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The Organizational Factors Influencing the Adoption of Blockchain Technology in Hospitals in Jordan

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ARTICLE INFO	ABSTRACT
	Blockchain technology has emerged as a leading trend in the current information technology era. Although it offers potential benefits across various sectors, the healthcare industry has been slower to embrace this innovation. This study seeks to examine the organizational factors that could drive the adoption of blockchain technology in hospitals, particularly within the private sector. Employing a quantitative research approach, the investigation utilized questionnaires to assess the intentions of decision-makers regarding blockchain adoption in private hospitals in Jordan. Data analysis revealed that several factors significantly influence the intention to implement blockchain technology, including top management backing, organizational readiness, innovative tendencies, and corporate culture. However, previous IT experience was not found to have a substantial impact on the decision to adopt blockchain technology. The findings of this study provide valuable implications for hospital decision-makers and the broader healthcare sector.

INTRODUCTION

Once regarded as merely a supporting framework for digital currencies such as Bitcoin, blockchain technology has since emerged as a beneficial and even revolutionary solution in numerous fields of application [1]. At its core, blockchain functions as a distributed ledger technology, offering a secure and transparent method for recording and verifying transactions in a peer-to-peer network environment. Given these characteristics, it is most suitable for industries with stringent data accuracy and security requirements, including healthcare, finance, and banking [2]. Therefore, blockchain has not only gained focus in the financial industry but has also expanded its sphere of operation in areas such as supply chains, healthcare, etc.

Today, blockchain is well-known in the healthcare industry for its ability to solve significant problems in this sphere, such as data protection, integration of the systems, and patient confidentiality [3]. Healthcare systems face numerous challenges in terms of, for example, separate and dispersed data or identical but integrated active medical records, as well as constantly high risks of cyber threats. The possibility of blockchain in this case is that EHRs are safe, centralized, and only accessible to those authorized to access such records [4]. Furthermore, [5] stated that blockchain offers real-time visibility of events and records every transaction without alteration; it is suitable for ensuring that an extensive healthcare chain, such as the drug distribution and clinical research processes, are carefully recorded and monitored without significant alterations.

In Jordan, the issue of implementing cutting-edge technologies in hospitals is gradually developing as a pertinent theme owing to the optimization of the Jordanian healthcare system and, therefore, optimizing the delivery of healthcare services [6]. Nevertheless, the effective implementation of blockchain technology in Jordanian hospitals depends on organizational factors. Knowledge of these factors is critical when developing strategies to help

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incorporate blockchain into the healthcare system [7]. In this context, this study investigates the organizational factors to identify how they influence the uptake of Blockchain technology by hospitals in Jordan.

The following section provides a systematic review of the literature and prior studies related to Blockchain technology in healthcare. The third section outlines the research model and hypotheses. The fourth section details the method used to explain the research design and data collection. Subsequently, the data analysis and results are explained to discover trends worth understanding. The discussion and implications section explores these results. Finally, the paper presents conclusions and recommendations for future research.

LITRATURE REVIEW

Blockchain Technology

Blockchain technology can be defined as an open, distributed ledger that provides an unforgeable record of all transactions to many computers to protect the data [8]. Unlike traditional databases, in which an authority manages the entire system, Blockchain is based on a distributed system in which every node has a copy of the ledger. Such an organizational structure does not require intermediaries and limits the chances of creating a single weak link. Blockchain structures are mainly built using blocks, where each block contains a list of recent transactions. These blocks are chained, indicating that the connected blocks are in chronological order [9]. Each block is tied to the others through hashing, so it becomes challenging to manipulate previous records without affecting subsequent blocks, making them highly immutable.

Another significant advantage of blockchain is that it is transparent and can be easily traced back. Unlike traditional banking, where every transaction done in the bank is secret and is only seen by the bank management or the account manager, all transactions within the network are public, thus making all participants in the network accountable [10]. Blockchain is secure because it employs cryptographic methods to protect data from unauthorized access and alteration. The technology is also relatively stable in that even if some nodes fail, the network continues to work [11]. These characteristics make blockchain an attractive solution in industries such as finance, supply chain management, and, in particular, healthcare, where reliable and safe record keeping is crucial.

Blockchain in Healthcare and Hospitals

Blockchain technology can dramatically change the management, sharing, and protection of data in healthcare. Challenges that have crumbled the traditional healthcare system include inadequate data integration, privacy leakage, and limited data exchange [12]. Blockchain solves these problems by offering medical records management and sharing, enhancing care outcomes, and minimizing operational costs.

One of the most famous cases of blockchain use in healthcare is data storage, specifically for managing health records. With blockchain, there is an opportunity to develop a decentralized EHR system in which patients have autonomy over their records and allow only authorized practitioners to view their information [13]. This improves patient confidentiality and the availability and accuracy of patient record information across healthcare providers. For example, a patient's medical history can be securely transferred from one hospital to another without data corruption.

Another application of blockchain in healthcare is in drug supply chain management. The industry faces various problems, including counterfeit drugs and supply chain issues. Through blockchain technology, drug production, distribution, delivery, and use history can be monitored, thus minimizing counterfeit drugs in the market [14]. Traceability is essential for preserving the safety and quality of pharmaceutical products.

Various case studies have revealed that healthcare and hospitals are gradually embracing the blockchain technology. For instance, Estonian government officials have recently adopted the use of blockchain to create a system for storing records of citizens' health. This system allows citizens to control their medical data, and all transactions will be recorded transparently and secured [15]. Another example is the MediLedger Project, which applies blockchain to enhance the pharmaceutical supply chain because all participant members can obtain a single undeniable document on the actions completed.

Prior Research on Blockchain Adoption in Healthcare and Hospitals

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Blockchain technology in the healthcare industry has been researched in various papers, especially its advantages, shortcomings, and factors affecting its implementation [16]. The benefits of blockchain have been highlighted in various research studies, including data security, increased compatibility, and increased transparency in health processes. For example, [1] provide a brief on how Blockchain can be employed in developing secure and integrated health information systems, enhancing the administration of care, and minimizing bureaucratic redundancies. According to [18], data privacy, ownership, and patient consent are essential concerns in healthcare, and more research is needed to show how blockchain can resolve such challenges within the scope of current legal and ethical requirements.

However, despite these advantages, the exploitation of blockchain in healthcare is still in infancy, and various challenges must be overcome. However, one significant problem is the absence of norms and standards for implementing blockchain technology in healthcare worldwide [19]. Thus, if the rules are too foggy, healthcare organizations may be reluctant to join blockchain owing to the risks of non-compliance with data protection legislation, such as GDPR in Europe or HIPAA in the USA.

The next concern is the scalability of blockchain systems. Thus, even if Blockchain is highly secure, it may not scale well and cannot accommodate the amount of data produced by healthcare entities. This has raised several issues regarding the possibility of widely adopting blockchain technology in healthcare [20]. In addition, incorporating blockchain technology into current healthcare information technology can pose challenges, primarily involving capital investments in structures and personnel training.

However, numerous studies have highlighted various variables that enhance blockchain utilization in the healthcare sector. Therefore, critical leadership support, organizational preparedness, and an improved IT environment are some of the factors that determine the successful implementation of Blockchain. For example, [21] noted that industries with adequate leadership support and established IT systems are more likely to integrate blockchain technology. The study also pointed out that organizational culture factors are critical inhibitors of blockchain adoption, including resistance to change and limited awareness of its advantages.

Despite the increasing literature on blockchain adoption in healthcare, there are some limitations. First, a few papers still focus on qualitative research on the practical use and effects of blockchain in healthcare organizations [22]. Most studies undertaken are conceptual or conducted within the context of theory, and the application of blockchain technology to enhance healthcare processes and outcomes lacks empirical support.

Similarly, there is a significant gap in the involvement of stakeholders in the adoption of blockchain. Although some studies incorporate organizational factors in influencing the adoption of blockchain technology, there is a lack of documents assessing patients, doctors, and regulators' perceptions of blockchain and how these perceptions affect the adoption of blockchain technology [23]. The various expectations of multiple stakeholders require identification to provide proper strategies to ensure the advancement of blockchain in healthcare.

RESEARCH MODEL AND HYPOTHESES

Factors Affecting the Adoption of Blockchain Technology

This research has identified several critical themes regarding the use of Blockchain technology in hospitals and concluded that the decision to use this technology is not merely technical but is conditioned by several technical, organizational, and environmental factors. Organizational factors are particularly influential as they are, in many instances, most influential in determining an institution's level of preparedness and overall capacity to integrate such innovative technologies within their systems [24]. The following section discusses the organizational factors that may influence Blockchain adoption in hospitals including top management support, organizational readiness, prior IT experience, organizational innovativeness, and organizational culture.

Top Management Support

Top management support in any organization plays a major role in new technology implementation, and this holds true for organizations functioning in complex surroundings, like hospitals [25]. In other words, support from top management is a key to laying down and clarifying technology strategies, setting budgets and funding, and ensuring

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that a sufficient framework is in place to adopt the new technology. In the case of blockchain technology, this is due to the necessary transformation or shifts in processes, data processing, and technology integration called for throughout units and departments, requiring top management support for the successful achievement of changes. Based on an empirical study, top management commitment to technological innovation contributes to the possibility of implementation success [26]. Hence, this study proposes the following hypothesis for testing.

Hypothesis H1: Top management support has a positive relationship with Blockchain adoption in hospitals.

Organizational Readiness

This construct describes the company's level of preparedness when adopting and supporting the implementation of new technological developments. This readiness covers the company's infrastructure, capacity for technology integration, and employees who are ready to adopt new technology [27]. Blockchain technology adoption requires organizational readiness as its integration entails the incorporation of a complex, distributed database technology in current hospital systems [28]. Stated clearly, the hospitals should have efficient IT infrastructure, secure data management system, and informed human capital when it comes to blockchain novelty and implications for workflow processes [29]. According to relevant studies, the higher the level of organizational readiness, the better the adoption of new technology, as this ensures that change opposition is lowered when it comes to practical implementation. On this basis, the study proposes the following hypothesis.

Hypothesis H2: Organizational readiness has a positive relationship with Blockchain adoption in hospitals.

Prior IT Experience

The successful adoption of new technologies by a firm hinges on its initial experience with similar technologies. In the case of hospitals, similar technologies have implemented the required mechanisms to limit issues related to technology implementation. In blockchain, IT experiences in data systems, security, and integration systems are necessary for effective adoption [30]. Companies that understand the complex nature of IT integration and have succeeded in their quest, have a higher likelihood to prepare themselves for the inevitable issues that will arise relating to its implementation and as such, this study proposes the following hypothesis;

Hypothesis H3: Prior IT experience has a positive relationship with Blockchain adoption in hospitals.

Organizational Innovativeness

Blockchain Technology (BCT) adoption requires innovativeness at the level of the individual and organization as past studies have indicated that innovativeness is a major driver of such adoption (e.g., [24]). Organizational innovativeness refers to an organization inclination to adopt innovative ideas regardless of the risks involved [31]. Top management's inclination towards being well-informed about new ideas while actively looking for alternatives contributes to their support for new technologies [32]. Considering BCT's innovative nature, innovativeness is a must for an organization to implement it [24]. Studies dedicated to this topic have revealed the role of innovativeness in the adoption of new technology [33]. [34] indicated that the innovativeness level of an organization adds to its adoption level. Therefore, organizations that search for new ideas would consider BCT an opportunity for further success and have a higher likelihood of adoption. Additionally, [35] highlighted a relationship between the innovativeness level of the organization and its adoption of BCT. As a result, this study proposes the following hypothesis.

Hypothesis H4: Organizational innovativeness has a positive relationship with blockchain adoption in hospitals.

Organizational Culture

In addition to the previously discussed factors, organizational culture is another major determinant of BCT adoption in hospitals, which is defined as employees' way of interaction and performance of duties within an organization [36]. A culture that encourages risk-taking and embraces change is more likely to foster the adoption of new technologies. However, having a highly formalized, strict top-down, or cautious organizational culture may hurt blockchain implementation because employees do not like this new technology's changes [37]. Since managing change involves

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developing a culture that embraces continuous learning and innovation, hospitals that value these aspects are more likely to adopt blockchain technology. This leads to the following hypothesis.

Hypothesis H5: Organizational culture is positively related to Blockchain adoption in hospitals.

Research Model

This study proposed incorporating the following five organizational factors- top management support, organizational readiness, prior IT experience, organizational innovativeness, and organizational culture- as considerations in the adoption of blockchain systems in hospitals. Altogether, the model argues that these factors determine the overall capacity of a hospital to effectively adopt and implement blockchain technology, with each factor impacting unique aspects of adoption [38]. Executive sponsorship from top management is vital because it offers direction and necessary resources; organizational readiness denotes organizational preparedness for the change; prior IT expertise denotes the organization's experience in the use of IT; organizational innovativeness leads to the adoption of the IT system; and lastly a suitable organizational culture that supports change.

The research model is depicted in Figure 1, where the different hypotheses developed in this study are represented as arrows linking organizational factors to the outcome variable, blockchain adoption. The proposed model informs the evaluation of the hypotheses in the empirical study, explains the significance of each factor, and determines their net impact on the adoption process.

Figure 1 Research model and Hypothesis
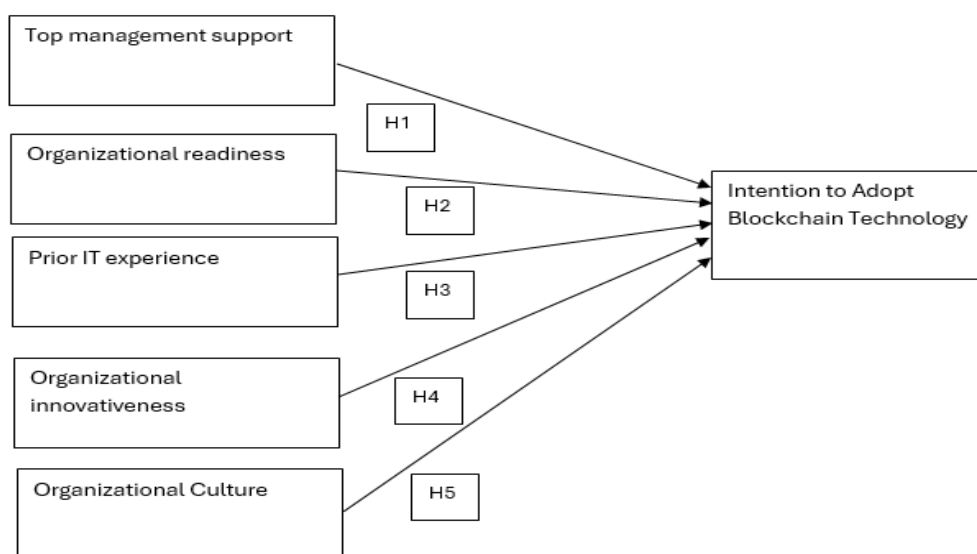
RESEARCH METHOD

Research Design

The method used in this study to analyse the factors affecting blockchain adoption in hospitals was quantitatively inclined. Thus, the rationale for selecting quantitative research is thus its capacity to establish statistical correlations between different variables, in addition to supporting hypotheses that may be developed from theories. This method effectively identifies patterns and makes general inferences about quantitative data. To eliminate threats to reliability and generalizability, this study relies on structured questionnaires and statistical analysis to compare the organizational factors that affect blockchain adoption across similar settings.

The primary respondents chosen for this study were high-ranking executives and upper management, because of their crucial role in making decisions regarding technology adoption in hospitals. The sample was selected based on its influence on the implementation of new technologies within hospitals. They lay down strategic directions, manage resources, and provide support for the new system. They have first-hand observations of the organizational structures that affect the use of blockchain technology considering their involvement in its definition and implementation.

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Respondents comprising senior executives and top management were screened to obtain their perceptions of technology implementation and resistance to change [39]. Such focus highlights the way organizational factors affect the adoption of technology from the top-down view, rendering such insight useful for stakeholders attempting to use blockchain technology in hospitals.

Questionnaire Design and Measures of Variables

The survey instrument was meticulously designed to evaluate all key factors affecting the intention to adopt blockchain in hospitals, ensuring that these elements were measured with high accuracy. A three-item scale adapted from [40] was used to assess the intention to adopt blockchain technology. Five items were used to measure Top Management Support (TMS), while three gauged the (OR). These measurement tools were derived from a study by [41]. Prior IT experience (PITE) was evaluated using three items adapted from [42]. Three items adopted from [24] were used to measure Organizational innovativeness (OI). Organizational Culture (OC) was assessed using four items based on scales from previous research by [43] and [44], which explored the impact of culture on technology adoption.

Data Handling

The data collection process was conducted using a self-administered questionnaire distributed via email using Google Forms to a sample of 54 private hospitals accredited by the Private Hospitals Association in Jordan (https://phajordan.org/). Thus, the questionnaire was simple so that response rates could be high and the results were accurate. Some attempts have been made to retrieve the responses of non-responders to ensure a maximum response rate and to improve data responses.

At the end of the month period of data collection, 108 filled-out and valid questionnaires were received. The number of decision-makers in this study was large enough to allow statistical tests and the conclusion of the results. Data preprocessing is engaged in data cleaning to ensure the exclusion of invalid responses and make the final data set comprehensive and coherent. The cleaned data were input into statistical analysis software for further analysis, where reliability, validity, and hypothesis tests were conducted.

DATA ANALYSIS ANS RESULTS

The hypothesized relationships between the variables concerning the intention to adopt blockchain in hospitals were investigated using multiple regression analysis. The coefficients obtained from this approach enable the assessment of the impact of blockchain adoption on the dependent variable. In this study, several conditions were checked before running the regression analysis, including the reliability of the measures, whether the data were typically distributed and whether the predictors had collided. Causal-partial correlation analysis was also conducted to assess the extent of the relationship between all variables, providing a study on how each factor is related to Blockchain adoption in the country.

Reliability

Cronbach's alpha (α) was used to evaluate the consistency of the research constructs. A value exceeding 0.7 is necessary to demonstrate an acceptable reliability level [45]. The outcomes of Cronbach's alpha calculations are shown in Table 1. All the obtained values exceeded 0.7, indicating satisfactory reliability across the constructs.

Table 1 Reliabilities, Mean, and Standard Deviation

Construct	Cronbach's Alpha	Mean	Standard Deviation
Intention to Adopt	.90	4.181	.596
TMS	.88	4.158	.661
OR	.82	4.115	.597
PITE	.89	4.177	.612
OI	.79	3.988	.563
OC	.94	4.286	.688

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Normality Test

Successful multiple regressions require the data to meet normality assumption. Skewness and Kurtosis values were examined to evaluate this. According to [45], normally distributed data should have values within ±2.58. As shown in Table 2, all values fell within this range, indicating that all the research constructs were normally distributed.

Table 2 Normality Test

Construct	Skewness	Kurtosis
Intention to Adopt	-.314	-.514
TMS	-1.02	-.794
OR	-.942	-1.009
PITE	-.984	-.375
OI	.318	-.119
OC	-1.023	-.863

Multicollinearity Test

The evaluation of multicollinearity is crucial in multiple regression analyses. Multicollinearity can be assessed by calculating the Variance Inflation Rate (VIF) and Tolerance values. [45] and [46] recommend a tolerance above 0.1 and a VIF below 10. Table 3 shows that all the values met these criteria.

Table 3 Multicollinearity Test

Construct	Tolerance	VIF
TMS	0.853	3.021
OR	0.668	1.502
PITE	0.794	4.456
OI	0.567	1.714
OC	0.505	2.523

Correlation Analysis

The correlation coefficient serves as a measure of both the intensity and orientation of the linear association between two variables [46]. [45] asserted that correlation coefficients should not exceed 0.80. Table 4 presents the correlation coefficients (R) for all research constructs, none of which surpass the 0.80 threshold. A correlation between dependent and independent variables, ideally above 0.3, is crucial [46]. The table shows that all the correlation values between the intention to adopt blockchain technology and the independent variables exceeded 0.3.

Table 4 Correlation

Construct	Intention to Adopt	TMS	OR	PITE	ISE	OC
Intention to Adopt	1	0.677	0.540	0.423	0.532	0.763
TMS	0.677**	1				
OR	0.540**	0.432**	1			
PITE	0.423**	0.595**	0.498	1		
OI	0.532**	0.357*	0.469**	0.682*	1	
OC	0.763**	0.429*	0.576*	0.412**	0.429**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Hypotheses Testing

The evaluation of the coefficient of determination, known as the proportion of variance, (R Square), helps explain the adoption of blockchain. The Model Summary in Table 5 reveals an R Square value of 0.486, indicating that 48.6% of the variance in blockchain adoption was described by the independent variables. This indicates that the proportion of the variance explained by the model was moderate.

Table 5 Multiple Regression Summary

R	R²	Adjusted R²	Standard. Error	F	Significance (P)
.683[a]	.486	.462	.4102	35.947	.000[a]

a. Predictors: (Constant), TMS, OR, PITE, ISE, OC.

b. Dependent Variable, the intention to adopt Blockchain Technology

Coefficients analysis in Table 6 provides details of the relationship between each predictor and blockchain adoption. The coefficient for Top Management Support was 0.436 (β=0.331, $p \leq 0.001$). This finding suggests a significant positive relationship with the adoption of blockchain technology. Organizational Readiness had a coefficient of 0.492 (β=0.386, $p \leq 0.001$) indicating a substantial impact on blockchain adoption. Prior IT Experience shows a coefficient of 0.107 (β=0.086, $p > 0.05$) reflecting an insignificant influence. Organizational Innovativeness had a coefficient of 0.312 (β=0.349, $p \leq 0.05$) indicating a significant effect. Organizational Culture had a coefficient of 0.298 (β=0.428, $p \leq 0.001$). This suggests that organizational culture positively and significantly influences the adoption of blockchain.

The relationship between the predictors and blockchain adoption is elucidated through the coefficient analysis presented in Table 6. Top Management Support has a coefficient of 0.436 (β=0.331, $p \leq 0.001$), indicating a significant positive correlation. Organizational Readiness, with a coefficient of 0.492 (β=0.386, $p \leq 0.001$), had a substantial impact. Prior IT Experience, at 0.107 (β=0.086, $p > 0.05$), was statistically insignificant. Organizational Innovativeness had a coefficient of 0.312 (β=0.349, $p \leq 0.05$), indicating a significant effect. Organizational Culture, with a coefficient of 0.298 (β=0.428, $p \leq 0.001$), significantly influences blockchain adoption.

Table 6 Coefficients of Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.631	.417		-1.619	.098
TMS	.436	.051	.331	5.920	.000
OR	.492	.058	.386	6.482	.001
PITE	.107	.061	.086	1.862	.086
OI	.349	.045	.312	3.756	.017
OC	.428	.033	.298	5.553	.000

a. Dependent Variable: the intention to adopt Blockchain Technology

In conclusion, H1, H2, H4, and H5 were supported, indicating a statistically significant positive influence of top management support, organizational readiness, organizational innovativeness, and organizational culture on blockchain adoption. Conversely, H3 was not supported, suggesting that prior IT experience does not significantly influence blockchain adoption. Figure 2 presents a summary of the hypothesis testing results.

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DISCUSSION ANS IMPLICATIONS

Discussion of Results

The findings indicate the following perceptions that converge in the multiple regression model analysis of blockchain adoption in hospitals. The results also demonstrated that top management support significantly influences the adoption of BCT in hospitals. The importance of top management support in BCT adoption has been emphasized in multiple studies [24, 41,47, 48,49]. For instance, [48] determined that firm-level strategic management directly affects blockchain technology (BCT) adoption. Similarly, [47] affirmed that top management support is an organizational factor that influences BCT adoption. Consistent with these results, [50] identified a lack of top management support as a significant barrier to the successful adoption of blockchain technology. In contrast, top management support was found to be insignificant in blockchain adoption by [51].

Moreover, this study found organizational readiness to be significant in blockchain technology adoption, a finding that is aligned with those reported by past findings, including [41,52, 53]. In particular, [52] showed that improved organizational readiness adds to the positive relationship between the agility of supply chains and the intention to adopt blockchain technology. In a similar study, [53] revealed the significant effect of organizational readiness on blockchain technology adoption. In addition, the IT and financial resources of the organization, which form its readiness, was found to have a significant effect on the adoption of blockchain technology [54].

The data analysis indicated no support for the influence of prior IT experience on BCT adoption among hospitals, which contradicts past relevant studies such as [48] and [55]. Specifically, [48] revealed that innovation and self-efficacy level of individuals which can be affected by their IT experience, directly impact the adoption of BCT. In [56] study, the authors found that past IT experience determined the acceptance of technology among healthcare workers. However, this study found that past IT experience has no significant influence on the adoption of BCT, indicating that such technology might not require the user's past IT experience. The implications of this finding may differ in light of blockchain adoption in various settings and environments, which may indicate that healthcare entities should not focus only on improving the users' IT experience during their promotion of BCT adoption among hospitals but rather should consider a variety of factors that may have a greater influence on BCT adoption.

Moving on to organizational innovativeness, current literature, such as [24] and [35], among others, reported its significant influence which aligns with the findings of this study. In other words, organizations that are adept at the acquisition, storage, and application of new knowledge illustrate a higher inclination towards accepting new ideas, and display risk-taking activities, such as adopting BCT. In addition, organizations with leaders who commit to technological change are better able to transform vision into practice when it comes to complex technologies adoption and integration [57]. As a result, businesses need to facilitate learning strategies to track global trends that can potentially influence their business processes and activities.

Finally, organizational culture was found to have a positive and significant influence on the adoption of BCT in hospitals, and this finding is consistent with those of similar studies such as [58] and [59]. Hence, managers and employees must create a culture that caters to new technology acceptance, such as blockchain technology. This result highlights the importance of a culture conducive to the efficient adoption of blockchain technology in hospitals.

Additionally, organizational culture assists employees in adopting technology through their innovativeness. This holds true in healthcare institutions where patient safety and efficient workflow are crucial, wherein a culture of learning and experimentation can limit the challenge and resistance to changes for effective adoption. Cultural readiness is even more important in industries that are highly regulated, such as the healthcare industry, which stresses the protection of data and retaining stakeholders [60]. Undergoing changes in a quick and easier manner is possible through the right organizational culture, and this is true for technology integration into workflow practices, making it sustainable in the long run. Moreover, in terms of BCT adoption in healthcare, [61] recommended that a supporting culture adept at accepting innovativeness using flexibility is a crucial element.

Theoretical and Practical Implications

This study contributes to theory by advancing knowledge on technology adoption models and emphasizing the role of organizational factors in blockchain technology adoption. The findings obtained on the factors show that the

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adoption models may need changes when it comes to BCT for a more refined and developed investigation. The models must consider novel innovation elements.

This study supports the role of organizational factors in the adoption of BCT among hospitals, as healthcare stakeholders need to focus on these factors and select a direction towards which new technologies and tools can be seamlessly adopted to enhance operational efficacy and service quality. The findings of this study enhance the understanding of researchers in Jordan and other countries regarding blockchain technology adoption factors and processes. In addition, the findings can provide researchers with insights into blockchain technology adoption using different methodological and statistical techniques.

CONCLUSION AND FUTURE RESEARCH

In this study, the factors of blockchain adoption in hospitals were investigated based on organizational characteristics, such as top management support, organizational readiness, prior IT experience, organizational innovativeness, and organizational culture. Out of these factors, only prior IT experience was not supported as having a significant correlation with blockchain technology adoption, while the remainder were significant.

Based on the results of this study, future studies should consider the following. First, it would be helpful to investigate why there are no significant effects of some antecedents, such as prior IT experience in this study. Another method could be to use time-series research in which the adoption process is monitored periodically to determine if the impact of these factors is more prominent when blockchain technology is fully implemented in hospitals. Moreover, broadening the technological context may reveal how these factors determine the adoption rate in other contexts and provide a better understanding of how they work. Other variables, such as technical readiness or external pressure can also be analysed using the same organizational framework to provide significant findings. For instance, exploring how context factors such as the regulatory environment or competitive forces can impact blockchain adoption, and the organizational culture could afford a more holistic view of the adoption process.

However, using only quantitative research approaches might not be sufficient to establish the factors that support or hinder blockchain adoption. Thus, qualitative data collection techniques such as interviews or case studies can supplement these measures. Such a mixed-methods approach could allow for the determination of unique issues and advantages in hospitals and recommendations for dealing with such impediments.

In conclusion, this study has significant implications for the impact of organizational factors on blockchain adoption; however, it also offers insight into the unique and multifaceted forces that underpin technology adoption in healthcare. In this way, future research can help fill these knowledge gaps to support improvements in care delivery within hospitals through the better implementation of new technologies.

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