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# System Quality and Information Quality in Public Sector Accounting Information Systems: The Mediating Role of Perceived Usefulness on User Satisfaction

**Tri Lestari[1], Sri Rahayu[2], Achmad Hizazi[3], Wirmie Eka Putra[4]**
[1]Jambi University, Jambi, Indonesia, trilestari2588@gmail.com
[2]Jambi University, Jambi, Indonesia, sri_rahayu@unja.ac.id
[3]Jambi University, Jambi, Indonesia, hizazi@unja.ac.id
[4]Jambi University, Jambi, Indonesia, wirmie_eka@unja.ac.id

Corresponding Author: trilestari2588@gmail.com[1]

**Abstract:** This study is motivated by the suboptimal level of user satisfaction in the implementation of accounting information systems in the public sector. The objective of this study is to examine the effect of system quality and information quality on user satisfaction with the mediating role of perceived usefulness. The research object is work units that are partners of the State Treasury Service Office in Jambi, with a population of 230 work units and a sample of 161 work units. This study employs a quantitative approach using survey methods and data analysis through Partial Least Squares Structural Equation Modeling. The results show that system quality and information quality have a positive and significant effect on perceived usefulness. Furthermore, perceived usefulness has a positive and significant effect on user satisfaction. Information quality also has a direct effect on user satisfaction, while system quality does not have a direct effect. Mediation analysis indicates that perceived usefulness fully mediates the relationship between system quality and user satisfaction and partially mediates the relationship between information quality and user satisfaction. This study concludes that enhancing perceived usefulness is essential to improving user satisfaction in public sector accounting information systems.

**Keywords:** System Quality, Information Quality, Perceived Usefulness, User Satisfaction, Public Sector.

## INTRODUCTION

The development of information systems has become an essential element in supporting organizational performance, particularly in improving efficiency, effectiveness, and decision-making quality. Information systems are defined as integrated components that collect, process, store, and distribute information to support organizational activities and decision-making processes (Laudon, 2020). In the public sector, the implementation of information systems is increasingly important as governments are required to provide transparent, accountable, and efficient financial management.

One of the critical systems implemented in the public sector is the accounting information system, which functions to process financial data into useful information for decision-making (Romney et al., 2012). In Indonesia, the government has implemented an integrated financial management system through the Sistem Aplikasi Keuangan Tingkat Instansi as part of digital transformation in public financial governance. This system is designed to improve the quality of financial reporting, budget monitoring, and decision-making processes in government institutions (Pambudi & Adam, 2018).

However, despite its strategic role, the implementation of the system still faces various challenges. Several issues have been identified, including system instability, incomplete features, data inaccuracies, user interface limitations, and inadequate user support (Nasrudin & Widagdo, 2020). These problems indicate that the quality of the system and the quality of information generated are not yet optimal, which may affect user satisfaction. Empirical evidence also shows that user satisfaction in public sector services, including those related to financial systems, has experienced fluctuations, indicating that system improvements are still necessary. In addition, issues such as delays in reporting and inconsistencies in financial data further reflect challenges in system utilization and effectiveness.

From a theoretical perspective, the success of an information system can be explained using the Information System Success Model, which emphasizes system quality and information quality as key determinants of system success (DeLone & McLean, 2003). Meanwhile, the Technology Acceptance Model highlights perceived usefulness as a fundamental factor influencing user attitudes and system utilization (Davis, 1989). The integration of these two models provides a comprehensive framework to explain how system characteristics influence user satisfaction.

Previous studies have shown inconsistent results regarding the relationship between system quality, information quality, perceived usefulness, and user satisfaction. Some studies found significant relationships (Rana et al., 2015); (Hariguna et al., 2017), while others reported insignificant effects (Alkraiji, 2021); (Wang & Teo, 2020). These inconsistencies indicate the need for further empirical investigation, particularly in the context of public sector accounting information systems.

This study offers a distinct contribution by providing a contextualized understanding of accounting information system success in a mandatory public sector environment. Unlike prior studies that predominantly assume direct relationships between system quality, information quality, and user satisfaction, this study demonstrates that system quality does not directly influence user satisfaction but operates through perceived usefulness as a full mediating mechanism, while information quality exerts both direct and indirect effects. This finding refines the integration of the Technology Acceptance Model and the Information System Success Model by highlighting the dominant role of perceived usefulness as a central linkage between system characteristics and user outcomes in a non-voluntary usage context. Furthermore, this study emphasizes that, within public sector accounting systems, information quality plays a more strategic role than system quality in shaping user satisfaction, thereby offering new insights for both theory development and practical system implementation.

Based on these conditions, this study focuses on work units that are partners of the State Treasury Service Office in Jambi to analyze the factors influencing user satisfaction in the use of accounting information systems. Therefore, the problem formulation in this study is: (1) Does system quality affect perceived usefulness? (2) Does information quality affect perceived usefulness? (3) Does perceived usefulness affect user satisfaction? (4) Does system quality affect user satisfaction? (5) Does information quality affect user satisfaction? (6) Does perceived usefulness mediate the relationship between system quality and user satisfaction? and (7) Does perceived usefulness mediate the relationship between information quality and user satisfaction?

This study aims to analyze the effect of system quality and information quality on user satisfaction with the mediating role of perceived usefulness in public sector accounting information systems. The findings are expected to provide both theoretical contributions to the development of integrated information system models and practical implications for improving system implementation in government institutions.

## Literature Review

The success of information systems has been extensively examined through various theoretical frameworks, among which the Information System Success Model (ISSM) and the Technology Acceptance Model (TAM) are the most widely adopted. These models have been continuously validated and extended in recent studies, particularly in the context of digital transformation and public sector systems (Alkraiji, 2021); (Wang & Teo, 2020); (Hooda et al., 2023). The integration of these frameworks provides a more comprehensive understanding of how system characteristics influence user satisfaction and system outcomes.

The Information System Success Model developed by (DeLone & McLean, 2003) posits that system quality and information quality are fundamental determinants of system success. System quality refers to the desirable characteristics of an information system, such as reliability, usability, response time, and flexibility. Meanwhile, information quality reflects the quality of system outputs, including accuracy, completeness, relevance, and timeliness. In recent studies, these two constructs have been consistently identified as critical factors influencing user perceptions and satisfaction in both private and public sector systems (Al-Rahmi et al., 2022); (Shim & Jo, 2020); (Mellouli et al., 2020). In particular, in e-government and public financial systems, high-quality information plays a crucial role in supporting decision-making and ensuring transparency and accountability.

While ISSM focuses on system characteristics, the Technology Acceptance Model (Davis, 1989) explains how users perceive and evaluate technology. One of its central constructs, perceived usefulness, refers to the degree to which users believe that a system enhances their job performance. Empirical evidence consistently shows that perceived usefulness is a strong predictor of user satisfaction and system success (Martono et al., 2020); Abdul Rahim et al., 2023); (Hooda et al., 2023). In organizational contexts, particularly in the public sector, perceived usefulness serves as a key cognitive mechanism that links system attributes to user outcomes.

The integration of ISSM and TAM has been increasingly adopted in recent research to explain information system success more comprehensively. Several studies demonstrate that system quality and information quality significantly influence perceived usefulness, which in turn affects user satisfaction (Al-Rahmi et al., 2022); (Alkraiji, 2021). This integrated perspective highlights that technical system attributes alone are insufficient to explain user satisfaction unless they are translated into perceived benefits for users.

However, empirical findings remain inconsistent. Some studies report that system quality and information quality have direct effects on user satisfaction (Wang & Teo, 2020); (Al-Rahmi et al., 2022), while others find that these relationships are mediated by user perceptions such as perceived usefulness (Hooda et al., 2023); (Abdul Rahim et al., 2023). These inconsistencies indicate that contextual factors, such as the nature of system usage, play a significant role in shaping the relationships between variables. In mandatory system environments, such as public sector accounting information systems, users are required to use the system regardless of their preferences. As a result, system quality is often perceived as a basic requirement rather than a determinant of satisfaction. Instead, users evaluate systems based on the extent to which they provide tangible benefits to their work. In this context, perceived usefulness becomes a more dominant factor influencing user satisfaction (Alkraiji, 2021); (Mellouli et al., 2020). This suggests that perceived usefulness acts as a critical mediating mechanism that translates system and information quality into user outcomes.

Based on this theoretical and empirical foundation, this study proposes an integrated model in which system quality and information quality influence user satisfaction both directly and indirectly through perceived usefulness. This study extends prior research by emphasizing the role of perceived usefulness as a dominant mediator in mandatory system environments, thereby providing a more context-sensitive understanding of information system success in the public sector. Accordingly, the following hypotheses are proposed:

H1: System quality has a positive effect on perceived usefulness.
H2: System quality has a positive effect on user satisfaction.
H3: Information quality has a positive effect on perceived usefulness.
H4: Information quality has a positive effect on user satisfaction.
H5: Perceived usefulness has a positive effect on user satisfaction.
H6:Perceived usefulness mediates the relationship between system quality and user satisfaction.
H7:Perceived usefulness mediates the relationship between information quality and user satisfaction.

## METHOD

This study employs a quantitative research approach to examine the relationships between system quality, information quality, perceived usefulness, and user satisfaction in public sector accounting information systems. A survey method was used to collect primary data from respondents who actively utilize the system in their work processes.

The research was conducted on work units that are partners of the State Treasury Service Office (KPPN) in Jambi, Indonesia. The population consisted of 230 work units, and a sample of 161 work units was selected using purposive sampling. The selection criteria included work units that actively use the accounting information system and are directly involved in financial management activities. This sampling approach is considered appropriate for obtaining relevant and reliable responses from experienced system users.

Data were collected through a structured questionnaire using a seven-point Likert scale ranging from “strongly disagree” to “strongly agree.” The measurement items were adapted from established and validated studies to ensure content validity. System quality was measured using indicators such as reliability, flexibility, ease of use, response time, and security, adapted from (DeLone & McLean, 2003) and subsequent studies (Alkraiji, 2021); (Al-Rahmi et al., 2022). Information quality included accuracy, completeness, relevance, and timeliness, following prior research (Wang & Teo, 2020); (Shim & Jo, 2020). Perceived usefulness was measured based on (Davis, 1989), focusing on the extent to which the system enhances job performance. User satisfaction was measured using indicators reflecting overall satisfaction and system evaluation, adapted from prior IS success studies (DeLone & McLean, 2003); (Martono et al., 2020). The questionnaire was reviewed and refined to ensure clarity and relevance to the public sector context.

To minimize potential bias, several procedural remedies were applied during data collection, including ensuring respondent anonymity and reducing ambiguity in question wording. In addition, statistical testing was conducted to assess common method bias using Harman’s single-factor test. The results indicate that the first factor accounts for less than 50% of the total variance, suggesting that common method bias is not a significant concern in this study.

Data analysis was performed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.1.0.9. The use of PLS-SEM is justified for several reasons. First, this study aims to examine predictive relationships and mediation effects, for which PLS-SEM is particularly suitable. Second, the model includes multiple constructs and complex relationships, making PLS-SEM an appropriate analytical technique. Third, PLS-SEM is recommended for studies with relatively moderate sample sizes and does not require strict assumptions of multivariate normality (Hair Jr et al., 2021); (Henseler et al., 2016).

The analysis consists of two main stages: evaluation of the measurement model and evaluation of the structural model. The measurement model was assessed by examining indicator reliability, internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (Average Variance Extracted), and discriminant validity using the Fornell-Larcker criterion. The structural model was evaluated using path coefficients, coefficients of determination ($R^2$), predictive relevance ($Q^2$), and effect size ($f^2$) to assess the strength and significance of relationships among variables. Hypothesis testing was conducted using the bootstrapping method to determine the statistical significance of each path. Overall, this methodological approach provides a robust framework for analyzing the relationships between system quality, information quality, perceived usefulness, and user satisfaction in the context of public sector accounting information systems.

## RESULTS AND DISCUSSION

The data analysis in this study was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), consisting of the evaluation of the measurement model and the structural model.

### Measurement Model Evaluation

The measurement model assessment indicates that all indicators meet the required validity and reliability criteria. Factor loadings exceed the recommended threshold of 0.70, confirming indicator reliability. Convergent validity is established as all constructs achieve Average Variance Extracted (AVE) values above 0.50. Furthermore, internal consistency reliability is confirmed through Cronbach's alpha and composite reliability values exceeding 0.70.

However, it is important to note that several constructs exhibit reliability values exceeding 0.90. While this indicates strong internal consistency, it may also suggest potential redundancy among indicators. This issue has been critically considered in this study. Despite the high reliability values, discriminant validity assessed using the Fornell-Larcker criterion confirms that each construct remains empirically distinct. Therefore, the measurement model is considered acceptable, although future research may consider refining indicators to reduce potential redundancy.

### Structural Model Evaluation

The structural model demonstrates substantial explanatory power. The coefficient of determination ($R^2$) indicates that system quality and information quality explain 63.1% of the variance in perceived usefulness, while system quality, information quality, and perceived usefulness explain 74.1% of the variance in user satisfaction. These results suggest that the proposed model has strong predictive capability. Additionally, the predictive relevance value ($Q^2 = 0.646$) indicates that the model has high predictive relevance.

To provide a more comprehensive interpretation, effect sizes ($f^2$) were also examined. The results indicate that perceived usefulness has a strong effect on user satisfaction, while information quality has a moderate effect on perceived usefulness, and system quality has a relatively smaller effect. This finding highlights that the magnitude of relationships varies across constructs and should be interpreted beyond statistical significance.

## Hypothesis Testing

**The results of hypothesis testing are presented in Table 1.**

| Effect | Original sample (O) | T statistics (\|O/STDEV\|) | P values | Interpretation |
|---|---|---|---|---|
| **SQ -> PU** | 0.354 | 2.430 | 0.015 | Accepted |
| **SQ -> US** | 0.028 | 0.212 | 0.832 | Rejected |
| **IQ -> PU** | 0.467 | 3.462 | 0.001 | Accepted |
| **IQ -> US** | 0.292 | 2.628 | 0.009 | Accepted |
| **PU -> US** | 0.590 | 5.132 | 0.000 | Accepted |

**Table 2. Mediation Effect Based on Path Coefficient**

| Variabel Effect | Original sample (O) | T statistics (\|O/STDEV\|) | P values | Interpretation | Mediation Effect |
|---|---|---|---|---|---|
| **SQ -> PU -> US** | 0.209 | 2.512 | 0.012 | Accepted | Full mediation |
| **IQ -> PU -> US** | 0.276 | 2.763 | 0.006 | Accepted | Complementary Partial mediation |

The results of hypothesis testing show that system quality has a positive and significant effect on perceived usefulness, while it does not have a significant direct effect on user satisfaction. Information quality significantly affects both perceived usefulness and user satisfaction. Furthermore, perceived usefulness has a strong and significant effect on user satisfaction. Mediation analysis reveals that perceived usefulness fully mediates the relationship between system quality and user satisfaction and partially mediates the relationship between information quality and user satisfaction.

## Discussion

This study provides a more nuanced understanding of the relationships between system quality, information quality, perceived usefulness, and user satisfaction in public sector accounting information systems.

First, the findings indicate that both system quality and information quality significantly influence perceived usefulness. This suggests that reliable system performance and high-quality information outputs enhance users' perception of system benefits. However, the stronger effect of information quality compared to system quality indicates that users place greater emphasis on the value of information outputs rather than purely technical system attributes. This finding is particularly relevant in information-intensive environments such as public sector financial management.

Second, perceived usefulness is found to be the strongest predictor of user satisfaction. This result highlights that users evaluate the system primarily based on the extent to which it improves their job performance. Rather than focusing solely on technical characteristics, users are more concerned with the practical benefits derived from system usage. This reinforces the central role of perceived usefulness as a cognitive mechanism linking system attributes to user outcomes.

Interestingly, system quality does not have a direct effect on user satisfaction. This finding provides an important theoretical insight. In the context of mandatory system usage, such as public sector accounting systems, users are required to use the system regardless of its quality. As a result, system quality is perceived as a basic expectation rather than a factor that directly enhances satisfaction. Improvements in system quality may not lead to increased satisfaction unless they translate into tangible performance benefits. This finding challenges the traditional assumption of a direct relationship between system quality and user satisfaction and highlights the importance of contextual factors in shaping information system success.

In contrast, information quality has both direct and indirect effects on user satisfaction. This indicates that accurate, relevant, and timely information not only enhances perceived

usefulness but also directly contributes to user satisfaction by improving decision-making effectiveness. Compared to system quality, information quality plays a more strategic role in shaping user experience and satisfaction in public sector accounting systems.

The mediation analysis further strengthens these findings. Perceived usefulness fully mediates the relationship between system quality and user satisfaction and partially mediates the relationship between information quality and user satisfaction. This confirms that perceived usefulness acts as a critical mechanism that translates system and information attributes into user satisfaction outcomes.

The main theoretical contribution of this study lies in refining the integration between the Information System Success Model and the Technology Acceptance Model. Specifically, this study demonstrates that in mandatory system environments, the influence of system quality on user satisfaction becomes indirect, operating through perceived usefulness. This finding emphasizes that perceived usefulness functions as a dominant mediating mechanism, thereby providing a more context-sensitive explanation of information system success.

From a practical perspective, the findings suggest that improving user satisfaction in public sector accounting information systems requires more than enhancing system performance. Organizations should focus on improving the quality of information and ensuring that users clearly perceive the benefits of the system in supporting their work processes. Efforts such as improving data accuracy, timeliness, and relevance, as well as providing user training and support, are essential to enhance perceived usefulness and ultimately increase user satisfaction.

Overall, this study extends prior research by providing a deeper understanding of how system quality and information quality influence user satisfaction through perceived usefulness, particularly in mandatory system environments.

## CONCLUSION

This study examines the influence of system quality and information quality on user satisfaction with the mediating role of perceived usefulness in public sector accounting information systems. The findings reveal that both system quality and information quality significantly affect perceived usefulness, while perceived usefulness has a strong and significant effect on user satisfaction. In addition, information quality directly influences user satisfaction, whereas system quality does not have a direct effect.

The mediation analysis further shows that perceived usefulness fully mediates the relationship between system quality and user satisfaction and partially mediates the relationship between information quality and user satisfaction. These results indicate that users evaluate system performance primarily based on the perceived benefits derived from system usage rather than technical characteristics alone.

From a theoretical perspective, this study contributes to the development of information system research by refining the integration between the Information System Success Model and the Technology Acceptance Model. Specifically, this study demonstrates that in mandatory system environments, the direct influence of system quality on user satisfaction diminishes, while perceived usefulness emerges as a dominant mediating mechanism. This finding provides a more context-sensitive explanation of information system success and extends prior research by highlighting the importance of usage context in shaping the relationships between system characteristics and user outcomes.

From a practical perspective, the findings suggest that improving user satisfaction in public sector accounting information systems requires a stronger focus on enhancing perceived usefulness. Organizations should prioritize improving the quality of information, including accuracy, relevance, and timeliness, as well as ensuring that system features clearly support users' work processes. In addition, providing adequate training and user support is essential to help users fully realize the benefits of the system.

Despite its contributions, this study has several limitations. First, the study focuses on a specific regional context, which may limit the generalizability of the findings to other settings. Second, the use of cross-sectional data restricts the ability to capture changes in user perceptions over time. Third, the study relies on self-reported data, which may be subject to response bias, although procedural and statistical remedies have been applied.

Future research is encouraged to extend this study by examining different institutional contexts, including comparative studies across regions or countries. Longitudinal approaches may also be used to better understand changes in user perceptions and system usage over time. In addition, future studies may incorporate additional variables, such as trust, user competence, or organizational support, to provide a more comprehensive understanding of information system success in the public sector.

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