





“The impact of information management strategies on decision-making effectiveness in Jordanian private hospitals”

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ARTICLE INFO	Dhia Qasim, Abdallah Q. Bataineh and Waheeb Abu-Dawwas (2025). The impact of information management strategies on decision-making effectiveness in Jordanian private hospitals. <i>Problems and Perspectives in Management</i> , 23(1), 685-702. doi: 10.21511/ppm.23(1).2025.51
DOI	http://dx.doi.org/10.21511/ppm.23(1).2025.51
RELEASED ON	Thursday, 27 March 2025
RECEIVED ON	Thursday, 05 December 2024
ACCEPTED ON	Wednesday, 19 March 2025
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

62



NUMBER OF FIGURES

2



NUMBER OF TABLES

10

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 5th of December, 2024

Accepted on: 19th of March, 2025

Published on: 27th of March, 2025

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Conflict of interest statement:

Author(s) reported no conflict of interest

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THE IMPACT OF INFORMATION MANAGEMENT STRATEGIES ON DECISION-MAKING EFFECTIVENESS IN JORDANIAN PRIVATE HOSPITALS

Abstract

This study aimed to investigate the impact of information management strategies on decision-making effectiveness in Jordanian private hospitals. It examines how data accuracy, accessibility, technology adoption, and information system integration influence decision-making effectiveness while considering the critical mediation role of organizational culture. A quantitative approach was employed; structured questionnaires were used to collect data from healthcare professionals in selected Jordanian private hospitals, which included hospital administrators, IT staff, and clinical managers. The total sample consisted of 357 out of 400 sent questionnaires. The study utilized partial least squares (PLS) and structural equation modeling (SEM) to assess the relationships between the variables. Based on β and R^2 values, the results indicated that information management strategies significantly affect decision-making effectiveness, in addition to a vital role of organizational culture. The results indicate that data accuracy, accessibility, technology adoption, and information system integration influence decision-making effectiveness. Additionally, it stresses that organizational culture significantly influences the relationship between information management strategies and decision-making effectiveness in private hospitals in Jordan.

Keywords

information management, organizational culture, data accuracy, accessibility, technology adoption, system integration, private hospitals, Jordan

JEL Classification

M10, M14, L86, I10

INTRODUCTION

Private hospitals in Jordan are currently using a significant amount of medical, operational, and financial data within a rapidly changing healthcare setting, which has the potential to improve decision-making. Yet, effectively controlling and using these data represent a major obstacle, especially in intricate healthcare environments where policymakers must navigate uncertainty, regulatory limitations, and the fast rate of medical progress (Bataineh et al., 2024a). The key task of management information systems in a hospital involves collecting, processing, storing, and sharing data, which is essential for turning information into useful understandings for strategic decision-making (Souza et al., 2024). Incorporating data in decision-making is crucial for staying competitive, enhancing patient care, and efficiently allocating resources during an overload of information (Yaseen & El Qirem, 2018; Ravikumar et al., 2023).

In Jordan's private hospitals, a key challenge is not just having access to data but also being able to derive valuable insights from it. Even with improvements in healthcare technology and data analytics, numerous hospitals have difficulty establishing decision-making pro-

cesses that are fully driven by data. The complexity of healthcare environments, including decentralized structures, diverse patient needs, and unpredictable medical cases, adds to the challenge (Bataineh et al., 2024a; Abu-Allan & Alghizzawi, 2024). Hospitals need strong information management strategies in order to ensure that the correct data reach the appropriate decision-makers in a timely manner, whether it pertains to patient outcomes, operational efficiency, or financial performance (Paul et al., 2023). Furthermore, the huge amount of data that is accessible can sometimes result in decision paralysis, which occurs when too much information overwhelms the capacity to make timely and efficient decisions (Arnold et al., 2023).

This is especially important in the healthcare industry, as delays in making decisions can impact both patient results and overall hospital effectiveness (Abu Hmeidan et al., 2024). Private hospitals in Jordan need advanced data management systems and decision support tools to sort, prioritize, and display data to improve clinical and operational decision-making processes (Bani-Salameh et al., 2021). According to Chao et al. (2023), effective information management systems can assist hospitals in analyzing data to recognize patterns and trends that guide decisions and enhance patient care.

1. LITERATURE REVIEW

This study developed a theoretical framework based on theories and concepts related to information management, decision-making, and organizational culture. In order to understand technology adoption and utilization within organizations, the technology acceptance model (TAM) is considered a robust framework to examine this acceptance where effective technology use is essential for improving decision-making (Davis, 1989). According to the TAM, technology adoption influences actual system use and, subsequently, decision-making effectiveness. Moreover, the unified theory of acceptance and use of technology (UTAUT) further enriches the understanding of how users adopt and interact with technology in organizational settings (Venkatesh et al., 2016). Recognizing the interrelationship between organizational culture, information management, and decision-making efficacy is crucial for healthcare organizations, particularly in Jordanian contexts (Alsmadi et al., 2024; Alzoubi et al., 2022). As private hospitals continue to grow amidst increasing competition and evolving patient needs, cultivating a supportive organizational culture that embraces innovation and data utilization will be vital.

Efficient information management involves a comprehensive approach to collecting, retaining, examining, and sharing information which is essential for improving patient care and operational effectiveness (Bhati et al., 2023). The integration of robust information management

systems in healthcare organizations enables healthcare providers and administrators to access critical data promptly, facilitating well-informed decisions that directly impact patient outcomes (Williamson & Prybutok, 2024; Javaid et al., 2024). Research has consistently demonstrated that healthcare organizations implementing data-driven decision-making strategies enhance their operational efficiency and achieve superior health outcomes (Alemu et al., 2021; Endeshaw, 2021; Kraus et al., 2022). The challenges in healthcare decision-making are further complicated by regulatory compliance, evolving medical practices, and diverse patient populations, all of which necessitate a robust information management system (Han et al., 2024; Varnosfaderani & Forouzanfar, 2024). Efficient information management is increasingly vital for successful decision-making in challenging environments, such as the healthcare industry in Jordan. This multifaceted approach encompasses gathering, retaining, analyzing, and disseminating information, which is crucial for enhancing patient care and operational effectiveness (Bhati et al., 2023). Moreover, challenges in healthcare decision-making are compounded by regulatory requirements, evolving medical practices, and diverse patient populations, necessitating a robust information management system (Han et al., 2024; Varnosfaderani & Forouzanfar, 2024). The organizational culture of private hospitals significantly influences the effectiveness of information utilization (Morales-Huamán et al., 2023).

Data accuracy is paramount in hospitals and crucial in ensuring that clinical decisions are well-informed and based on reliable information (Alotaibi & Federico, 2017; Al-Ramahi et al., 2024). The integrity of patient data directly influences the ability of healthcare professionals to deliver high-quality care (Hashem, 2022). When healthcare providers have access to accurate and comprehensive patient data, they are better positioned to make informed clinical decisions, which can significantly reduce the incidence of medical errors and improve patient outcomes (Bataineh et al., 2024a). Moreover, the availability of precise data empowers decision-makers to identify trends and patterns within patient populations, enabling them to forecast potential future outcomes and tailor treatment strategies more effectively (Chidera et al., 2024). This ability to analyze data with greater confidence is essential in crafting treatment plans that are personalized and aligned with best practices. In the highly dynamic healthcare environment, where the quality of patient care is the foremost priority, it is vital to uphold rigorous standards of data accuracy. This informs clinical decision-making regarding individual treatment plans and influences broader organizational strategies, such as resource allocation and long-term planning (Ivanovic et al., 2023). By prioritizing data accuracy, healthcare institutions can enhance their operational effectiveness, ultimately leading to improved patient safety and overall care quality. Therefore, the commitment to maintaining high levels of data accuracy is foundational to achieving excellence in healthcare delivery.

Accessibility of data in healthcare pertains to the degree to which healthcare professionals can quickly obtain and effectively utilize pertinent information as needed (Innab, 2018). In the fast-paced and continually growing healthcare landscape, swiftly accessing vital data – including patient records, examination results, and treatment plans – is essential for enabling informed clinical decision-making. This timely access is critical not only for delivering high-quality patient care but also for ensuring that healthcare providers can respond quickly to changing patient conditions, thus improving overall clinical outcomes (Toderis et al., 2024). Furthermore, the implications of data accessibility extend beyond individual patient interactions. It significantly influ-

ences organizational-level decisions concerning staffing, resource allocation, and supply chain management within hospitals. For instance, when healthcare administrators have uninterrupted access to relevant data, they can make more informed decisions regarding workforce management, ensuring adequate staffing levels based on patient needs and operational demands. Additionally, data-driven insights allow for more efficient resource allocation and inventory management, ultimately enhancing the resilience and effectiveness of healthcare delivery systems (Yinusa & Faezipour, 2023). Furthermore, implementing advanced data analytics tools has a transformative impact on decision-making processes within healthcare settings and for electronic health records (EHR) systems (Alsmadi et al., 2023; Chu et al., 2021). These technologies enable healthcare providers to access and analyze patient data instantaneously, which leads to enhanced clinical choices and improved patient outcomes (Sreejith & Sinimole, 2024). Factors such as leadership endorsement, employee attitudes toward technology, and organizational readiness play a vital role in determining the degree of acceptance and successful implementation of these technological advancements (Chu et al., 2021). The alignment of technology with organizational values and practices ultimately determines the overall effectiveness of information management in healthcare systems.

Systems integration within private hospitals is critical for fostering seamless communication among diverse digital tools and platforms. This multifaceted approach involves the amalgamation of various information systems, which include patient management systems, laboratory information systems, and radiology systems. Such integration enables healthcare professionals to access a complete and well-organized data repository, which is essential for enhancing clinical decision-making and overall patient care quality (Serbanati, 2020; Shojaei et al., 2024; AlWadi et al., 2024). Effective integration, however, is not solely dependent on technological capabilities (Al-Soluiman et al., 2020). It is profoundly influenced by the existing organizational culture, which plays a pivotal role in shaping employees' willingness and readiness to adopt new systems and smart devices (Chu et al., 2021). A supportive organizational cul-

ture characterized by open communication, continuous training, and a willingness to embrace change can significantly enhance the successful implementation of integrated information systems.

Moreover, comprehensive system integration provides healthcare providers with a holistic view of patient information alongside other organizational data. This consolidated perspective is crucial as it not only streamlines workflows but also facilitates timely and informed decision-making processes. In turn, such efficiencies can lead to improved patient outcomes and enhanced operational performance within the healthcare facility (Qasim et al., 2025). Ultimately, the strategic integration of information systems holds the potential to revolutionize healthcare delivery by ensuring that all stakeholders have access to accurate and up-to-date information when making critical decisions. It is crucial to consider the specific contextual factors that significantly influence the efficiency of information management and the effectiveness of decision-making processes. Key factors such as the availability of financial and technological resources, the level of employee training and education, and the extent of leadership support play essential roles in shaping how information is collected, processed, and utilized in daily operations (Wallo et al., 2022). Empirical evidence indicates that hospital leadership is critical to fostering an innovative environment that prioritizes data analytics (Lyng et al., 2021; Karimi et al., 2023; Raoush, 2023; Idris et al., 2023; Megdadi et al., 2024). For Jordanian private hospitals, aligning information management strategies with a strong and supportive organizational culture is essential for achieving optimal decision-making effectiveness. Cultivating an environment that fosters collaboration among healthcare professionals, encourages open communication, and highlights the importance of continuous professional development is vital for maximizing the potential of data assets (Garrido-Moreno et al., 2024).

The literature increasingly recognizes the role of organizational culture in connecting information management to decision-making effectiveness, with research suggesting that a posi-

tive culture can amplify the benefits of information management practices (Zhang et al., 2023; Bogale & Lemi Debela, 2024). Healthcare organizations with a culture of trust and collaboration are better equipped to leverage data for strategic decision-making, resulting in improved clinical and operational outcomes. The mediating role of organizational culture in the relationship between information management strategies and decision-making effectiveness is supported by several theoretical frameworks. In the context of Jordanian private hospitals, organizational culture explains the need for robust information management strategies to cope with the complexity and uncertainty inherent in healthcare decision-making. Organizational culture acts as a filter through which information is processed and interpreted, thereby influencing how information management strategies impact decision-making effectiveness. Schein's (2016) model of organizational culture, which includes artifacts, espoused values, and basic underlying assumptions, further elucidates how cultural elements influence the adoption and use of information management systems and the overall approach to decision-making within healthcare organizations.

The main objective of this study is to investigate how private hospitals in Jordan can enhance their information management strategies to improve decision-making results in intricate healthcare settings. It specifically looks at how different information management strategies, like data accuracy, accessibility, technology adoption, and information system (IS) integration, impact decision-making effectiveness. Moreover, the study examines how organizational culture mediates the relationship between information management strategies and the effectiveness of decision-making. Accordingly, the hypotheses are as follows:

- H1: Data accuracy has a positive impact on decision-making effectiveness.*
- H2: Accessibility has a positive impact on decision-making effectiveness.*
- H3: Technology adoption has a positive impact on decision-making effectiveness.*

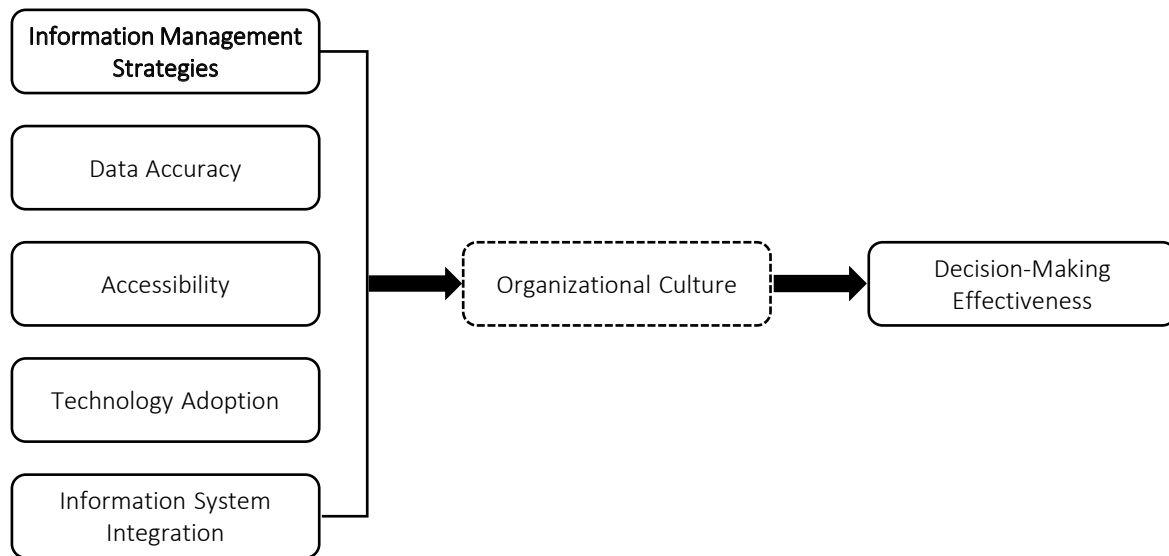


Figure 1. Conceptual framework

- H4: Information system integration has a positive impact on decision-making effectiveness.*
- H5: Organizational culture has a direct significant impact on decision-making effectiveness.*
- H6: Organizational culture mediates the impact of information management strategies (including data accuracy, accessibility, technology adoption, and information system integration) on decision-making effectiveness.*

In summary, the overlap of information management, decision-making efficiency, and organizational culture is a crucial topic requiring more research in Jordanian private hospitals' context. Healthcare leaders in Jordan can improve the quality of patient care by utilizing information management strategies that enhance and create a culture that supports effective decision-making. Based on the abovementioned literature, Figure 1 illustrates the relationships between the independent, dependent, and mediating variables. The framework is guided by the present theoretical background and real-world evidence, enabling a deep understanding of the relationships among these variables in the context of Jordanian private hospitals.

2. METHOD

A quantitative research design was used to explore the impact of information management

strategies and decision-making effectiveness, with organizational culture acting as a mediating factor. Structured questionnaires (Appendix A) were used to collect data from healthcare professionals in selected Jordanian private hospitals, which included hospital administrators, IT staff, and clinical managers. According to the latest report provided by the Jordanian Ministry of Health (MOH, n.d.), the number of private hospitals operating in Jordan was 71, and 43 of them are located in the capital of Amman. Therefore, four private hospitals were selected, as shown in Table 1. The reasons behind selecting four out of 43 private hospitals in Amman for data gathering were made using various criteria. Initially, these hospitals were selected to represent various features, including size, technology infrastructure, and specialties, to provide a more thorough understanding of how information management strategies might impact decision-making effectiveness in healthcare settings. In addition, the decision was taken to ensure the practicality of the process, taking into account the available resources and time for data gathering while also aiming for a representative sample capable of producing meaningful statistical results. Moreover, these hospitals were chosen for their active participation in recent technological progress, making them ideal for studying the impact of data accuracy, availability, technology adoption, and information system integration on decision-making effectiveness.

Table 1. Study sample and response rates

Hospital	Number of questionnaires sent	Returned valid questionnaires	Response rate (%)
Jordan Hospital	100	88	88%
King Hussein Cancer Center	100	87	87%
Abdali Hospital	100	95	95%
Royal Hospital	100	87	87%
Total	400	357	89%

The survey was created to gather participants' views on data accuracy, availability, technology adoption, and information system integration, alongside the mediating impact of organizational culture on decision-making effectiveness. The gathered data were analyzed using the partial least squares structural equation modeling (PLS-SEM) to assess the proposed relationships between the study variables. Ethical concerns, such as obtaining informed consent and ensuring data confidentiality, were carefully followed in every aspect of the research. A convenience sampling technique has been applied to gather data from participants, and the determined sample size was planned to be 400 respondents in order to achieve stable statistical analysis, as mentioned by Hair et al. (2021). Google Forms and social media were used to reach the targeted sample. Consequently, after around three months of questionnaire distribution, 400 respondents were reached. Unfortunately, only 371 questionnaires were retrieved, achieving a response rate of 93%; after cleaning, 357 valid questionnaires were used for the analysis. The measurements are adapted from previous research as illustrated in Table 3.

According to Table 2, the sample profile consists of various demographic and professional categories. Regarding gender, 42.3% are male (151 individuals) and 57.7% are female (206 respondents). The age distribution shows that the majority of the sample (43.7%) are between 35 and 44 years old. Regarding IS use or implementation, 70.3% are directly involved, while 29.7% are indirectly involved; all respondents who are not involved were excluded from this study. For their decision-making roles, 27.2% have a primary role, 35.9% contribute to decisions, and 36.9% provide necessary data. Likewise, respondents who had no roles in the decision-making processes were removed. Additionally, the respondents are experienced employees since more than half of the sample have

more than seven years of experience. Familiarity with systems reveals that 40.6% are very familiar, and 33.6% are somewhat familiar.

Table 2. Sample profile

Variable	Category	Frequency	Percentage
Gender	Male	151	42.3%
	Female	206	57.7%
Age group	18–24	29	8.1%
	25–34	78	21.9%
	35–44	156	43.7%
	45–54	64	17.9%
	55 and above	30	8.4%
IS use or implementation	Directly	251	70.3%
	Indirectly	106	29.7%
	Not involved	0	0%
Role in decision-making	Primary role	97	27.2%
	Contributor to decisions	128	35.9%
	Providing necessary data	132	36.9%
	Not involved in decision-making	0	0%
Experience	Less than 1 year	12	3.4%
	1–3	48	13.4%
	4–6	93	26.0%
	7–10	115	32.2%
	More than 10 years	89	25.0%
Familiarity with systems	Very familiar	145	40.6%
	Somewhat familiar	120	33.6%
	Neutral	60	16.8%
	Somewhat unfamiliar	25	7.0%
	Not familiar at all	7	2.0%
Total		357	100%

3. RESULTS

The analysis of the outer loadings for each indicator in this study demonstrated strong indicator reliability, with all values exceeding the acceptable threshold of 0.7. Specifically, the factor loadings for each construct were as follows.

Accessibility items ranged from 0.839 to 0.867. Data accuracy items ranged from 0.742 to 0.826. Decision-making effectiveness items ranged from 0.797 to 0.890. Integrating information systems items ranged from 0.813 to 0.858. Organizational culture items ranged from 0.841 to 0.928. Technology adoption items ranged from 0.829 to 0.884. These results indicate that all indicators are reliable measures of their respective constructs, supporting the validity of the data collected (Hair et al., 2017).

The internal consistency reliability of the constructs was assessed using Cronbach's Alpha (α) and composite reliability (CR) values, both of which exceeded the recommended threshold of 0.7, indicating acceptable reliability across all constructs in this study. The Cronbach's Alpha values were as follows: accessibility ($\alpha = 0.877$), data accuracy ($\alpha = 0.799$), decision-making effectiveness ($\alpha = 0.918$), integrating information systems ($\alpha = 0.860$), organizational culture ($\alpha = 0.915$), and technology adoption ($\alpha = 0.884$). Similarly, the composite reliability values further confirmed these findings, with all constructs demonstrating values above the required threshold ($CR > 0.7$).

In terms of convergent validity, average variance extracted (AVE) values were also calculated for each construct, with all constructs achieving AVE values above the acceptable threshold of 0.5: accessibility (AVE = 0.731), data accuracy (AVE = 0.622), decision-making effectiveness (AVE = 0.752), integrating information systems (AVE = 0.704), organizational culture (AVE = 0.799), and technology adoption (AVE = 0.742). These results affirm that the constructs are valid and reliable indicators of their respective theoretical concepts, thereby enhancing the overall robustness of the study's findings (Fornell & Larcker, 1981).

The assessment of collinearity among the constructs was conducted using variance inflation factor (VIF) values, which are crucial for identifying potential multicollinearity issues within the model. In this analysis, all VIF values were found to be below the threshold of 5, indicating no significant multicollinearity among the constructs in this study. Specifically, VIF values for accessibility ranged from 1.993 to 2.478; data accuracy ranged from 1.538 to 1.740; decision-making effectiveness ranged from 2.116 to 3.463; integrating informa-

Table 3. Factor loadings, construct reliability, and validity

Construct	Item	Factor Loadings	VIF	(α)	CR	AVE
Accessibility (Ivanovic et al., 2023)	AC1	0.867	2.478	0.877	0.916	0.731
	AC2	0.866	2.337			
	AC3	0.839	1.993			
	AC4	0.847	2.275			
Data accuracy (Alotaibi & Federico, 2017)	DA1	0.760	1.570	0.799	0.868	0.622
	DA2	0.742	1.538			
	DA3	0.824	1.631			
	DA4	0.826	1.740			
Decision-making effectiveness (Sinnaiah et al., 2023)	DM1	0.880	3.103	0.918	0.938	0.752
	DM2	0.882	3.318			
	DM3	0.890	3.463			
	DM4	0.884	3.203			
	DM5	0.797	2.116			
Integrating information systems (Shojaei et al., 2024)	IS1	0.813	1.688	0.860	0.905	0.704
	IS2	0.827	2.054			
	IS3	0.858	2.256			
	IS4	0.858	2.222			
Organizational culture (Zhang et al., 2023)	OC1	0.904	3.534	0.915	0.941	0.799
	OC2	0.899	3.211			
	OC3	0.841	2.180			
	OC4	0.928	3.974			
Technology adoption (Venkatesh et al., 2016)	TA1	0.868	2.856	0.884	0.920	0.742
	TA2	0.863	2.817			
	TA3	0.884	3.080			
	TA4	0.829	2.512			

tion systems ranged from 1.688 to 2.256; organizational culture ranged from 2.180 to 3.974; and technology adoption ranged from 2.512 to 3.080. These findings suggest that each construct is sufficiently distinct and contributes uniquely to the model without undue influence from other variables, thereby supporting the integrity of the structural model analysis (Hair et al., 2021).

The discriminant validity of the constructs was assessed using both the heterotrait–monotrait (HTMT) ratio and the Fornell–Larcker criterion. These methods are widely recognized for evaluating the distinctiveness of constructs in structural equation modeling (Hair et al., 2017). The HTMT ratio results, presented in Table 4, demonstrate strong discriminant validity among all constructs. All HTMT values are below the conservative threshold of 0.85, as recommended by Henseler et al. (2015). The highest HTMT value observed is 0.825 between information system integration and technology adoption, which is still within the acceptable range. This indicates that each construct is sufficiently distinct from the others, supporting the discriminant validity of the measurement model. The lower HTMT values, such as 0.407 between data accuracy and accessibility, further reinforce the uniqueness of these constructs.

Table 4. Heterotrait-monotrait ratio (HTMT) – Matrix

Construct	AC	DA	DME	IS	OC	TA
AC	–	–	–	–	–	–
DA	0.407	–	–	–	–	–
DME	0.582	0.581	–	–	–	–
IS	0.656	0.510	0.712	–	–	–
OC	0.699	0.535	0.772	0.785	–	–
TA	0.667	0.493	0.696	0.825	0.795	–

Note: AC = Accessibility; DA = Data accuracy; DME = Decision-making effectiveness; IS = Integrating information systems; OC = Organizational culture; TA = Technology adoption.

The Fornell–Larcker criterion results, shown in Table 5, provide additional support for discriminant validity. This criterion compares the square root of the average variance extracted (AVE) for each construct (displayed on the diagonal) with its correlations with other constructs (Fornell & Larcker, 1981). In all cases, the square root of AVE for each construct is greater than its correlation with any other construct. For instance, the square root of AVE for organizational cul-

ture is 0.894, which is higher than its highest correlation of 0.716 with technology adoption. This pattern is consistent across all constructs, further confirming their discriminant validity. The results from both the HTMT ratio and the Fornell–Larcker criterion collectively provide strong evidence for the discriminant validity of the constructs in this study, indicating that each construct measures a unique aspect of the study model.

Table 5. Fornell–Larcker criterion

Construct	AC	DA	DME	IS	OC	TA
AC	0.855	–	–	–	–	–
DA	0.346	0.789	–	–	–	–
DME	0.527	0.498	0.867	–	–	–
IS	0.574	0.428	0.641	0.839	–	–
OC	0.631	0.467	0.714	0.702	0.894	–
TA	0.590	0.413	0.629	0.720	0.716	0.861

Note: AC = Accessibility; DA = Data accuracy; DME = Decision-making effectiveness; IS = Integrating information systems; OC = Organizational culture; TA = Technology adoption.

The model fit (Table 6) indices and coefficient of determination (R^2) values provide information about the overall quality and explanatory power of the structural equation model. The standardized root mean square residual (SRMR) is a measure of the average magnitude of the discrepancies between observed and expected correlations as an absolute measure of model fit. For the saturated model, the SRMR value is 0.055, and for the estimated model, it is 0.071. These values are below the recommended threshold of 0.08, indicating a good fit (Hu & Bentler, 1999). The normed fit index (NFI) compares the proposed model to a null model, with values closer to 1 indicating a better fit. The NFI values for the saturated and estimated models are 0.840 and 0.834, respectively. While these values are slightly below the ideal threshold of 0.90, they are still considered acceptable, especially in complex models (Bentler & Bonett, 1980). Overall, these fit indices suggest that the model has an acceptable fit to the data, though there may be room for some improvement.

The coefficient of determination (R^2) values provide information about the model’s explanatory power for the endogenous constructs. For decision-making effectiveness, the R^2 value is 0.510 (adjusted $R^2 = 0.509$), indicating that approximate-

ly 51% of the variance in decision-making effectiveness is explained by the model. This can be interpreted as a moderate level of explanatory power (Hair et al., 2017). For organizational culture, the R^2 value is 0.636 (adjusted $R^2 = 0.632$), suggesting that the model explains about 63.6% of the variance in organizational culture. This represents a moderate to substantial level of explanatory power (Hair et al., 2017). These R^2 values indicate that the model has good predictive capability for both decision-making effectiveness and organizational culture, with particularly strong explanatory power for organizational culture.

Table 6. Model fit

Criteria	Saturated model	Estimated model
SRMR	0.055	0.071
d_ULS	0.971	1.618
d_G	0.504	0.535
Chi-square	1080.474	1125.636
NFI	0.840	0.834
Construct	R-square	R-square adjusted
DME	0.510	0.509
OC	0.636	0.632

The path coefficients and their significance levels provide crucial insights into the relationships between the variables in the structural model. The bootstrapping procedure used to obtain these results enhances the reliability of the findings by providing confidence intervals and t -statistics. All path coefficients are statistically significant ($p < 0.05$), and the narrow confidence intervals suggest precise estimates of the relationships between variables. The high t -values (all above 1.96) further confirm the statistical significance of these relationships (Hair et al., 2017).

The results of the path analysis, as presented in Table 7, demonstrate strong support for all five hypotheses. The findings indicated that data accuracy significantly impacts organizational culture ($\beta = 0.134$, $t = 2.693$, $p = 0.007$, CI [0.047, 0.241]). This finding supports *H1*, indicating that higher levels of data accuracy contribute to a more positive organizational culture. The relationship between accessibility and organizational culture is also significant and positive ($\beta = 0.236$, $t = 5.299$, $p < 0.001$, CI [0.150, 0.321]), providing strong support for *H2*. This suggests that improved data accessibility to information enhances the organizational culture within Jordanian private hospitals.

Furthermore, technology adoption demonstrates the most substantial impact on organizational culture among the information management strategies ($\beta = 0.322$, $t = 5.368$, $p < 0.001$, CI [0.204, 0.437]), which strongly supports *H3*. This highlights the critical role of technology adoption in shaping organizational culture within the healthcare sector. Information system integration also shows a significant positive effect on organizational culture ($\beta = 0.277$, $t = 4.231$, $p < 0.001$, CI [0.146, 0.402]), confirming *H4* and highlighting the importance of integrated information systems in fostering a supportive organizational culture. Finally, the relationship between organizational culture and decision-making effectiveness is particularly strong ($\beta = 0.714$, $t = 24.237$, $p < 0.001$, CI [0.657, 0.772]), providing strong support for *H5*. This result emphasizes the crucial role of organizational culture in enhancing decision-making effectiveness within Jordanian private hospitals.

These findings collectively support the theoretical framework proposed in this study, demonstrating that information management strategies significantly influence organizational culture, which substantially impacts decision-making effectiveness in Jordanian private hospitals. The results align with previous research highlighting the importance of data accuracy, accessibility, technology adoption, and information system integration in healthcare settings (Toderis et al., 2024; Sreejith & Sinimole, 2024).

The indirect effects analysis provides crucial insights into the mediating role of organizational culture in the relationship between various information management strategies and decision-making effectiveness in Jordanian private hospitals. The results of the bootstrapping procedure, as presented in Table 8, demonstrate strong support for all four hypothesized indirect effects (*H6.1* to *H6.4*).

The indirect effect of data accuracy on decision-making effectiveness through organizational culture is significant ($\beta = 0.096$, $t = 2.726$, $p = 0.006$, CI [0.034, 0.171]). This finding supports *H6.1*, indicating that improved data accuracy enhances decision-making effectiveness by fostering a supportive organizational culture. Likewise, the relationship between accessibil-

Table 7. Path coefficients

Hypothesis	Path	Coefficient	ST. DEV	T Value	P value	CI		Result
						2.5%	97.5%	
H1	DA → OC	0.134	0.050	2.693	0.007	0.047	0.241	Accepted
H2	AC → OC	0.236	0.044	5.299	0.000	0.150	0.321	Accepted
H3	TA → OC	0.322	0.060	5.368	0.000	0.204	0.437	Accepted
H4	IS → OC	0.277	0.066	4.231	0.000	0.146	0.402	Accepted
H5	OC → DME	0.714	0.029	24.237	0.000	0.657	0.772	Accepted

Note: AC = Accessibility; DA = Data accuracy; DME = Decision-making effectiveness; IS = Integrating information systems; OC = Organizational culture; TA = Technology adoption.

ity and decision-making effectiveness mediated by organizational culture is also significant ($\beta = 0.168, t = 5.286, p < 0.001, CI [0.106, 0.231]$), providing strong support for H6.2. This suggests that improved data accessibility enhances decision-making effectiveness through its positive impact on organizational culture within Jordanian private hospitals.

Technology adoption demonstrates the strongest indirect effect on decision-making effectiveness through organizational culture among the information management strategies ($\beta = 0.230, t = 5.168, p < 0.001, CI [0.144, 0.316]$), strongly supporting H6.3. This emphasizes the critical role of technology adoption in shaping organizational culture, which in turn enhances decision-making effectiveness within healthcare settings. Information system integration also shows a significant indirect effect on decision-making effectiveness through organizational culture ($\beta = 0.198, t = 4.033, p < 0.001, CI [0.100, 0.293]$), confirming H6.4 and highlighting the importance of integrated information systems in fostering a supportive organizational culture that leads to improved decision-making effectiveness.

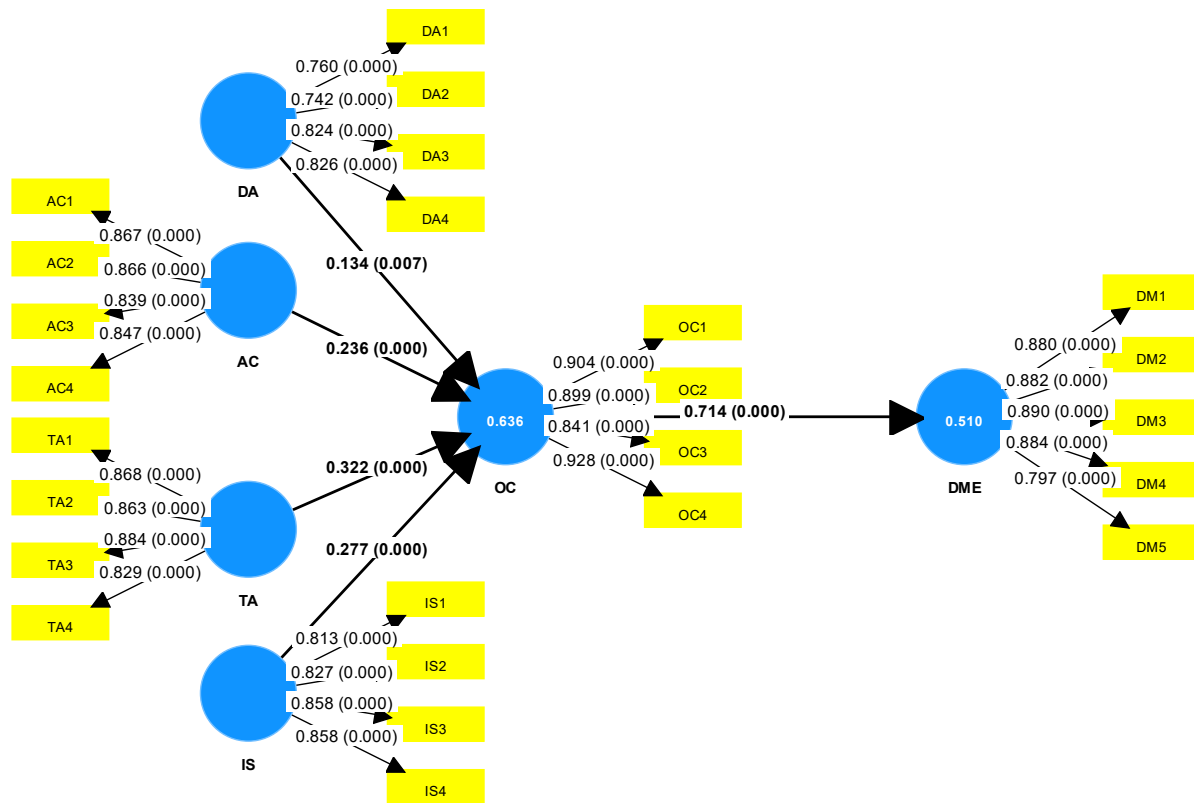
These findings support the theoretical framework proposed in this study, demonstrating that information management strategies significantly influence decision-making effectiveness through their impact on organizational culture in Jordanian private hospitals. The results align with previous research highlighting the importance of organizational culture as a mediating factor in the relationship between information management practices and organizational outcomes in healthcare settings (Zhang et al., 2023; Bogale & Lemi Debela, 2024).

These results emphasize the crucial role of organizational culture in translating the benefits of information management strategies into improved decision-making effectiveness. They suggest that healthcare leaders in Jordanian private hospitals should focus on implementing advanced information management strategies and cultivating a supportive organizational culture that facilitates the effective use of these strategies for enhanced decision-making. Figure 2 presents the measurement and structural model demonstrating the study's model and path coefficients.

Table 8. Indirect path coefficients

Hypothesis	Path	Coefficient	ST. DEV	T Value	P value	CI		Result
						2.5%	97.5%	
H6.1	DA → OC → DME	0.096	0.035	2.726	0.006	0.034	0.171	Accepted
H6.2	AC → OC → DME	0.168	0.032	5.286	0.000	0.106	0.231	Accepted
H6.3	TA → OC → DME	0.230	0.045	5.168	0.000	0.144	0.316	Accepted
H6.4	IS → OC → DME	0.198	0.049	4.033	0.000	0.100	0.293	Accepted

Note: AC = Accessibility; DA = Data accuracy; DME = Decision-making effectiveness; IS = Integrating information systems; OC = Organizational culture; TA = Technology adoption.



Note: AC = Accessibility; DA = Data accuracy; DME = Decision-making effectiveness; IS = Integrating information systems; OC = Organizational culture; TA = Technology adoption.

Figure 2. Measurement and structural model (extracted from SmartPLS 4.1)

4. DISCUSSION

The results of this study offer profound insights into the interplay between information management strategies and decision-making effectiveness within the context of Jordanian private hospitals, highlighting the pivotal mediating role of organizational culture. These findings not only corroborate existing literature but also expand upon it in several significant dimensions. The observed robust positive correlation between data accuracy and decision-making effectiveness (*H1*) reaffirms earlier studies that have underscored the paramount importance of reliable data in healthcare environments. As established by Chidera et al. (2024), the precision of patient data is fundamentally crucial for enhancing clinical decision-making, mitigating errors, and ultimately improving patient outcomes. This study emphasizes that the significant influence of data accuracy on decision-making effectiveness points to the critical nature of sustaining high-quality data within healthcare

contexts, especially in Jordanian private hospitals, where the quality of patient care remains a top priority (Ivanovic et al., 2023).

Similarly, the confirmed positive impact of data accessibility on decision-making effectiveness (*H2*) resonates with prevailing literature that highlights the necessity of timely access to vital healthcare data. This finding substantiates the assertions made by Toderis et al. (2024) and Yinusa and Faecipour (2023), who assert that prompt access to patient records, diagnostic results, and treatment protocols is indispensable for effective decision-making in the dynamic landscape of healthcare. Furthermore, the results bolster Omaghomi et al.'s (2024) emphasis on cultivating a work environment conducive to data-driven decision-making to navigate resistance to change and successfully implement information management systems.

The significant relationship identified between technology adoption and decision-making ef-

fectiveness (*H3*) parallels previous research that highlights the transformative role of contemporary data analytics tools and EHR systems in enhancing decision-making efficiency. These findings echo the work of Sreejith and Sinimole (2024), who linked the adoption of such technologies to improvements in real-time patient data analysis and informed clinical decision-making. The outcomes of this study further align with the TAM (Davis, 1989) and the UTAUT (Venkatesh et al., 2016), reinforcing the notion that perceived usefulness and ease of use are critical considerations in the successful adoption of technology within healthcare settings.

Moreover, the positive impact of information system integration on decision-making effectiveness (*H4*) corroborates the findings of Serbanati (2020) and Shojaei et al. (2024), who highlighted the necessity of integrating disparate hospital information systems to foster comprehensive and organized access to data. This outcome supports the assertion that effective system integration facilitates a holistic view of patient information and organizational data, thereby enhancing the capability for informed and efficient decision-making processes in Jordanian private hospitals.

The direct significant impact of organizational culture on decision-making effectiveness (*H5*) is consistent with scholarly literature that underscores the role of organizational culture in shaping decision-making dynamics. This finding demands attention to the assertions made by

Mannion and Davies (2018), who posited that a culture characterized by openness, teamwork, and a commitment to continuous learning encourages healthcare professionals to engage proactively with information systems. Additionally, this result reinforces the conclusions drawn by Zamiri and Esmaeili (2024), which indicate that organizations that cultivate a culture of continuous learning and knowledge-sharing are optimally positioned to implement effective information management strategies.

Finally, the affirmation of the mediating role of organizational culture in the relationship between information management strategies and decision-making effectiveness (*H6*) underscores the emerging recognition of culture as a critical factor that links information management practices to decision-making outcomes. This finding aligns with Zhang et al. (2023) and Bogale and Lemi Debelo (2024), who argued that a positive organizational culture can amplify the benefits derived from information management practices. Overall, these findings reinforce the theoretical framework proposed in this study, illuminating the intricate and multifaceted relationships among information management strategies, organizational culture, and decision-making effectiveness in the specific context of Jordanian private hospitals. The results underscore the imperative of adopting a holistic approach to information management – one that not only focuses on technological advancements but also takes into account the cultural context in which these information systems are embedded.

CONCLUSION

The main objective of this study is to investigate how private hospitals in Jordan can enhance their information management strategies to improve decision-making results in intricate healthcare settings. It highlights the vital role of organizational culture as a mediator that enhances the impact of effective information management on decision-making outcomes. Key factors such as data accuracy, accessibility, technology adoption, and information system integration significantly influence organizational culture, shaping decision-making effectiveness. The findings suggest that private hospitals in Jordan should focus on implementing advanced information management systems while cultivating a culture that encourages data-driven decision-making and open communication. This approach can improve both clinical and operational decision-making processes.

The study enriches the theoretical framework of information management in healthcare and underscores the importance of aligning technological solutions with a supportive cultural environment. From a practical standpoint, healthcare administrators should make strategic investments in data manage-

ment and foster a conducive culture to enhance decision-making effectiveness, ultimately improving patient care and overall hospital performance. While the study is specific to Jordanian private hospitals, its implications could apply to similar healthcare organizations in developing nations facing information management challenges. Future research could explore these dynamics in various healthcare contexts to validate and expand the findings.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Table A1. Questionnaire: Demographics

Sample Characteristics	Items
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Age group	<input type="checkbox"/> 18–24 years <input type="checkbox"/> 25–34 years <input type="checkbox"/> 35–44 years <input type="checkbox"/> 45–54 years <input type="checkbox"/> 55 years and above
Are you involved in the implementation or use of information systems in your hospital?	<input type="checkbox"/> Yes, I am directly involved. <input type="checkbox"/> Yes, I am indirectly involved. <input type="checkbox"/> No, I am not involved.
What is your role in the decision-making processes in the hospital?	<input type="checkbox"/> Primary decision-maker <input type="checkbox"/> Contributing to decisions <input type="checkbox"/> Providing data/information for decisions <input type="checkbox"/> Not involved in decision-making
How long have you been working in this hospital?	<input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1–3 years <input type="checkbox"/> 4–6 years <input type="checkbox"/> 7–10 years <input type="checkbox"/> More than 10 years
How would you rate your familiarity with the hospital’s information management systems?	<input type="checkbox"/> Very familiar <input type="checkbox"/> Somewhat familiar <input type="checkbox"/> Neutral <input type="checkbox"/> Somewhat unfamiliar <input type="checkbox"/> Not familiar at all

Table A2. Questionnaire: Research part

No.	Item	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Data Accuracy						
1	The data used in decision-making at my hospital are highly accurate.					
2	My hospital has reliable methods for verifying the accuracy of patient records.					
3	The data collected from different departments are consistent and free of errors.					
4	Regular audits are conducted to ensure data accuracy in our hospital information system.					
Availability						
5	Relevant data are readily available for decision-making processes in my hospital.					
6	My hospital ensures timely access to patient and operational data.					
7	Staff members can access the data they need without unnecessary delays.					
8	My hospital uses an efficient system to store and retrieve medical records.					
Technology Adoption						
9	My hospital uses advanced technology for data collection and management.					
10	The use of technology has improved decision-making processes in our hospital.					
11	Hospital staff are well-trained in using information management technologies.					
12	The adoption of new technology is encouraged and supported by hospital management.					
Information System Integration						
13	Different information systems in our hospital are integrated effectively.					
14	The integration of hospital information systems supports effective decision-making.					
15	My hospital’s information systems communicate effectively across different departments.					
16	Integrated systems have minimized redundancy and inconsistencies in our data.					

Table A2 (cont.). Questionnaire: Research part

No.	Item	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Organizational Culture						
17	My hospital encourages a culture of data-driven decision-making.					
18	The leadership in my hospital promotes collaboration across departments.					
19	Staff members are encouraged to share information freely to support decision-making.					
20	Innovation and adoption of new practices are part of the hospital culture.					
Decision-Making Effectiveness						
26	Decision-making processes in my hospital are efficient and timely.					
21	Data-driven decisions have improved the quality of services provided by my hospital.					
22	The hospital management makes informed decisions based on the available data.					
23	There is a reduction in decision-making errors due to accurate information availability.					
24	The decisions made in my hospital lead to improved patient outcomes and operational efficiency.					