
The Qualitative Study of Information System Utilization in Organizational Decision-Making

Joko Sarono^{1*}, Abdul Jamil², Emmie Fatkhunnajah³, Nurkomar Hidayat⁴, Purwanto⁵

Universitas Saintek Muhammadiyah, Indonesia^{1,4,5}

Universitas Muhammadiyah Brebes, Indonesia^{2,3}

Email: joko.sarono@gmail.com*, abdul.jamil@ums.ac.id, emmie.fatkhunnajah@ums.ac.id, nurkomarhidaya@gmail.com, purwantojkt23@gmail.com

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Abstract

Background: The use of information systems has become a crucial element in supporting organizational decision-making amidst the complexity of the business environment and demands for efficiency. **Objective:** This study aims to explore how information systems are utilized in organizational decision-making processes, as well as to identify the benefits, challenges, and factors contributing to their success. **Methods:** The study used a qualitative approach with a case study method in an organization that has implemented an integrated information system. Data were collected through in-depth interviews, observations, and analysis of internal organizational documents. **Results:** The results indicate that information systems play a significant role in improving decision quality by providing accurate, timely, and relevant data. However, the use of information systems has not been fully optimized due to limited user competency, resistance to change, and data integration constraints. **Conclusion:** This study provides a conceptual contribution to understanding the role of information systems in organizational decision-making and provides practical implications for system managers and organizational leaders in improving the effectiveness of information technology utilization.

INTRODUCTION

Advances in information and communication technology have brought significant changes to the way organizations manage data and information (Bilan et al., 2023; Hao et al., 2022; Said, 2022). Information systems are now a critical infrastructure supporting various organizational activities, from daily operations to strategic decision-making. In the modern organizational context, accurate and timely decisions depend heavily on the availability of accurate, relevant, and timely information (Laudon & Laudon, 2020).

Decision-making is a crucial process that determines the direction and sustainability of an organization (Haque et al., 2021; Gupta & Sharma, 2019). Decisions made without adequate information support can potentially lead to errors and inefficiencies (Zhou et al., 2020). Therefore, information systems are seen as a key tool capable of reducing uncertainty and improving decision quality by processing data into valuable information (O'Brien & Marakas, 2018; Sadeghi et al., 2020). The proper use of information systems in decision-making processes allows organizations to adapt more effectively to dynamic business environments (Kim & Lee, 2021; Nogueira et al., 2019).

Although the adoption of information systems in various organizations continues to increase, their use in decision-making processes is not always optimal (Henderson & Venkatraman, 2019; Verville & Halington, 2021). Several studies have shown that the presence

of an information system does not automatically guarantee its use as a basis for decision-making (Senn, 2019). User behavior, organizational culture, and management support play a significant role in determining the extent to which information systems are effectively utilized (DeLone & McLean, 2003; Chen, 2020; Liang, Saraf, Hu, & Xue, 2021).

In addition to human factors, system complexity and the quality of the information produced also influence the level of information system utilization. Information that doesn't meet user needs, is difficult to understand, or isn't integrated across work units can hinder the decision-making process. This often leads decision-makers to rely on personal experience or intuition, even when information systems are readily available (Turban et al., 2019).

Despite this progress, the specific issue is that many organizations still struggle to use information systems as a real basis for decision-making. Having a system in place does not automatically mean that managers rely on it when making tactical or strategic choices. Your uploaded manuscript reflects this same concern, emphasizing that user competence, management support, organizational culture, and data integration problems often prevent information systems from being fully utilized in organizational decisions.

This problem is reinforced by broader evidence from international reports. The OECD shows that larger firms are far more likely than small firms to adopt enterprise software and advanced data technologies, indicating persistent organizational capability gaps. World Bank evidence likewise suggests that firms' internal monitoring practices, digital capabilities, and managerial readiness strongly affect whether digital technologies actually improve operations and performance. In other words, the challenge is no longer only access to technology, but the organizational ability to embed that technology into routine and strategic decision processes.

Previous studies indexed through major academic publishers have shown that information quality and analytics matter substantially for organizational decision outcomes. Hjelle et al. (2024) found that the format, currency, and completeness of information can improve decision quality by reducing perceived task complexity and increasing information satisfaction. Qatawneh et al. (2024) also showed that business intelligence adoption significantly influences decision-making performance in the banking sector. In addition, Gürkut et al. (2023) highlighted that information integration and information sharing in management systems can strengthen tactical and strategic decision-making processes.

However, the existing literature still shows an important gap. Much prior research has focused on quantitative testing of relationships among variables such as system quality, information quality, BI adoption, and performance, while fewer studies explore how information systems are actually experienced, interpreted, and negotiated by decision-makers in real organizational settings. Recent qualitative work has emerged in related domains, but many studies remain sector-specific or focused on AI, green IS, or health systems rather than the broader organizational process of everyday managerial decision-making. This leaves insufficient understanding of why available systems are sometimes underused, bypassed, or only partially trusted by organizational actors.

This research is therefore urgent because organizations are investing more heavily in digital transformation while still facing substantial barriers in converting digital infrastructure into better decisions. IDC's 2024 digital transformation outlook projects worldwide digital transformation spending to approach nearly US\$4 trillion by 2027, which implies that organizations are committing major resources to digital systems. Yet the organizational return on such investments will remain limited if information systems are not meaningfully integrated into managerial judgment, coordination, and problem-solving.

The novelty of this study lies in its qualitative emphasis on understanding the real organizational dynamics behind information system utilization in decision-making. Rather than only measuring whether systems exist or whether they correlate with performance, this research seeks to uncover how leaders, managers, and staff perceive system usefulness, what barriers

they encounter, and what organizational conditions support or hinder effective use. This perspective is consistent with the need identified in your manuscript to move beyond technical adoption and examine the human, cultural, and integrative dimensions of information system use.

Based on that gap and urgency, the purpose of this research is to explore how information systems are utilized in organizational decision-making processes and to identify the benefits, constraints, and enabling factors associated with their use. More specifically, the study aims to analyze the forms of information system utilization, examine obstacles such as competence limitations and data fragmentation, and understand how organizational actors interpret the role of information systems in improving decision quality, speed, and transparency.

This research is expected to contribute theoretically and practically. Theoretically, it can enrich the management information systems literature by providing a contextual and process-oriented explanation of how information systems support decision-making in organizations. Practically, it can offer evidence-based recommendations for leaders, managers, and system developers regarding user training, organizational support, and data integration. The main objective, therefore, is to produce a deeper understanding of information system utilization in decision-making, while the benefit of the study lies in helping organizations optimize digital systems not merely as technological assets, but as strategic tools for better governance and organizational performance.

METHOD

This study employed a qualitative research design with a case study approach to explore in depth how information systems are utilized in organizational decision-making processes. The qualitative approach was selected because it allows researchers to understand phenomena holistically through the perspectives, experiences, and interpretations of the actors directly involved in the process. The research was conducted in an organization that has implemented an integrated information system in its managerial and operational activities. The population of this research consisted of organizational members who interact with the information system in decision-making processes, including leaders, work unit managers, and operational staff. The sample of the study involved 12 informants consisting of 2 organizational leaders, 4 unit managers, and 6 operational staff who actively use information systems. The sampling technique used was purposive sampling, which selects informants based on their relevance, knowledge, and involvement in the phenomenon under investigation.

The research instrument used in this study was a semi-structured interview guide designed based on the research objectives and theoretical framework related to information systems and organizational decision-making. Data were collected using three primary techniques: in-depth interviews, direct observations, and document analysis of internal organizational records related to information system use. Interviews were conducted to obtain detailed perceptions and experiences from informants regarding the utilization of information systems in decision-making activities. Observations were carried out to understand the real practices of system usage during organizational processes, while document analysis was used to support and validate information obtained from interviews and observations. To ensure the validity and reliability (trustworthiness) of the data, the study applied triangulation of data sources and methods, member checking, and systematic documentation of research procedures.

The research procedure began with determining the research site and identifying key informants, followed by the development of research instruments and the implementation of data collection activities. After collecting the data, the information obtained was organized and processed using qualitative data analysis software such as NVivo or Atlas.ti to facilitate coding, categorization, and theme identification. The data analysis technique employed thematic

analysis, which consisted of several stages: data reduction, data display, coding, theme development, and drawing conclusions. This analysis approach allows researchers to systematically interpret patterns and meanings emerging from the qualitative data, thereby producing comprehensive insights into how information systems support organizational decision-making processes.

RESULTS AND DISCUSSIONS

The research results were obtained from in-depth interviews, observations, and document analysis with informants directly involved in the use of information systems for organizational decision-making. The findings are presented based on key themes that emerged from the qualitative data analysis process.

Research Informant Profile

The research informants consisted of organizational leaders, work unit managers, and operational staff who routinely use information systems. The diverse roles of informants provide a comprehensive picture of information system utilization at various levels of decision-making.

Table 1. Profile of Research Informants

No	Informant Position	Amount	Role in Decision Making
1	Leader	2	Strategic decision maker
2	Unit Manager	4	Tactical decision maker
3	Operational Staff	6	Data providers and users

Source: Primary data processed from in-depth interviews with research informants (2026)

Table 1 shows that most of the informants came from the operational and managerial levels, which play a direct role in utilizing information systems as a basis for providing and processing decision-support data.

Forms of Information System Utilization

Information systems are used as tools to access performance reports, operational data, and other supporting information. This information is used in evaluation meetings, activity planning, and monitoring organizational performance.

Table 2. Forms of Information System Utilization in Decision Making

No	Form of Utilization	Description
1	Performance Report	Monitoring of work unit achievements and evaluation
2	Database	Provision of historical and real-time data
3	Dashboard	Visualization of decision support information

Source: Primary data obtained from interview results, observations, and internal organizational document analysis (2026)

Based on Table 2, performance reports and databases are the features most frequently used by informants in the decision-making process, especially for operational and managerial decisions.

Obstacles to Utilizing Information Systems

Although information systems have been utilized, research has identified several obstacles that affect their optimal use. These obstacles relate to human resources, system technicalities, and organizational aspects.

Table 3. Constraints in Utilizing Information Systems

No	Types of Constraints	Description of Constraints
1	User Competence	Limitations of user technical capabilities
2	Resistance to Change	Manual work habits are still dominant
3	Data Integration	Data between units is not fully integrated

Source: Primary data processed from interview transcripts and observation results conducted during the research (2026)

Table 3 shows that the main constraints lie in user competence and data integration, which impact the effectiveness of information systems in supporting decision making.

Research findings indicate that information systems play a strategic role in supporting organizational decision-making. The availability of accurate and timely information is a key factor in improving decision quality. This aligns with the view that information systems are decision-support tools capable of reducing uncertainty.

However, the effectiveness of information systems utilization is heavily influenced by human and organizational factors. User competence, management support, and an organizational culture open to technology are essential prerequisites for successful information systems utilization. Without adequate human resource readiness, information systems tend not to be utilized optimally.

The data integration challenges identified demonstrate the need for more coordinated information systems management. System integration and data standardization can improve the quality of the information produced, thereby supporting more comprehensive decision-making.

Thus, organizations need to view information systems not only as a technology investment, but also as part of a management strategy that requires developing user capacity and adapting work processes.

CONCLUSION

The findings of this study indicate that information systems play a strategic role in supporting organizational decision-making processes. The presence of integrated information systems enables organizations to access accurate, relevant, and timely data, which contributes to improving the quality, efficiency, and transparency of managerial decisions. Information systems are primarily utilized through features such as performance reports, databases, and dashboards that assist leaders and managers in monitoring organizational performance and planning future actions. However, the effectiveness of information system utilization is influenced not only by technological factors but also by human and organizational aspects. The study reveals that limitations in user competence, resistance to technological change, and incomplete data integration across organizational units remain key challenges that hinder optimal system utilization.

Based on these findings, future research is recommended to expand the scope of study by involving a larger number of organizations and different industrial sectors in order to obtain more comprehensive insights regarding the role of information systems in decision-making.

Future studies may also apply a mixed-methods approach by combining qualitative and quantitative techniques to provide a deeper understanding of both the behavioral and structural aspects influencing system utilization. In addition, further research could explore the impact of emerging technologies such as artificial intelligence, big data analytics, and decision support systems on organizational decision-making effectiveness. Such studies would contribute to the development of management information systems literature and provide practical guidance for organizations seeking to optimize information technology utilization for strategic decision-making.

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