizing research and community service data visualization remain underdeveloped.

This study builds upon prior research by investigating user trust in the SIMLPPM system and evaluating how dashboard-based data visualization can improve decision-making at Universitas Jambi. Applying the HOT-FIT model, this research aims to provide empirical insights into system adoption factors, bridging the gap between theoretical frameworks and practical implementation in higher education. Furthermore, by exploring data visualization techniques, this study seeks to enhance the accessibility of research performance metrics, contributing to improved transparency and institutional decision-making.

3. METHODS

Research Design

This study employs a quantitative research approach with a descriptive-explanatory design to evaluate user trust and data visualization effectiveness in the Sistem Informasi Penelitian dan Pengabdian kepada Masyarakat (SIMLPPM) at Universitas Jambi. The research is structured to assess the impact of dashboard-based data visualization on user confidence and decision-making support, using the Human-Organization-Technology FIT (HOT-FIT) model as the theoretical framework. The study integrates survey-based user evaluation, system performance assessment, and data visualization analysis to provide comprehensive insights into SIMLPPM's effectiveness.

Study Population and Sampling

The study population comprises faculty members, researchers, and academic administrators at Universitas Jambi who actively engage with the SIMLPPM system. Purposive sampling was used to select participants with prior experience using SIMLPPM for research and community service management. A total of 128 respondents participated in the study, ensuring a representative sample for evaluating user trust and dashboard functionality.

Data Collection Methods

a. *Survey Questionnaire*

A structured questionnaire survey was designed to measure user perceptions of system quality, information quality, service quality, system use, user satisfaction, and trust in SIMLPPM (Table 1). The survey items were adapted from validated instruments based on the HOT-FIT model (Yusof et al., 2008) and previous research on technology adoption and trust in information systems (Silic et al., 2018). Responses were recorded using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1. HOT-FIT Model Variables

Latent Variable	Variable Indicator	Code
System Quality (KS)	SIMLPPM is easy to use and user-friendly	KS1
	The SIMLPPM interface is simple and not confusing	KS2
	SIMLPPM has access rights, ensuring data confidentiality	KS3
	SIMLPPM is easily accessible	KS4
	SIMLPPM rarely experiences errors	KS5
Information Quality (KI)	The information generated by SIMLPPM matches the input data	KI1
	The information provided by SIMLPPM reflects actual conditions	KI2
	The information from SIMLPPM is precise and accurate	KI3
	The information generated by SIMLPPM is comprehensive and detailed	KI4
	The information from SIMLPPM is easy to read	KI5
Service Quality (KL)	Availability of a user guide for SIMLPPM	KL1
	Fast and responsive service from the SIMLPPM development team	KL2
	SIMLPPM can be accessed from anywhere	KL3
System Use (PS)	Using SIMLPPM simplifies the process of finding information	PS1
	SIMLPPM use assists with daily tasks	PS2
	SIMLPPM use supports decision-making	PS3
	I have good skills in using SIMLPPM	PS4
User Satisfaction (KP)	The facilities and features in SIMLPPM meet my needs	KP1
	I am satisfied with using SIMLPPM	KP2
	All features and functions in SIMLPPM operate as needed	KP3
	I am satisfied with SIMLPPM's interface	KP4
	Overall, SIMLPPM meets my expectations in assisting with daily tasks	KP5
	SIMLPPM is easy to use	KP6
Organization Structure (SO)	SIMLPPM is implemented as a strategy to improve performance	SO1
	SIMLPPM can be used according to its functions and roles within the organization	SO2
	SIMLPPM facilitates coordination between units effectively	SO3
	The implementation of SIMLPPM was well-planned by management	SO4
	Management provides infrastructure support for SIMLPPM implementation	SO5
Facilitating Condition (KF)	The institution provides resources, facilities, and infrastructure (hardware, software, network infrastructure, maintenance, and technical support) to support SIMLPPM use	KF1
	The institution offers training for SIMLPPM usage	KF2

	There are personnel responsible for assisting in case of issues with SIMLPPM	KF3
Top Management Support (DP)	SIMLPPM implementation is supported by top management	DP1
	Supervisors recommend using SIMLPPM	DP2
	Supervisors consider SIMLPPM important and beneficial	DP3
Net Benefit (NB)	SIMLPPM helps with daily work tasks	NB1
	SIMLPPM improves work efficiency	NB2
	SIMLPPM effectively supports goal achievement	NB3
	SIMLPPM enhances communication across all organizational divisions	NB4
	SIMLPPM improves organizational performance in facing current competition	NB5
	SIMLPPM supports the vision and mission of the organization	NB6

b. *System Performance and Data Visualization Analysis*

System performance was assessed by evaluating dashboard usability, data visualization accuracy, and accessibility within SIMLPPM. The study employed data analytics techniques to examine the effectiveness of visual representation methods, such as graphs, tables, and interactive dashboards, in conveying research and community service performance metrics. Additionally, usability testing was conducted to measure task completion time, navigation efficiency, and user comprehension of visualized data.

c. *Interviews and Expert Validation*

To supplement the quantitative findings, semi-structured interviews were conducted with IT system developers, research coordinators, and administrative personnel to gain insights into system functionality and potential areas for improvement. Expert validation was also sought from data visualization specialists and higher education research administrators to assess the adequacy of the dashboard's data representation techniques.

Data Analysis Techniques

a. *Structural Equation Modeling (SEM) using SmartPLS*

To analyze the relationship between system quality, information quality, service quality, user satisfaction, and trust, Structural Equation Modeling (SEM) was applied using SmartPLS 3.0. The SEM approach was chosen because it can assess complex relationships between multiple latent variables and validate measurement constructs. Outer model validation was conducted using convergent validity, composite reliability, and discriminant validity tests. In contrast, the inner model assessment evaluated the predictive relevance (R^2 values) and hypothesis testing using path coefficients and t-statistics.

b. *Descriptive Statistics and Usability Metrics*

Descriptive statistics were used to summarize survey responses, including mean, standard deviation, and frequency distribution. Additionally, usability testing results, such as task completion rates and perceived ease of use, were analyzed to evaluate the effectiveness of SIMLPPM's dashboard visualization.

c. *Thematic Analysis for Qualitative Data*

Responses from semi-structured interviews and expert evaluations were analyzed using thematic analysis, identifying key themes related to user trust, system usability, and visualization challenges. Recurring patterns and expert recommendations were synthesized to provide qualitative insights into potential system enhancements.

Reliability and Validity Considerations

To ensure data reliability and validity, the following measures were implemented:

Instrument Reliability: To ensure measurement stability, the survey instrument's internal consistency was tested using Cronbach's Alpha (>0.70) and Composite Reliability (CR).

Content and Construct Validity: The questionnaire was pretested with a pilot group of 20 users, and expert reviews were conducted to refine survey items.

Triangulation of Data Sources: Multiple data collection methods (survey, usability testing, interviews) were integrated to cross-validate findings and reduce potential biases.

Ethical Considerations

All participants provided informed consent, and the study adhered to ethical guidelines, ensuring data confidentiality and anonymity. Ethical approval was obtained from the Research Ethics Committee of Universitas Jambi, and participation was entirely voluntary.

Replicability of the Study

This research follows a systematic methodology that allows replication by other scholars seeking to evaluate user trust and data visualization effectiveness in academic research management systems. This study provides a robust framework for future investigations on information system adoption in higher education by clearly outlining the research instruments, data analysis techniques, and validation processes.

4. RESULTS

User satisfaction with SIMLPPM at Universitas Jambi was evaluated using the HOT-FIT model through a questionnaire distributed to faculty members via the website https://angket.unja.ac.id/. A total of 128 respondents participated in the survey. Data analysis was performed using Structural Equation Modelling (SEM) with SmartPLS, focusing on evaluating the measurement model (Outer Model) and structural model (Inner Model).

Outer Model Evaluation

The Outer Model assessment included three key validity and reliability tests: convergent validity, composite reliability, and discriminant validity. Convergent validity was evaluated using outer loading values, where indicators with factor loadings above 0.7 were considered valid. Composite reliability was tested to ensure internal consistency, and discriminant validity was assessed using cross-loading values and the square root of AVE (Average Variance Extracted), following the criteria set by Ghozali (2011). A model is considered to have good discriminant validity if the square root of AVE for each construct is greater than its correlations with other constructs.

The Outer Loading Analysis (Table 2) demonstrates that most indicators meet the threshold for factor loadings above 0.7, supporting measurement validity and reliability. However, KS5 (System Quality) showed a low loading value (0.127), indicating that this indicator may not contribute effectively to the construct and should be re-evaluated.

Table 2. Outer Loading Model of All Indicators

Construct	Indicator	Factor Loading
Leadership Support (DP)	DP1	0.888
	DP2	0.855
	DP3	0.875
Facilities (KF)	KF1	0.895
	KF2	0.862
	KF3	0.837
Information Quality (KI)	KI1	0.826
	KI2	0.866
	KI3	0.883
	KI4	0.813
	KI5	0.833
Service Quality (KL)	KL1	0.811
	KL2	0.847
	KL3	0.747
User Satisfaction (KP)	KP1	0.870
	KP2	0.907
	KP3	0.827
	KP4	0.898
	KP5	0.863
	KP6	0.830
System Quality (KS)	KS1	0.839
	KS2	0.881

	KS3	0.756
	KS4	0.832
	KS5	**0.127**
System Use (PS)	PS1	0.768
	PS2	0.838
	PS3	0.852
	PS4	0.699
Net Benefit (NB)	NB1	0.804
	NB2	0.925
	NB3	0.925
	NB4	0.860
	NB5	0.840
	NB6	0.834
Organizational Structure (SO)	SO1	0.823
	SO2	0.818
	SO3	0.870
	SO4	0.869
	SO5	0.851

Composite Reliability Test

The composite reliability test evaluates the internal consistency of the research instrument, ensuring that the questionnaire consistently measures the intended constructs. A construct is considered reliable if both Composite Reliability (CR) and Cronbach's Alpha exceed 0.70 (Nunnally, 1996 in Ghozali, 2011). Reliability was tested using Cronbach's Alpha and Composite Reliability, with the results summarized in Table 3.

Table 3. Composite Reliability and Cronbach's Alpha

Construct	Cronbach's Alpha	Composite Reliability
Leadership Support	0.843	0.905
Facilities	0.933	0.947
User Satisfaction	0.833	0.899
Information Quality	0.899	0.926
Service Quality	0.723	0.844
System Quality	0.763	0.841
Net Benefit	0.933	0.947
System Use	0.799	0.870
Organizational Structure	0.901	0.927

The results indicate that all constructs meet the reliability threshold, with Cronbach's Alpha and Composite Reliability values exceeding 0.70, confirming high internal consistency. The highest reliability was observed for Facilities (CR = 0.947, α = 0.933) and Net Benefit (CR = 0.947, α = 0.933), indicating strong measurement consistency. Although Service Quality (CR = 0.844, α = 0.723) and System Quality (CR = 0.841, α = 0.763) have slightly lower values, they remain within the acceptable range. These findings confirm that the questionnaire is statistically reliable for measuring user perceptions of SIMLPPM's effectiveness, supporting further analysis in the structural model evaluation.

Discriminant Validity Test

Discriminant validity measures the extent to which a construct is distinct from others in the model. It is assessed by comparing the Average Variance Extracted (AVE) square root for each construct with its correlation with other constructs. A model has good discriminant validity if the square root of AVE for each construct is greater than the correlations between that construct and others (Ghozali, 2011). The AVE values obtained in this study are presented in Table 4.

Table 4. Average Variance Extracted (AVE) for Discriminant Validity

Construct	Average Variance Extracted (AVE)
Leadership Support	0.761
Facilities	0.75
User Satisfaction	0.748
Information Quality	0.714
Service Quality	0.644
System Quality	0.552
Net Benefit	0.75
System Use	0.627
Organizational Structure	0.716

The results indicate that all constructs meet the discriminant validity requirement, with AVE values above 0.50, confirming that each construct captures sufficient variance from its indicators. The highest AVE values were observed for Leadership Support (0.761), Facilities (0.750), and Net Benefit (0.750), indicating strong discriminant validity. System Quality (AVE = 0.552) has the lowest value but remains above the acceptable threshold, suggesting adequate differentiation from other constructs. These findings confirm that the measurement model has good discriminant validity, ensuring that the constructs in the study are conceptually distinct and that the research framework is statistically robust for further structural model analysis.

Inner Model Evaluation

The inner model (structural model) evaluation assesses the relationships between constructs, significance levels, and predictive power of the model. This is done by analyzing the R-Square (R^2) values, which indicate how well the independent variables explain the variance in the dependent variables. The Stone-Geisser test (Q^2) for predictive relevance and t-tests for path significance are used to validate the model's predictive capability. The R-Square (R^2) and Adjusted R-Square values for the dependent constructs are presented in Table 5.

Table 5. R-Square and Adjusted R-Square Values

Construct	R-Square	Adjusted R-Square
User Satisfaction	0.802	0.796
Net Benefit	0.652	0.647
System Use	0.687	0.679

The results indicate that User Satisfaction ($R^2 = 0.802$) has the highest explained variance, meaning that the independent variables in the model account for 80.2% of the variation in user satisfaction, demonstrating a strong predictive power. Similarly, System Use ($R^2 = 0.687$) and Net Benefit ($R^2 = 0.652$) show moderate explanatory power, suggesting that the model effectively predicts system usage and perceived benefits.

The Adjusted R-Square values, which account for the number of predictors in the model, remain close to the R^2 values, confirming that the model is statistically stable and well-fitted. The next step involves evaluating the significance of structural path coefficients to confirm the strength and direction of relationships between constructs. These findings support the reliability of the structural model. They demonstrate that the independent variables significantly explain user satisfaction, system use, and net benefits, providing strong empirical support for the research framework.

Overall Hypothesis Testing Results

The structural model hypothesis testing was conducted to assess the significance of relationships between variables in the research framework. Based on the structural equation modeling (SEM) analysis, the hypothesis testing results are summarized in Table 6.

Table 6. Hypothesis Testing Results

Hypothesis	Statement	Result
H1	Leadership Support (DP) significantly affects System Use	Accepted
H2	Facilities (KF) significantly affect Net Benefit	Accepted
H3	User Satisfaction (KP) significantly affects Net Benefit	Accepted
H4	User Satisfaction (KP) significantly affects System Use	Accepted
H5	Information Quality significantly affects User Satisfaction	Rejected
H6	Service Quality (KL) significantly affects User Satisfaction	Rejected
H7	System Quality (KS) significantly affects User Satisfaction	Rejected
H8	System Quality (KS) significantly affects System Use (PS)	Accepted
H9	Organizational Structure (SO) significantly affects User Satisfaction (KP)	Accepted

The results indicate that Leadership Support (H1), Facilities (H2), User Satisfaction (H3, H4), System Quality (H8), and Organizational Structure (H9) significantly influence system use and net benefit, confirming their importance in the successful adoption of the SIMLPPM system. However, Information Quality (H5), Service Quality (H6), and System Quality's impact on User Satisfaction (H7) were not significant, suggesting that other factors such as ease of use and organizational support play a more dominant role in shaping user perceptions.

These findings highlight the importance of institutional support, well-developed facilities, and a user-friendly system to ensure effective system utilization and maximise its benefits. The rejection of H5, H6, and H7 suggests further improvements in data transparency, service responsiveness, and system optimization to enhance user satisfaction.

5. DISCUSSION

This study evaluated user satisfaction and system effectiveness of SIMLPPM at Universitas Jambi using the HOT-FIT model. The findings provide valuable insights into system quality, information quality, service quality, user satisfaction, and system use, highlighting the strengths and areas requiring improvement in the current system.

System Quality and Reliability

The Outer Model analysis confirmed that most indicators met the validity threshold, with factor loadings above 0.7, ensuring the reliability of the measurement model. However, KS5 (System Quality) showed a low loading value (0.127), suggesting that system stability remains a concern. The Composite Reliability test further reinforced the internal consistency of constructs, with all Cronbach's Alpha and Composite Reliability values exceeding 0.7. The highest reliability was observed for Facilities (CR = 0.947, α = 0.933) and Net Benefit (CR = 0.947, α = 0.933), indicating strong measurement consistency. However, Service Quality (CR = 0.844, α = 0.723) and System Quality (CR = 0.841, α = 0.763) had slightly lower reliability, suggesting potential areas for system improvement, particularly regarding error reduction and user accessibility.

Factors Influencing User Satisfaction

The Inner Model analysis revealed that User Satisfaction (R^2 = 0.802) had the highest explained variance, indicating that the model effectively captures the factors contributing to user perceptions of SIMLPPM. However, hypothesis testing results showed that Information Quality (H5), Service Quality (H6), and System Quality's impact on User Satisfaction (H7) were not significant. This finding suggests that while users value system accuracy and service efficiency, their overall satisfaction is influenced more by organizational structure, ease of use, and system accessibility rather than perceived data quality or service responsiveness. This aligns with previous research, which suggests that usability and system design often outweigh technical service support in influencing technology adoption in academic environments (Al-Fraihat et al., 2020).

Impact of Organizational and Infrastructural Support

Among the key drivers of user satisfaction and system use, Leadership Support (H1), Facilities (H2), and Organizational Structure (H9) were found to be significant factors. The high impact of organizational structure ($\beta = 0.543$, $p < 0.001$) on user satisfaction suggests that management support and structured implementation are crucial in ensuring effective system utilization. This supports previous findings that institutional commitment and leadership involvement directly enhance system adoption rates (Dwivedi et al., 2019). Additionally, the strong relationship between Facilities and Net Benefit ($\beta = 0.576$, $p < 0.001$) highlights the importance of infrastructure, training, and support services in enhancing system adoption. These results reinforce the idea that technology implementation in higher education institutions requires not only functional systems but also administrative and infrastructural backing to maximize user engagement (Teo, 2019).

System Use and Perceived Benefits

The study confirms that User Satisfaction significantly influences both System Use (H4) and Net Benefit (H3), demonstrating that when users find the system intuitive and practical, they are more likely to engage with it actively and perceive greater institutional benefits. Similarly, System Use (H8) was significantly influenced by System Quality ($\beta = 0.168$, $p = 0.033$), suggesting that while error minimization and accessibility play a role in promoting system adoption, other usability factors may be more critical in determining long-term user engagement.

Challenges in Information and Service Quality

An unexpected finding was that Information Quality and Service Quality did not significantly affect User Satisfaction. This contradicts prior studies that emphasized data accuracy and service responsiveness as key determinants of user acceptance (DeLone & McLean, 2003). A possible explanation is that users prioritize system usability over data precision when engaging with SIMLPPM. Given that dashboard-based visualization was implemented, users may have valued ease of access and navigation more than the comprehensiveness of available data. This supports previous findings that interface design and intuitive data presentation can significantly enhance user experience, even if absolute data accuracy is secondary (Ifenthaler & Schweinbenz, 2016).

6. CONCLUSION

This study evaluated user satisfaction and system effectiveness of SIMLPPM at Universitas Jambi using the HOT-FIT model, revealing that leadership support, organizational structure, and facilities significantly impact user satisfaction and system use, while information quality and service quality were not significant factors. These findings underscore the importance of institutional commitment, infrastructure, and usability over purely technical attributes in ensuring system adoption. Despite strong usability, challenges remain in system reliability (KS5 = 0.127), data transparency, and service responsiveness, highlighting areas for improvement. To maximize engagement, universities should enhance search functionalities, error reduction, and accessibility while reinforcing training and administrative support.

7. LIMITATION

This study has limitations. First, reliance on self-reported survey data may introduce bias; future research should incorporate system log analysis for validation. Second, findings are limited to Universitas Jambi, requiring broader studies across multiple institutions for generalizability. Future work could explore AI-driven analytics to enhance SIMLPPM's interface and examine psychological factors like security and transparency in fostering user trust.

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