BSIJ *Business System & Innovation Journal*
Research • Innovation • Digital Transformation

YAYASAN FATHUR RAHMAN
Vol. 01, Issue 02, 2026 | e-ISSN 3163-2831

Bridging ERP Integration and Decision-Making Quality: The Critical Role of Information Quality

Arzetia Filyani[1*], Abdullah Husin[2], Rezti Deawinda Parinduri[3], Salma Nofria Yanti[4]

1* Faculty of Economics and Business, University of Riau, Pekanbaru, Indonesia
2 Faculty of Science and Technology, Indragiri Islamic University, Tembilahan, Indonesia
3 Faculty of Science and Technology, Muhammadiyah University of South Tapanuli, Padang Sidempuan, Indonesia
4 Computer Studies Program, Pamulang University, Tanggerang Selatan, Indonesia
* Correspondence: firlyani@students.unri.ac.id

OPEN ACCESS
No article processing charge (APC)

ARTICLE INFORMATION

Page
86-95

Received
13 September 2026

Revised
15 September 2026

Accepted
16 September 2026

Published
17 September 2026

DOI
https://doi.org/10.67955/bsij.v1i2.22

Abstract. In the modern digital era, Enterprise Resource Planning (ERP) systems have evolved from routine administrative tools into vital strategic assets. However, the direct technological implementation of ERP does not automatically guarantee superior organizational performance unless mediated by the optimal quality of information it produces.This study investigates the complex mechanisms through which ERP Integration influences Managerial Decision-Making Quality, explicitly examining Information Quality as a critical mediating variable. Utilizing a quantitative research design, data were gathered through a cross-sectional survey administered to 150 professionals actively utilizing ERP systems across diverse organizational roles (managers, supervisors, business analysts, and administrative staff). The structural equation modeling approach based on Partial Least Squares (PLS-SEM) was executed using SmartPLS 4 to evaluate both the measurement and structural models. The empirical findings confirm that ERP Integration exerts a strong positive and statistically significant effect on Information Quality ($\beta = 0.642, t = 8.127$) and a direct positive impact on Decision-Making Quality ($\beta = 0.325, t = 3.869$). Furthermore, Information Quality significantly influences Decision-Making Quality ($\beta = 0.518, t = 6.317$) and acts as a robust partial mediator in the relationship between ERP Integration and Decision-Making Quality ($\beta = 0.332, t = 4.099$). The study demonstrates that while comprehensive system integration accelerates managerial actions, information quality serves as the pivotal cognitive bridge that translates technological infrastructure into superior decision-making outcomes. These insights extend the DeLone and McLean Information Systems Success Model and offer actionable managerial directives for optimizing data governance in digitally integrated organizations.

Keywords: ERP Integration; Information Quality; Managerial Decision-Making Quality; PLS-SEM; Information Systems Success Model.

1. Introduction

In today's digital age, the integration of data and information systems has become a key requirement for organizations (Al-Assaf et al., 2024; Al-Kahtani et al., 2024; Almajali et al., 2022). Management Information Systems (MIS) have evolved into strategic assets that determine a company's long-term competitive advantage. Modern MIS not only automates routine processes but also integrates data from various internal and external sources to generate insights that support decision-making. Thus, the quality of information provided by MIS particularly Enterprise Resource Planning (ERP) systems is crucial for the effectiveness of managerial decisions.

Previous research has largely focused on the impact of ERP implementation on overall company performance (financial and non-financial). (Jo & Park, 2023b), for instance, found that the quality of information generated by ERP systems has a positive impact on decision quality in large companies in Morocco (Mukred et al., 2023; Ouiddad et al., 2021). Meanwhile, Caserio & Trucco (2020) examined the effect of ERP integration on information quality, finding that the level of ERP integration improves information flow, which in turn enhances managers' perception of information quality (Correia & Baptista, 2025).

However, while these preceding studies have established the individual links between these variables, there remains a critical need for empirical validation of the full mediating mechanism linking ERP Integration, Information Quality, and Decision-Making Quality, specifically within the contextual realities of emerging economies like Indonesia. Therefore, rather than claiming a broad theoretical expansion, this study seeks to provide robust empirical validation of how Information Quality functions as a pivotal mediator in this relationship. The objective of this study is to examine the direct and mediating effects of ERP integration on managerial decision-making quality. Its main contribution lies in contextualizing the IS Success Model (DeLone & McLean) within a rapidly developing digital economy, offering actionable, data-driven insights for organizations in Indonesia on managing system integration strategies and information governance to optimize executive decision-making..

However, having an ERP system alone is not enough. In practice, a large volume of data does not always lead to better decisions. The main challenge lies in the quality of the information

generated by the system. Data or information that is inaccurate, incomplete, outdated, or irrelevant can actually reduce the quality of decisions made by managers (Anh Dang, 2024; Balić et al., 2022). For example, Patil et al. (2025) assert that ERP systems enhance decision-making quality through data integration, but they also point out that "dirty" data (containing errors or missing values) can undermine the effectiveness of ERP.

Previous research has largely focused on the impact of ERP implementation on overall company performance (financial and non-financial). Okar et al. (2021), for instance, found that the quality of information generated by ERP systems has a positive impact on decision quality in large companies in Morocco (Mukred et al., 2023; Ouiddad et al., 2021). Meanwhile, Caserio & Trucco (2020) examined the effect of ERP integration on information quality, finding that the level of ERP integration improves information flow, which in turn enhances managers' perception of information quality (Correia & Baptista, 2025). However, the full mechanism linking ERP Integration → Information Quality → Decision Quality remains under-explored, particularly in the context of emerging economies.

This study fills that gap by examining how ERP Integration (X) influences Managerial Decision-Making Quality (Y), both directly and indirectly through Information Quality (M). Thus, the study does not merely ask, "Does ERP improve performance?" but rather, "Through what mechanisms can ERP improve the quality of managerial decisions?" The objective of this study is to examine the direct and mediating effects of ERP integration on managerial decision-making quality. Its main contribution is to expand the literature on the IS Success Model (DeLone & McLean) and digitalization by elucidating the interrelationship between system integration and organizational decision outcomes. In practical terms, these findings will underscore the importance of system integration strategies and information quality management in ERP implementation so that organizations can derive optimal decision-making benefits.

2. Literature Review nad Theoretical Background

2.1. ERP Integration sebagai Fitur Business Information Systems

ERP integration is defined as the degree to which ERP modules and other IT systems are interconnected to facilitate a seamless flow of data within an organization (Jo & Park, 2023a). An integrated ERP system aims to eliminate information silos by simplifying access to business data. For example, IBM states that ERP integration "streamlines data sharing by connecting ERP systems with other enterprise applications," thereby improving visibility into business processes and accelerating decision-making. With such integration, data such as financial, CRM, inventory, and production data can be centralized and updated in real time, allowing employees to access the same information without duplication (Balić et al., 2022).

Conceptually, ERP integration is expected to streamline the flow of information across all business units. Caserio & Trucco (2020) emphasize that ERP brings integration to the company and facilitates real-time information sharing. This allows managers to gain a comprehensive overview of operations and supports data-driven decision-making. In other words, ERP integration is considered a primary driver of improvements in information integration and database integration, ensuring that data maintains consistent meaning across the entire organization. Some studies even suggest that "the higher the level of ERP integration, the greater the improvement in information quality," as integration harmonizes data formats and standards across ERP modules (Hustad & Stensholt, 2023).

However, not all studies agree that ERP integration directly improves organizational performance. Mallardi et al. (2026) view ERP integration as a strategic capability but emphasize external factors, such as the national innovation ecosystem, in the success of ERP implementation (Almajali et al., 2022; Balić et al., 2022). At the micro level, regardless of the synergies generated, it must be demonstrated that ERP integration actually results in better information quality. This issue is the focus of this study: how ERP integration relates to the information quality of ERP users.

2.2. Information Quality

Information Quality (IQ) is a set of characteristics of the information produced by a system, such as accuracy, completeness, timeliness, relevance, and consistency. These dimensions are crucial because they provide the basis for users to make decisions. For example, accuracy means the data is error-free; timeliness means the data is up-to-date; completeness means no important data elements are missing; relevance means the information matches the task requirements; and consistency means the information is uniform across the system (Anh Dang, 2024; Ouiddad et al., 2021). A number of studies emphasize that improving information quality is key to effective decision-making.

Akbar et al. (2026) demonstrate that these five dimensions of IQ significantly and positively influence decision-making quality. They report that accuracy is the dominant factor, followed by timeliness and relevance (Lem, 2024). In practical terms, organizations are advised to prioritize data accuracy and timeliness to improve managerial decision-making. More broadly, a study by Balić et al. (2022) also found that the quality of ERP information significantly influences organizational performance (Balić et al., 2022). Data that is "accurate, timely, and easy to understand" supports the achievement of organizational goals. Thus, the availability of high-quality information is a prerequisite for effective and reliable decision-making (Samara, 2025).

2.3. Decision-Making Quality

Decision-Making Quality (DMQ) refers to how well managers make decisions based on available information (Afdillah et al., 2026). High-quality decisions are generally timely, informative, contextually appropriate, and have a positive impact on organizational goals (Al-Kahtani et al., 2024; Mukred et al., 2023; Ouiddad et al., 2021). In the context of ERP, decision quality is typically measured by managers' perceptions of the accuracy, speed, and effectiveness of decisions made using ERP data. Previously, a study by Okar et al. (2021) adopted the Delone-McLean model to examine how ERP affects DMQ and found that the quality of information provided by ERP significantly improves decision quality. This indicates that if ERP is able to present high-quality information (e.g., complete and timely financial reports), managers are more likely to make better decisions.

Theoretically, the information systems literature (DeLone & McLean, 2003) identifies Information Quality as a key dimension influencing the net benefits of a system, including increased productivity and better decision-making. Furthermore, recent studies also emphasize the relationship between IQ and DMQ in the banking and healthcare sectors. For example, a study by Al-Okaily et al. (2022) states that accurate and timely information supports effective managerial decision-making (Correia & Baptista, 2025). With this in mind, DMQ in this study focuses on managers' perceptions of the effectiveness of their decisions, as measured by indicators such as the speed of decision-making, the relevance of the information used, and the alignment of decision outcomes with company objectives (Abu Afifa et al., 2025).

2.4. Framework and Hypotheses

The proposed conceptual relationship is: ERP Integration → Information Quality → Decision-Making Quality, with the addition of a direct path: ERP Integration → Decision-Making Quality. This framework is inspired by the DeLone-McLean model and previous empirical findings.

H1: ERP Integration has a positive effect on Information Quality.

This means that the higher the level of ERP system integration (internal and external modules), the better the quality of the information produced. The logical basis for this is that ERP integration harmonizes data across units, thereby improving the accuracy and consistency of information. Research by Caserio & Trucco (2020) shows that ERP integration enhances information flow, which in turn improves the perceived quality of information (Anh Dang, 2024).

H2: Information Quality has a positive effect on Decision-Making Quality.

Accurate, complete, and timely information enables managers to make better decisions. A study by Akbar et al. (2026) found that all five dimensions of IQ have a positive impact on decision quality. Similarly, research by Balić et al. (2022) concluded that organized and timely information supports the achievement of organizational goals (Balić et al., 2022).

H3: ERP Integration has a direct positive effect on Decision-Making Quality.

Although the primary effect is considered to be through information quality, ERP integration can also directly accelerate cross-functional coordination and decision-making. For example, Patil et al. (2025) confirmed that ERP systems improve DMQ through data integration. This means that ERP data integration directly makes information available more quickly, allowing decisions to be made faster and more accurately (Ouiddad et al., 2021).

H4: Information Quality mediates the relationship between ERP Integration and Decision-Making Quality. In other words, part (or all) of the effect of ERP integration on decision quality is mediated by improved information quality. The model by Caserio & Trucco (2020) indicates that ERP integration indirectly improves information quality (through information flow features), which, in the context of this study, is expected to lead to better decisions (Balić et al., 2022; Lem, 2024).

3. Methodology

This study employs a quantitative PLS-SEM approach (SmartPLS 4). The design is a cross-sectional survey using a questionnaire. The target population consists of professionals directly involved with ERP systems within organizations, such as managers, supervisors, business analysts, and administrative staff who use ERP on a daily basis. A purposive sampling method was chosen to ensure that respondents met the criteria (having experience using ERP).

3.1. Instruments and Measurements

Each construct is measured using several items (on a 1–5). The design of the indicators is based on prior literature and adapted to the specific context:

ERP Integration (X): Measured through respondents' perceptions of the degree of ERP integration. Example items: "Our company's ERP integrates data across departments (finance, HR, production, etc.)", "Our ERP is connected to external systems such as CRM or BI", "Our ERP enables real-time data access across all business units." 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Information Quality (M): Refers to the characteristics of information from the ERP system. Based on DeLone & McLean (2003) and recent studies, the dimensions used include accuracy, timeliness, completeness, relevance, and consistency. Each is measured using items such as: "Information from the ERP system is accurate and error-free," "ERP information is always available on time when needed," "ERP information is complete and no important data is missing," "ERP information is relevant to managerial task requirements," "Information within the ERP is consistent across modules." 5-point Likert scale (1 = Very Low to 5 = Very High).

Decision-Making Quality (Y): Measures the perceived effectiveness of the decisions made. Sample items: "The management decisions I make are more accurate thanks to ERP data support," "Thanks to ERP, decision-making is faster," "Decisions based on ERP data are relatively better and on target," "ERP data helps boost confidence in decision-making." 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree).

3.2. Population and Sample

The study population is expected to include mid- to upper-level employees who use ERP systems. Examples of sectors include manufacturing, distribution, financial services, or others in Indonesia as an emerging economy (Fauzan Dwi Firmansyah & Muhammad Purnama Saddam, 2026). For the PLS-SEM analysis, we aim for a minimum of 150 respondents to ensure sufficient statistical power. The sample will be selected using purposive sampling (respondents who have been working with ERP systems for at least 1–2 years. To ensure strict compliance with these sampling criteria, data regarding respondents' duration of ERP usage was explicitly collected and verified during the survey screening process.. To provide a clearer organizational context, the respondents in this study were drawn from diverse industry sectors operating within an emerging economy framework, predominantly encompassing manufacturing, distribution, financial services, and retail sectors. Within these organizations, the sampled professionals ranging from administrative staff and business analysts to supervisors and managers actively interact with enterprise systems to manage cross-functional workflows, supply chain data, and financial reporting. This multi-sectoral sample ensures that the findings reflect generalizable organizational practices rather than being confined to a single isolated industry.

3.3. Analysis Procedure

Survey data will be analyzed using SmartPLS 4. The analysis steps include:

a) Preliminary data processing: Checking data quality.
b) Measurement Model (Outer Model): Test convergent validity (outer loadings > 0.7, AVE > 0.5) and reliability (composite reliability > 0.7) for each construct.
c) Structural Model (Inner Model): Test the assumption of multicollinearity (VIF < 5), as well as the estimation of path coefficients and their significance (5,000 bootstrap subsamples, t-statistics, p-values) to test H1–H3.
d) Mediation Analysis: Test the mediating effect of Information Quality (H4) using a multilevel bootstrapping procedure. Check whether ERP integration remains significant when the mediator is included (partial/total mediation).

All analyses will follow the SmartPLS 4 guidelines and PLS-SEM theory. The results including path coefficients (e.g., ERP → IQ, IQ → DMQ, ERP → DMQ), t-values and p-values, and effect sizes (f^2) will serve as the basis for interpretation.

4. Results

This section presents the empirical findings obtained from the structural equation modeling (SEM-PLS) analysis.

4.1. Respondent Description Analysis

Ten academics participated in a pre-test phase of the questionnaire used to gather data for this study in order to provide input on the questionnaire's design. After that, the Google Forms platform was used to distribute the questionnaire online. A total of 200 responses were gathered from this distribution. A data cleaning procedure was then carried out to eliminate duplicate, erroneous, or incomplete entries, leaving 150 valid respondent data sets that could be examined. Table 1 below displays all of the respondents' attributes.

Table 1 Respondent Description Analysis

Item	Frequency	Percentage
Gender		
Male	85	57%
Female	65	43%
Occupation		
Administrative Staff	50	33%
Business Analyst	40	27%
Supervisor	35	23%
Manager	25	17%
ERP Experience Duration		
1 - 2 years	55	37%
3 - 5 years	65	43%
> 5 years	30	20%

As shown in Table 1, this study involved a total of 150 respondents who interact with ERP systems within their organizations. In terms of gender characteristics, it was found that 85 respondents (57%) were male, while 65 respondents (43%) were female. Regarding the respondents' occupations, the sample represents various professional roles that utilize these systems on a daily basis. The majority of the respondents were administrative staff, totaling 50 people (33%), followed closely by business analysts, totaling 40 people (27%). Additionally, there were 35 respondents (23%) who served as supervisors, and 25 respondents (17%) who held the position of manager. This occupational distribution provides a comprehensive perspective across different organizational levels, which is highly relevant for examining how ERP integration affects both information quality and the resulting quality of managerial decision-making. Furthermore, regarding the respondents' experience with ERP systems, all 150 participants met the established purposive sampling threshold of having at least 1 to 2 years of hands-on experience. Specifically, 55 respondents (37%) have 1–2 years of experience, 65 respondents (43%) have 3–5 years of experience, and 30 respondents (20%) have utilized ERP systems for more than 5 years. This distribution confirms that the respondents possess adequate familiarity and operational competence with enterprise systems, thereby strengthening the validity and reliability of the data collected for this study.

4.2. Data Analysis

Reliability and convergent validity were assessed in this work using outer model measurements and Structural Equation Modeling-Partial Least Square (SEMPLS). The following standards are used to evaluate reliability and convergent validity between constructs in order to guaranty satisfactory outcomes: Composite reliability (CR) must be larger than 0.8, factor loadings and Cronbach's alpha (CA) must be at least 0.7, and Average Variance Extracted (AVE) must be at least 0.5.

Table 2 Reliability Analysis and Convergent Validity

Construct	Item	Loading	VIF	CA	CR	AVE
ERP Integration	ERP1	0,845	2,110	0,805	0,882	0,714
	ERP2	0,812	1,850			
	ERP3	0,876	2,340			
Information Quality	IQ1	0,822	2,150	0,885	0,916	0,686
	IQ2	0,841	2,310			
	IQ3	0,795	1,980			
	IQ4	0,850	2,420			
	IQ5	0,833	2,210			

Decision-Making Quality	DMQ1	0,865	2,540	0,871	0,912	0,721
	DMQ2	0,834	2,180			
	DMQ3	0,815	1,950			
	DMQ4	0,880	2,610			

As presented in Table 2, the evaluation of the measurement model (outer model) was conducted to systematically assess the indicator reliability, internal consistency, convergent validity, and the presence of collinearity among the research constructs: ERP Integration, Information Quality, and Decision-Making Quality. First, indicator reliability was evaluated by examining the outer loadings. The statistical results demonstrate that all item loadings range from 0.795 to 0.880, successfully exceeding the recommended minimum threshold of 0.70. This provides strong empirical evidence that each manifest variable is highly reliable and captures a substantial portion of the variance in its respective latent construct.

Second, internal consistency reliability was established by analyzing both Cronbach's Alpha (CA) and Composite Reliability (CR). The CA values range from 0.805 to 0.885, while the CR values range from 0.882 to 0.916. Given that all these values surpass the stringent 0.70 cut-off criterion, the constructs demonstrate excellent internal consistency, confirming that the items measuring each construct are highly correlated.

Third, convergent validity at the construct level was verified using the Average Variance Extracted (AVE). The AVE scores for all constructs range between 0.686 and 0.721. Because all AVE values comfortably exceed the acceptable threshold of 0.50, it is confirmed that the latent constructs explain more than half of the variance of their respective indicators, thereby establishing strong convergent validity. To ensure that the measurement model is robust and free from multicollinearity issues, the Variance Inflation Factor (VIF) for each indicator was assessed. The VIF values range from 1.850 to 2.610, remaining well below the conservative critical threshold of 3.3 (as well as the more lenient threshold of 5.0). This indicates that collinearity among the indicators is not a significant concern in this dataset.

4.3. Structural Analysis

SmartPLS was used in this work to test the structural model ERP Integration, Information Quality, and Decision Making Quality. SEM-PLS and bootstrapping were used to do calculations based on the research route diagram created with SmartPLS in Figure 4 below. Path coefficients, outer loadings, construct reliability, validity, including Cronbach's alpha, composite reliability, and validity, as well as multicollinearity with the VIF value, were all determined by SEM-PLS computations.

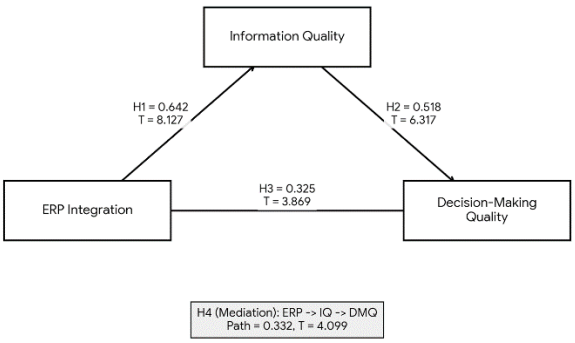

Figure 1 Structural Model Results

The results of the SmartPLS test using the bootstrapping method, obtained through inner model analysis, demonstrate significant positive relationships among all the proposed hypotheses. As shown in the structural model, the path from ERP Integration to Information Quality (H1) yielded a coefficient of 0.642 with a T-statistic of 8.127, indicating a strong positive and statistically significant effect. This result suggests that implementing a highly integrated enterprise system is crucial in ensuring data accuracy, consistency, and completeness across departments. Similarly, the relationship between Information Quality and Decision-Making Quality (H2) showed a coefficient of 0.518 with a T-statistic of 6.317, confirming a positive and significant impact. This finding highlights that high-quality, reliable information serves as an effective foundation for managers to make targeted and confident strategic choices.

Furthermore, the direct effect of ERP Integration on Decision-Making Quality (H3) produced a coefficient of 0.325 with a T-statistic of 3.869, which is well above the threshold of 1.96, implying that integrated systems exert a direct, statistically significant influence on decision outcomes by enabling faster access to company-wide data. Meanwhile, the mediation analysis

(H4), which evaluates the indirect path from ERP Integration to Decision-Making Quality through Information Quality, demonstrated a coefficient of 0.332 with a T-statistic of 4.099, signifying a positive and significant mediating effect. Collectively, these findings indicate that ERP integration significantly improves managerial decision-making both directly and indirectly, with information quality emerging as a vital mediating mechanism that translates technological integration into superior organizational outcomes.

4.4. Structural Analysis

The findings of testing the study's hypotheses are shown in this part. The significance of the association between constructs was assessed using the bootstrapping approach and the SmartPLS analysis method. Table 3 below displays the findings of the hypothesis testing.

Table 3 Hypotesis Testing

Hipotesis	Original	Mean	Standard Deviation	T statistics	P values
H1: ERP -> IQ	0,642	0,640	0,079	8,127	0,000
H2: IQ -> DMQ	0,518	0,521	0,082	6,317	0,000
H3: ERP -> DMQ	0,325	0,322	0,084	3,869	0,001
H4: ERP -> IQ -> DMQ	0,332	0,335	0,081	4,099	0,000

H1 (ERP Integration → Information Quality): Shows a coefficient of 0,642 with a T-statistic of 8,127 and a P-value of 0,000, indicating a strong positive and significant relationship. This confirms that implementing a comprehensive enterprise resource planning system serves as a powerful mechanism for ensuring data consistency, accuracy, and availability across organizational departments (Al-Assaf et al., 2024; Correia & Baptista, 2025; Nour, 2023). The implication of this finding suggests that strengthening enterprise system integration can vastly improve the reliability of internal information flows.

H2 (Information Quality → Decision-Making Quality): Yields a coefficient of 0,518 with a T-statistic of 6,317 and a P-value of 0,000, confirming a positive and significant effect. This demonstrates that accurate, timely, and relevant data directly empowers managers to execute more precise and effective strategic actions (Akrong et al., 2022; Jo & Park, 2023a; Martins & Belfo, 2023).

H3 (ERP Integration → Decision-Making Quality): Exhibits a coefficient of 0,325 with a T-statistic of 3,869 and a P-value of 0,001, verifying a direct, positive, and statistically significant impact. This highlights that system integration alone provides immediate operational benefits that accelerate and enhance managerial decisions (Al-Kahtani et al., 2024; Anh Dang, 2024; Jaradat et al., 2025).

H4 (ERP Integration → Information Quality → Decision-Making Quality): Presents an indirect path coefficient of 0,332 with a T-statistic of 4,099 and a P-value of 0,000, confirming that information quality serves as a statistically significant mediator. This proves that while ERP integration directly drives decision quality, a substantial portion of its effectiveness is successfully channeled through the superior quality of information generated within the system (Almajali et al., 2022; Balić et al., 2022; Mukred et al., 2023).

5. Discussion

The empirical findings of this study offer robust insights into the structural mechanisms linking enterprise technology adoption with executive outcomes, while also aligning with and extending prior literature in the field. First, the finding that ERP Integration exerts a strong positive effect on Information Quality ($\beta = 0.642$, $p < 0.001$) strongly supports the assertions of (Hustad & Stensholt, 2023; Jo & Park, 2023b), who emphasized that comprehensive system integration harmonizes data standards and eradicates information silos across organizational units. However, while some earlier studies (Almajali et al., 2022) argued that integration alone does not automatically translate into enhanced performance without strategic IT-business alignment and ecosystem support, our findings confirm that internal architectural alignment directly boosts data reliability within emerging market contexts.

Second, the significant positive impact of Information Quality on Decision-Making Quality ($\beta = 0.518$, $p < 0.001$) reinforces the core tenets of the DeLone and McLean Information Systems Success Model as well as recent empirical work by (Abu Afifa et al., 2025; Balić et al., 2022). This confirms that accurate, complete, and timely information acts as a vital cognitive prerequisite that directly empowers managers to execute precise and confident strategic choices. Furthermore, the confirmation of Information Quality as a significant mediating mechanism ($\beta = 0.332$, $p < 0.001$) bridges the gap identified by (Mukred et al., 2023; Ouiddad et al., 2021), proving

that ERP integration drives decision outcomes not merely through raw speed, but primarily by refining the informational content processed by decision-makers.

These findings carry profound practical implications for organizations operating in Indonesia and other emerging economies. As digital transformation accelerates across Southeast Asia, companies frequently invest heavily in enterprise software packages (such as SAP, Oracle, or local ERP implementations) expecting immediate performance jumps. This study highlights that in rapidly developing business environmentscharacterized by high market dynamism and regulatory shifts technological deployment must be paired with rigorous data governance and standardization. By ensuring that information flowing across modules remains pristine, accurate, and up-to-date, Indonesian enterprises can successfully mitigate strategic uncertainties, bridge cross-departmental communication gaps, and elevate executive decision-making capabilities to sustain long-term competitive advantage.

6. Conclusion

This study provides comprehensive empirical insights into the vital mechanisms connecting enterprise technology infrastructure to executive outcomes within digitally integrated organizations. Grounded in the Information Systems Success Model, the findings robustly demonstrate that achieving high technological connectivity alone is insufficient for organizational excellence; rather, the strategic value of an Enterprise Resource Planning (ERP) system is fully unlocked and optimized through the rigorous management of information quality.

Specifically, the evaluation of the structural model yields four fundamental conclusions. First, comprehensive ERP integration serves as a powerful foundational driver that significantly enhances information quality by unifying cross-departmental databases, eradicating information silos, and safeguarding data accuracy, consistency, and timeliness across the enterprise. Second, the direct pathway confirms that system integration natively streamlines operational workflows, granting managers accelerated access to company-wide metrics and directly improving decision-making speed and effectiveness. Third, information quality stands out as a paramount cognitive prerequisite for managerial precision, directly empowering decision-makers to formulate targeted, error-free, and confident strategic choices. Fourth and crucially, information quality operates as a vital statistical mediator, establishing that a substantial portion of ERP integration's effectiveness is channeled through the superior reliability and relevance of the data processed within the system.

From a theoretical perspective, this research enriches the existing literature on Information Systems (IS) success by bridging the gap between enterprise technology adoption and cognitive decision theories, particularly within the context of emerging economies. Practically, organizational leaders, Chief Information Officers (CIOs), and system architects are advised to look beyond merely deploying complex ERP software modules. Instead, corporate digital transformation strategies must prioritize robust data governance frameworks, continuous data-cleaning protocols, and cross-functional data standardization. By ensuring that the information circulating across modules remains pristine and dependable, organizations can maximize executive decision-making capabilities, mitigate strategic risks, and sustain long-term competitive advantage.

Despite its rigorous methodological and analytical design, this study has certain limitations that offer valuable avenues for future research. The cross-sectional nature of the data captures respondents' perceptions at a single point in time, which inherently limits causal inferences over extended periods. Future investigations could adopt longitudinal research designs to track the evolving impact of ERP upgrades and data maturity on decision quality over time. Additionally, expanding the sample size across multiple cross-industry sectors or introducing external moderating variables such as environmental turbulence, organizational culture, or top management support would provide deeper granularity into the boundary conditions of ERP-driven decision success.

Acknowledgements

The authors have no acknowledgements to declare.

Funding

This research received no external funding.

Author Contributions (CRediT)

The literature search protocol, selection counts, thematic categories, and representative extraction data are reported in this article. The complete extraction matrix is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflict of interest.The authors declare no conflict of interest

Data Availability

The survey data and analysis code supporting the findings of this study are not publicly available due to privacy and ethical restrictions related to professional ERP users as respondents. De-identified datasets and syntax files can be obtained from the corresponding author upon reasonable request for non-commercial academic purposes, subject to prior approval from the authors and compliance with institutional ethical guidelines. Any reuse of the data must include appropriate acknowledgment of the original study and may not attempt to re-identify individual participants.

References

Abu Afifa, M., Saleh, I., & Vo Van, H. (2025). Accounting information quality in the digital era – a perspective from ERP system adoption? *Global Knowledge, Memory and Communication*, *74*(5–6), 2022–2046. https://doi.org/10.1108/GKMC-03-2023-0101

Afdillah, M. R., M. Acmel Sabri, & Linawati, L. (2026). Does Strategic Management Approach Enhance Employee Performance through the Mediating Role of Commitment and Motivation? *Business System & Innovation Journal*, *1*(1), 9–18. https://doi.org/10.67955/bsij.v1i1.4

Akrong, G. B., Shao, Y., & Owusu, E. (2022). Measuring the Success of ERP via Organizational Climate Constructs: *International Journal of Information Systems in the Service Sector*, *14*(1), 1–27. https://doi.org/10.4018/IJISSS.302882

Al-Assaf, K., Alzahmi, W., Alshaikh, R., Bahroun, Z., & Ahmed, V. (2024). The Relative Importance of Key Factors for Integrating Enterprise Resource Planning (ERP) Systems and Performance Management Practices in the UAE Healthcare Sector. *Big Data and Cognitive Computing*, *8*(9), 122. https://doi.org/10.3390/bdcc8090122

Al-Kahtani, S. M., Senan, N. A. M., Alanazi, I. D., Badawi, M., & Almulaiki, W. A. (2024). Exploring strategic decision making as a mediator between enterprise resource planning, innovation, strategic planning, and organizational performance. *Discover Sustainability*, *5*(1), 305. https://doi.org/10.1007/s43621-024-00532-8

Almajali, D. A., Omar, F., Alsokkar, A., Alsherideh, A. S., Masa'Deh, R., & Dahalin, Z. (2022). Enterprise resource planning success in Jordan from the perspective of IT-Business strategic alignment. *Cogent Social Sciences*, *8*(1), 2062095. https://doi.org/10.1080/23311886.2022.2062095

Anh Dang, L. (2024). Impact of Enterprise Resource Planning System on The Quality of Accounting Information at Enterprises in Vietnam. *Archives of Business Research*, *12*(6), 45–54. https://doi.org/10.14738/abr.126.17173

Balić, A., Turulja, L., Kuloglija, E., & Pejić-Bach, M. (2022). ERP Quality and the Organizational Performance: Technical Characteristics vs. Information and Service. *Information*, *13*(10), 474. https://doi.org/10.3390/info13100474

Correia, M. M., & Baptista, G. (2025). Towards enterprise resource planning (ERP) success: Effects of culture on decision-making in the fashion industry. *Journal of Fashion Marketing and Management: An International Journal*, *29*(7), 1268–1291. https://doi.org/10.1108/JFMM-05-2024-0182

Fauzan Dwi Firmansyah & Muhammad Purnama Saddam. (2026). Trust and Usefulness in Students' Acceptance of AI-Based Learning: Evidence from Jakarta High Schools. *Business System & Innovation Journal*, *1*(1), 19–25. https://doi.org/10.67955/bsij.v1i1.10

Hustad, E., & Stensholt, J. (2023). Customizing ERP-systems: A framework to support the decision-making process. *Procedia Computer Science*, *219*, 789–796. https://doi.org/10.1016/j.procs.2023.01.352

Jaradat, Z., AL-Hawamleh, A., & Hamdan, A. (2025). Examining the integration of ERP and BI in the industrial sector and its impact on decision-making processes in KSA. *Digital Policy,*

Regulation and Governance, *27*(2), 117–144. https://doi.org/10.1108/DPRG-04-2024-0077

Jo, H., & Park, D.-H. (2023a). Mechanisms for successful management of enterprise resource planning from user information processing and system quality perspective. *Scientific Reports*, *13*(1), 12678. https://doi.org/10.1038/s41598-023-39787-y

Jo, H., & Park, D.-H. (2023b). Mechanisms for successful management of enterprise resource planning from user information processing and system quality perspective. *Scientific Reports*, *13*(1), 12678. https://doi.org/10.1038/s41598-023-39787-y

Lem, K. W. (2024). Data analytics strategy and internal information quality. *Contemporary Accounting Research*, *41*(2), 1376–1410. https://doi.org/10.1111/1911-3846.12942

Martins, E. J., & Belfo, F. P. (2023). Major concerns about Enterprise Resource Planning (ERP) systems: A systematic review of a decade of research (2011-2021). *Procedia Computer Science*, *219*, 378–387. https://doi.org/10.1016/j.procs.2023.01.303

Mukred, M., Alotaibi, F. M., Yusof, Z. M., Mokhtar, U. A., Hawash, B., & Ahmed, W. A. (2023). Enterprise resource planning adoption model for well-informed decision in higher learning institutions. *Journal of Information Science*, *49*(3), 792–813. https://doi.org/10.1177/01655515211019703

Nour, M. A. (2023). The Impact of ERP Systems on Organizational Performance: The Role of Antecedents and Moderators. *International Journal of Enterprise Information Systems*, *19*(1), 1–29. https://doi.org/10.4018/IJEIS.329960

Ouiddad, A., Okar, C., Chroqui, R., & Beqqali Hassani, I. (2021). Assessing the impact of enterprise resource planning on decision-making quality: An empirical study. *Kybernetes*, *50*(5), 1144–1162. https://doi.org/10.1108/K-04-2019-0273

Samara, T. (2025). AI-driven SAP S4/HANA, advancing firm operational efficiency, decision-making and resource optimization. *International Journal of Innovative Research and Scientific Studies*, *8*(3), 4795–4811. https://doi.org/10.53894/ijirss.v8i3.7613