

# An Analysis of Strategic Factors Influencing the Adoption of Blockchain Technology in Thailand's Public Sector Businesses

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User satisfaction.

**Abstract.** The rapid advancement of digital technology has led to the emergence of blockchain technology. However, its adoption in Thai public companies remains in its early stages, primarily due to challenges related to data quality, system quality, and user perception. This research has three main objectives: 1) to examine the effect of data quality and system quality on the perception of benefits and user satisfaction with blockchain technology in public companies in Thailand, 2) to analyze the impact of user perception, perceived benefits, and satisfaction on the decision to adopt blockchain technology within organizations, and 3) to propose strategic recommendations for promoting the adoption of blockchain technology in public companies in Thailand. A mixed-methods approach is employed, combining quantitative data from 400 respondents with qualitative insights gathered through in-depth interviews with executives and experts. The findings indicate that data quality and system quality significantly influence perceived usefulness and user satisfaction, both of which directly affect organizational decisions regarding blockchain adoption. The proposed strategic directions include workforce capability development, the formulation of clear digital policies, and investment in infrastructure to support blockchain implementation in the public sector.

## 1. INTRODUCTION

In the digital era, the business landscape is undergoing rapid transformation. As a result, information technology has become a critical tool for enhancing organizational efficiency, particularly in the areas of data storage, analysis, and transmission. Accurate and reliable information is now considered fundamental to strategic decision-making (DeLone & McLean, 2003). To meet these evolving demands, many organizations are adopting advanced technologies, one of the most prominent being blockchain. Blockchain technology has been recognized as a transformative innovation that enhances data integrity and operational transparency within public companies (David & Jones, 2025). It mitigates risks related to data manipulation and ensures the traceability of transactions, thereby fostering greater trust among stakeholders (David et al., 2025). Additionally, the strategic implementation of blockchain can lead to significant cost reductions by automating routine processes and minimizing human error (David et al., 2025). However, in the context of Thailand, the adoption of blockchain technology in the business sector, particularly among public companies listed on the Stock Exchange of Thailand (SET), remains in its early stages. Several challenges persist, including limited managerial awareness and understanding, legal uncertainties surrounding digital technologies, and high infrastructure costs (Thanwarat, 2019). Despite the growing global interest in blockchain, there is a noticeable lack of empirical research that systematically examines the strategic factors influencing blockchain adoption in Thai public companies. This study seeks to fill that gap by analyzing these critical factors and proposing strategic recommendations to support broader adoption.

Table 1: Problems of the blockchain technology use in public companies.

Problem	Impact of the problem
Lack of knowledge and understanding of blockchain technology among executives and general users	-May lead to poor investment decisions or inappropriate application of the technology -Increases the risk of not utilizing the system to its full potential
Uncertainty surrounding laws and regulations related to the use of blockchain technology in Thailand	-Causes hesitation in implementing new technology in business operations -Leads organizations to delay investment for fear of potential consequences
High technology and infrastructure costs	-Prevents small and medium-sized enterprises (SMEs) from accessing the technology -Widens the digital divide between organizations of different sizes
Lack of personnel with specialized skills in blockchain system development and maintenance	-Increases reliance on external experts -Results in higher system administration costs and reduced system stal
Lack of insight into the key factors influencing blockchain adoption decisions	-Makes it difficult to develop effective strategies for implementation -Leads to inaccurate assessments of return on investment (ROI)

Based on the Technology Acceptance Model (TAM) proposed by Davis (1989) and the Information Systems (IS) Success Model by DeLone and McLean (2003), it has been established that information quality, system quality, perceived usefulness, and user satisfaction significantly influence users' decisions to adopt new technologies within organizations. These frameworks highlight the importance of both technical and perceptual factors in shaping technology adoption behavior. In the context of Thai public companies, the adoption of blockchain technology is still in its early stages. Despite its recognized potential to enhance data integrity, operational transparency, and efficiency, several critical challenges continue to hinder its widespread

implementation. These include a lack of knowledge and understanding among executives and users, legal and regulatory uncertainty, high infrastructure costs, a shortage of specialized personnel, and insufficient insight into the strategic factors influencing adoption decisions. These barriers contribute to ineffective investment decisions, underutilization of technology, and delayed implementation across organizations, particularly in small and medium-sized enterprises (SMEs), which are more vulnerable to technological and financial constraints.

Given these challenges, this research is crucial for conducting an in-depth analysis of the strategic factors influencing the adoption of blockchain technology in public companies in Thailand. It focuses on understanding these factors from the perspective of actual users within organizations to generate practical knowledge that can guide both policy formulation and technological strategy development. Moreover, the findings aim to support the Thai government's digital transformation agenda, particularly in advancing Thailand's economic development under the Thailand 4.0 policy, which emphasizes innovation, technology, and knowledge-based industries.

## 2. RESEARCH OBJECTIVES

1) To examine the effect of data quality and system quality on the perception of benefits and user satisfaction with blockchain technology in public companies in Thailand.

2) To analyze the impact of user perception, perceived benefits, and satisfaction on the decision to adopt blockchain technology within organizations.

3) To propose strategic recommendations for promoting the adoption of blockchain technology in public companies in Thailand.

## 3. LITERATURE REVIEW

In an era where digital technology plays a pivotal role in driving business growth, blockchain technology has emerged as a key innovation gaining global attention due to its security, transparency, and robust traceability features. However, the adoption of such technologies in business contexts still faces a range of factors that influence decisions on their use. Therefore, conducting a relevant literature review is essential to systematically understand these influencing factors. This can be illustrated as follows:

*Hypothesis 1: Information Quality Influences Perceived Usefulness.*

Wang and Strong (1996) suggested that high data quality plays a crucial role in enhancing the acceptance of IT system implementation. They argued that when data is accurate, complete, and reliable, it reduces the uncertainty users may have about the system's effectiveness. With high-quality data, users can trust the system to provide useful and actionable insights, thereby increasing their willingness to adopt the technology.

Davis (1989), in the Technology Acceptance Model (TAM), emphasized that the perceived benefits of a technology are a crucial factor influencing its acceptance and use. If the data is of high quality, users will perceive blockchain systems as more valuable to their operations, which, in turn, positively influences their long-term intention to use the system, as noted by Petter et al. (2008).

DeLone and McLean (2003) stressed that data quality affects the perception of benefits, Wixom and Todd (2005) further argued that users evaluate the benefits of an information system based on the quality of the data provided by the system. This, in turn, significantly impacts their satisfaction and usage behavior.

*Hypothesis 2: Information Quality Influences User Satisfaction.*

Wang and Strong (1996) further support this by noting that when a system's information does not meet expectations or contains errors, it leads to user dissatisfaction. Conversely, when the system provides accurate and reliable information that meets expectations, user satisfaction increases, as noted by Nelson et al. (2005).

Koutroumpis et al. (2019) further highlight that when blockchain systems provide high-quality data, users are more confident in utilizing the technology for decision-making and operational processes, which leads to higher levels of satisfaction.

Zhou (2019) emphasizes that data quality plays a crucial role in influencing user satisfaction, particularly in the context of blockchain technology, where the accuracy, consistency, and verifiability of data are essential. The decentralized and transparent nature of blockchain requires reliable and precise data for effective system operation.

DeLone and McLean (2003), in the IS Success Model, clearly state that data quality is one of the key variables affecting user satisfaction. Complete, clear, and up-to-date information is essential for user satisfaction. When the information provided by a system fails to meet users' requirements or contains errors, users are likely to be dissatisfied with the system.

*Hypothesis 3: Information Quality Influences Blockchain Technology Decision.*

Strong and Wang (1997) concluded that poor-quality data often leads to system failures, making technology decisions faulty and incurring unnecessary costs. They also argued that data quality is not only essential for improving user experience but is a critical factor in deciding whether to implement blockchain technology effectively in the business sector.

Rai et al. (2002) found that data quality significantly predicts the intention to use technology, demonstrating that better data quality encourages users to embrace new technological solutions, including blockchain.

DeLone and McLean (2003), in the IS Success Model, state that the quality of data affects users' perceptions and their long-term decision to use information systems. Accurate, complete, clear, and up-to-date data is crucial in increasing the confidence of executives and decision-makers in organizations towards adopting new systems like blockchain.

Wixom and Todd (2005) further emphasized that high-quality data leads to greater trust in new technologies. When data meets the required standards of accuracy and reliability, it boosts decision-makers' confidence in implementing blockchain systems within their organizations.

*Hypothesis 4: System Quality Influences Perceived Usefulness.*

Davis (1989), in the Technology Acceptance Model (TAM), states that perceived usefulness occurs when the system helps users perform their tasks more efficiently and effectively. Users are more likely to perceive a system as useful if it enhances their productivity. The quality of the system is a key variable in this process, as it directly impacts the user's experience and perception of the system's effectiveness.

Venkatesh and Davis (2000) further emphasized that the perceived ease of use and system quality together determine the perceived usefulness of a system. When users encounter a system that is both easy to use and performs well, they are more likely to perceive the system as useful and beneficial to their tasks.

Wixom and Todd (2005) found that users who perceive a system as stable and reliable tend to view it as more beneficial. A

system that consistently functions without failures or interruptions often leads to higher levels of user satisfaction and perceived usefulness. This stability, in turn, influences the user's decision to continue using the system.

*Hypothesis 5: System Quality Influences User Satisfaction.*

McKinney et al. (2002) further added that user satisfaction occurs when a system creates a positive user experience. This is particularly important for complex systems, such as blockchain, which involve processing large amounts of data. A system that displays accurate, timely, and error-free information is more likely to provide a positive user experience, leading to greater satisfaction.

Delone and McLean (2003) explained in the IS Success Model that system quality is one of the key components influencing user satisfaction. A system that is easy to use and responds effectively to users' needs increases satisfaction. When a system functions smoothly and meets expectations, users perceive it as more reliable and valuable to their tasks, contributing to higher satisfaction levels.

Petter et al. (2008) emphasized that when the system quality is low, such as in the case of frequent errors, long loading times, or processing delays, it can lead to user dissatisfaction. These issues undermine user confidence and trust in the system, which is especially critical in new technologies like blockchain, where users may still be in the process of learning and adapting to the system. Poor system performance can significantly reduce trust in future use and impede long-term adoption.

*Hypothesis 6: System Quality Influences Blockchain Technology Decision.*

Rai et al. (2002) emphasized that ease of use, processing speed, and system security play a major role in management's decision to invest in and adopt new systems. When evaluating new technologies like blockchain, these factors are essential in determining whether the technology meets organizational needs and is suitable for the tasks at hand.

Delone and McLean (2003) stated that when a system is stable, easy to use, and responsive, it results in users trusting the system and being more likely to adopt and use it. A reliable and efficient system fosters confidence, which is essential for encouraging its continued use and acceptance.

Wixom and Todd (2005) found that system quality is a crucial variable affecting the intention to use an IT system. Users determine whether a system can perform as expected, and they are more likely to adopt it if it meets their needs effectively. Factors such as ease of use, processing speed, and security are significant considerations for users in deciding whether to trust and use a system.

Zhou (2019) added that system quality directly impacts users' perception of its suitability for secure data management. A high-quality blockchain system assures users of the technology's potential for ensuring data integrity and security. Therefore, the quality of the system has a direct influence on the decision to adopt blockchain technology in the business sector.

*Hypothesis 7: Perceived Usefulness Influences Blockchain Technology Decision.*

Davis (1989), in the Technology Acceptance Model (TAM), states that users will decide to use a system when they perceive that the system can enhance work efficiency, save time, and improve processes. According to this model, if users believe that a system will provide clear benefits, such as streamlining tasks and improving productivity, they are more likely to adopt it.

Venkatesh and Davis (2000) also assert that the perception of benefits is a crucial variable that directly influences the intention to use a technology. In business sectors that require accurate and fast data processing, such as finance or supply chain management, the perceived usefulness of a system becomes even more significant. Blockchain technology, known for its transparency, security, and immutability of records, can address these needs by providing fast and reliable data management.

Petter et al. (2008) propose that the perception of benefits increases when the system can clearly meet the user's primary objectives, such as reducing audit time, increasing confidence in data accuracy, and supporting executive decision-making. Users are more likely to adopt a technology when they recognize that it can help them achieve their goals efficiently. In the case of blockchain, when users perceive that the technology can add value to their organization by improving transparency and security, they are more likely to make confident decisions to adopt it.

Zhang et al. (2014) further support this by stating that perceived usefulness, especially in the context of technologies like blockchain, plays a key role in determining adoption decisions. They note that when users see tangible benefits, such as cost savings or improved decision-making capabilities, their intention to use the technology increases significantly. Therefore, blockchain technology's perceived usefulness in enhancing data integrity and operational efficiency directly influences its adoption in organizations.

*Hypothesis 8: User Satisfaction Influences Blockchain Technology Decision.*

McKinney et al. (2002) further emphasized that users who are satisfied with the use of information systems are more likely to reuse the system and recommend it to others. In the case of blockchain technology, if the system provides a satisfying user experience, such as high security, transparency, and traceability, it increases users' confidence in the system and its ability to meet their needs. This positive experience influences users' decisions to continue using the technology and integrate it further into their operations.

Delone and McLean (2003), in their IS Success Model, stated that user satisfaction arises when a system meets the users' needs effectively and continues to fulfill them over time. Satisfied users are more likely to continue using the system and make decisions to adopt it in their daily operations. This ongoing satisfaction can influence their overall willingness to make the technology a part of their business processes.

Xu et al. (2011) added that user satisfaction is not only a reflection of the system's success but also serves as a catalyst for the decision to adopt and use technology in the business environment. When users feel that the system has met or exceeded their expectations, they are more likely to advocate for its use and integration within the organization, which is particularly important for blockchain adoption in complex and critical business processes.

Zhou (2019) also supports this argument, stating that blockchain technology, by providing high levels of security and transparent, traceable processes, ensures a high-quality user experience. When users trust the system to provide reliable and secure data, they are more likely to view it as a valuable tool for their business, thus increasing their satisfaction with the system and encouraging its use in the long term.

## 4. RESEARCH FRAMEWORK

The analysis of strategic factors affecting the adoption of blockchain technology in Thailand's public businesses is based on the theoretical frameworks of the IS Success Model (DeLone & McLean, 2003) and the Technology Acceptance Model (Davis, 1989). These models highlight that information quality and system quality are key factors influencing perceived usefulness and user satisfaction. When users perceive that both the information and the system quality are high, they are more likely to view the

system as useful for their operations. This, in turn, leads to higher user satisfaction and increases the likelihood of adopting the technology at the enterprise level. Therefore, this conceptual framework illustrates the causal relationship between technology quality and the rational, systematic decision-making behavior of users. Figure 1 illustrates the research framework of an analysis of strategic factors influencing the adoption of blockchain technology in Thailand's public sector businesses.

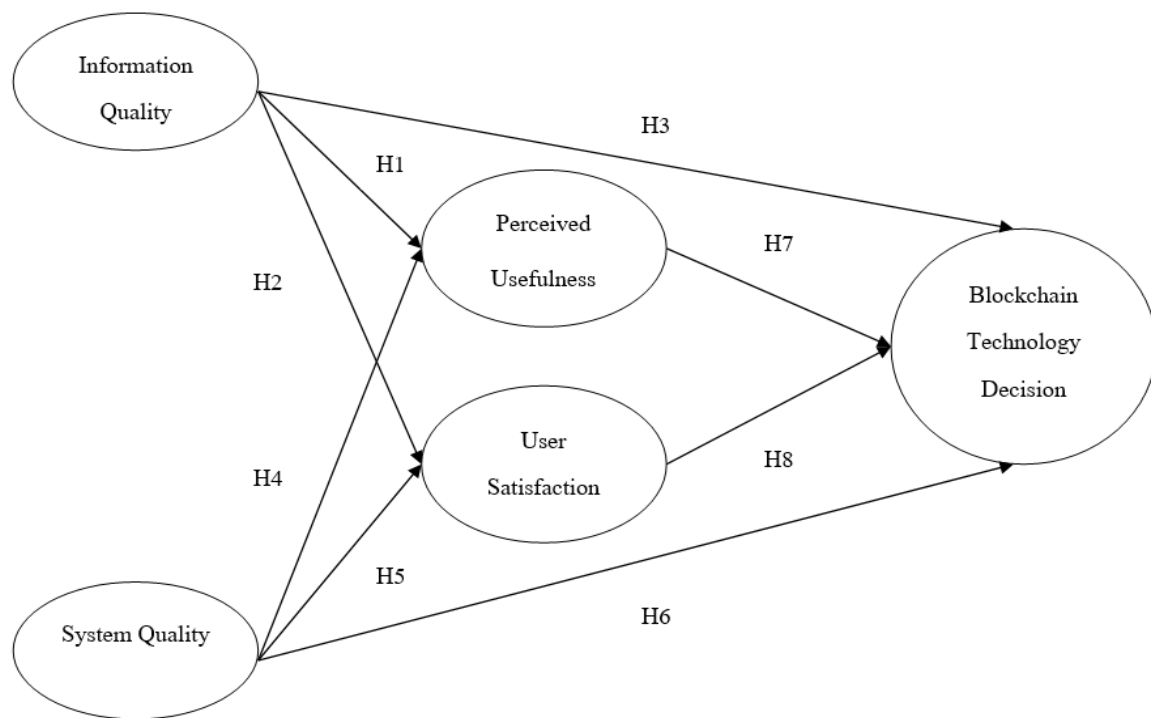


Figure 1: Research framework.

## 5. RESEARCH METHODOLOGY

### 5.1. Research Design

This research follows a mixed methods approach, combining both quantitative and qualitative research to obtain comprehensive, in-depth data that can clearly explain the factors influencing the decision to adopt blockchain technology. The "Explanatory Sequential Design" is employed, wherein the hypothesis is first tested using quantitative data, followed by qualitative data collection to further explain or expand upon the quantitative findings.

### 5.2. Population and Sample

1) Quantitative: The sample includes executive-level personnel and practitioners involved in decision-making or the use of information systems in public companies listed on the Stock Exchange of Thailand. A total of 400 participants are selected using purposive sampling.

2) Qualitative: The key informants consist of 8–10 senior executives or technology experts from public companies, selected through purposive sampling.

### 5.3. Data Collection Tools

1) Quantitative: A questionnaire is developed based on the IS Success Model and the Technology Acceptance Model (TAM) frameworks. The questionnaire includes questions related to data quality, system quality, perceived benefits, user satisfaction, and the decision to adopt blockchain technology. A 5-point Likert scale is used for measurement.

2) Qualitative: A semi-structured interview guide is used for conducting in-depth interviews on issues related to experiences, motivations, obstacles, and development strategies for the adoption of blockchain technology.

### 5.4. Data Collection Process

Step 1: Questionnaires are distributed both online and offline, with a focus on companies that use or are interested in using blockchain technology.

Step 2: The results from the questionnaires are analyzed to identify areas that need further exploration. In-depth interviews are then conducted with key informants based on the topics identified from the preliminary analysis.

### 5.5. Data Analysis

1) Quantitative: Descriptive statistics and structure equation modelling (SEM) are used to analyze the survey data.

2) Qualitative: Content analysis is conducted by coding and interpreting the main themes from the qualitative data to support or explain the findings from the quantitative analysis.

## 6. RESEARCH RESULTS

1) To examine the effect of data quality and system quality on the perception of benefits and user satisfaction with blockchain technology in public companies in Thailand.

Objective 1	Research results
Information quality	There is a statistically significant influence on perceived usefulness and user satisfaction when the data is accurate, complete, up-to-date, and clear. This enhances users' confidence in the system and increases their satisfaction with its use.
System quality	System quality also affects the perception of benefits and user satisfaction, particularly in terms of stability, speed, ease of use, and security. These factors encourage users to view blockchain technology as useful for practical applications.

2) To analyze the impact of user perception, perceived benefits, and satisfaction on the decision to adopt blockchain technology within organizations.

Objective 2	Research results
Perceived Usefulness	It has been found that perceived usefulness positively influences the decision to adopt blockchain technology in organizations. By reducing errors and increasing transparency, users are more likely to decide to implement the system.
User Satisfaction	The results indicate that user satisfaction, based on the experience of using the system, significantly impacts the decision to continue using it. Users who find the system easy to use, secure, and capable of meeting their needs are more inclined to support and adopt blockchain technology.

3) To propose strategic recommendations for promoting the adoption of blockchain technology in public companies in Thailand.

Objective 3 strategic approach	Feedback details
Human Resource Capacity Development	Training programs should be organized to enhance knowledge and understanding of blockchain technology at both the executive and user levels. This will enable better decision-making and effective use of the technology.
Technology Policy and Vision Formulation	Organizations should establish clear digital policies and strategic plans, ensuring that blockchain adoption aligns with the organization's mission and goals.
Technological Infrastructure Improvement	Investment in digital infrastructure, such as network security and distributed storage systems, should be prioritized to support blockchain use at the enterprise level.
Promoting Sectoral Cooperation	Collaboration between the government, private sector, and educational institutions should be fostered to exchange knowledge and develop best practices for blockchain adoption in Thailand.

In conclusion, the adoption of blockchain technology in Thailand's public business sector is influenced by several strategic factors, including data quality, system quality, perceived usefulness, and user satisfaction. The research highlights the importance of ensuring high-quality information and robust system performance to foster positive user experiences and facilitate the decision to adopt blockchain technology. Additionally, the development of human resources, clear technological policies, and improved infrastructure are crucial to supporting the successful integration of blockchain into organizations.

These findings provide a comprehensive understanding of the factors that drive blockchain adoption and offer valuable insights into the strategies that organizations can implement to enhance technology acceptance. Based on these factors, a conceptual model has been proposed to guide organizations in their decision-making process, focusing on the interplay between data and system quality, user satisfaction, and organizational readiness.

The proposed model underscores the need for a holistic approach to blockchain adoption, encompassing organizational culture, technology infrastructure, and strategic policy formulation. By addressing these key elements, organizations can build a solid foundation for the successful implementation of blockchain technology, leading to greater transparency, efficiency, and innovation in business operations. This model serves as a practical framework for public companies in Thailand and can be adapted to other contexts where blockchain adoption is being considered shown in Figure 2.



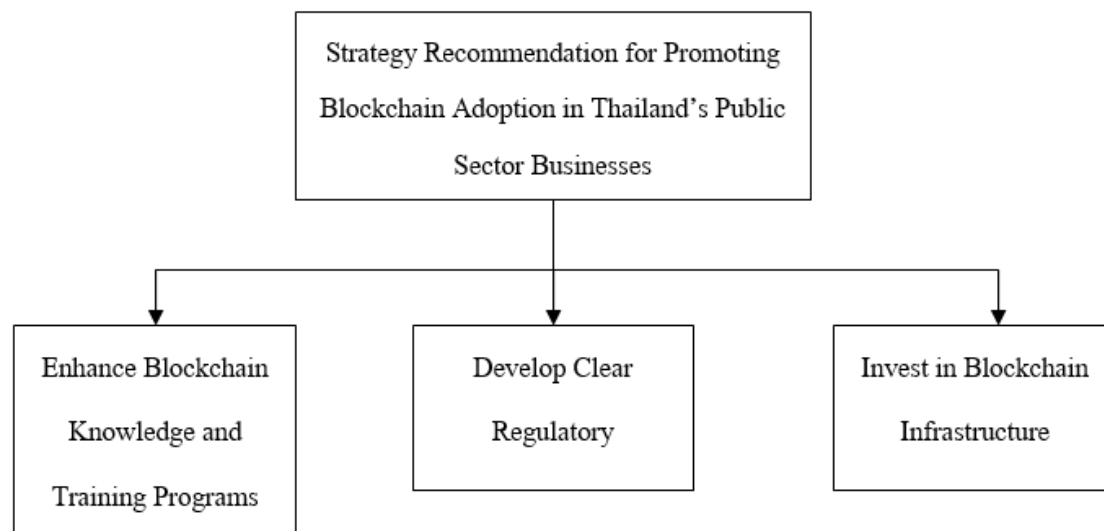


Figure 2: Strategic approach to promoting the use of blockchain technology in public sector businesses.

## 7. CONCLUSION

This research study explored the key variables that influence the adoption of blockchain systems within public companies. Based on the integrated framework of the Information System (IS) Success Model (DeLone & McLean, 2003) and the Technology Acceptance Model (Davis, 1989), the study produced both theoretical and practical insights, aligned with Thailand's digital transformation agenda under Industry 4.0. The findings are summarized below according to the study's three core objectives.

1) To examine the effect of data quality and system quality on the perception of benefits and user satisfaction with blockchain technology in public companies in Thailand

The study found that data quality, characterized by accuracy, completeness, timeliness, and clarity, has a statistically significant impact on both perceived usefulness and user satisfaction. Similarly, system quality, including attributes such as system stability, speed, security, and ease of use, was shown to influence how users assess the value and efficiency of blockchain systems. Public companies, which prioritize transparency, traceability, and secure information processing, benefit substantially from high-quality blockchain platforms. When users perceive that the technology can facilitate better performance, reduce redundancy, and enable accurate data verification, their confidence in and satisfaction with the system increase. This reinforces the technology's perceived strategic value in a highly regulated corporate environment.

2) To analyze the impact of user perception, perceived benefits, and satisfaction on the decision to adopt blockchain technology within organizations

The results demonstrated that both perceived usefulness and user satisfaction are critical drivers in the decision-making process for adopting blockchain technology. Users who recognize the operational advantages of blockchain, such as increased efficiency, reduced manual processing, improved data integrity, and support for audit and compliance tasks, are more likely to advocate for its adoption. Moreover, satisfaction derived from positive system experiences (e.g., secure data handling, transparency, and responsiveness) fosters ongoing engagement and long-term utilization. As such, organizations must focus not only on the functional capabilities of the technology but also on ensuring a positive user experience to encourage acceptance and sustained use.

3) To propose strategic recommendations for promoting the adoption of blockchain technology in public companies in Thailand.

Beyond technical factors, the study underscores the importance of organizational readiness. This includes:

1) Human Resource Development: Companies should implement training programs for executives and general staff to build foundational knowledge and practical skills in blockchain applications.

2) Infrastructure Investment: Ensuring robust IT infrastructure, especially in areas such as cybersecurity, distributed databases, and cloud services, is vital for reliable blockchain deployment.

3) Policy and Vision Alignment: Organizations must develop and communicate clear digital policies and long-term technology strategies that align blockchain initiatives with business objectives and national digital agendas.

4) Cross-sector Collaboration: Encouraging cooperation among government agencies, private enterprises, and academic institutions can facilitate knowledge exchange and the development of standardized practices for blockchain integration.

These strategic directions not only support blockchain adoption in individual companies but also contribute to broader national efforts to drive digital innovation and economic modernization under Thailand's Industry 4.0 framework. Overall, the study contributes valuable insights for both academic research and practical implementation. It provides a foundational model for understanding blockchain adoption behavior and offers actionable recommendations for organizational leaders and policymakers aiming to leverage blockchain to enhance competitiveness and operational excellence.

## 8. DISCUSSION

*Hypothesis 1: Information Quality Influences Perceived Usefulness.*

The study finds that information quality, defined by accuracy, completeness, clarity, and timeliness, positively affects the perceived usefulness of blockchain systems. When users receive high-quality data, they are more likely to recognize the system as a valuable tool that enhances task performance and operational efficiency. This supports the IS Success Model by DeLone and McLean (2003) and aligns with Wang and Strong (1996), who emphasized that users often assess system usefulness based on the quality of the data provided.

*Hypothesis 2: Information Quality Influences User Satisfaction.*

Accurate and reliable information also contributes significantly to user satisfaction. The findings suggest that when blockchain

systems provide complete and timely data, users experience fewer uncertainties and a higher level of trust, which enhances their satisfaction with the system. This insight reinforces the idea that information quality directly impacts how users feel about their interaction with the technology.

*Hypothesis 3: Information Quality Influences Blockchain Technology Decision.*

The quality of information also plays a key role in influencing decision-making around blockchain adoption. The research indicates that organizations are more likely to adopt blockchain systems when decision-makers perceive the data as trustworthy and valuable. This is especially important in public companies, where data accuracy and transparency are critical for accountability and regulatory compliance.

*Hypothesis 4: System Quality Influences Perceived Usefulness.*

System quality, including ease of use, stability, processing speed, and security, has a strong impact on how useful users perceive the technology to be. If users experience smooth system operations without disruptions, they are more likely to see blockchain as a tool that facilitates rather than complicates their work. These findings are consistent with Wixom and Todd (2005) and Rai et al. (2002), who emphasized the importance of technical performance in shaping perceived usefulness.

*Hypothesis 5: System Quality Influences User Satisfaction.*

Beyond usefulness, high system quality also enhances user satisfaction. The research shows that users are more satisfied when the blockchain system is intuitive, fast, and secure. On the other hand, systems with frequent errors or slow response times reduce satisfaction and trust. This supports the argument made by Petter et al. (2008) and McKinney et al. (2002) that system quality is a critical determinant of positive user experiences.

*Hypothesis 6: System Quality Influences Blockchain Technology Decision.*

A system that is technically sound and user-friendly significantly impacts the decision to adopt blockchain technology. The study reveals that decision-makers are more inclined to implement blockchain when the system is reliable and secure, particularly in sectors that handle sensitive or high-volume data. This finding highlights the importance of aligning system performance with organizational expectations and strategic goals.

*Hypothesis 7: Perceived Usefulness Influences Blockchain Technology Decision.*

The perception that blockchain technology can increase work efficiency, improve data accuracy, and enhance transparency strongly influences adoption decisions. This finding supports the Technology Acceptance Model (TAM) proposed by Davis (1989) and extended by Venkatesh and Davis (2000), who argued that perceived usefulness is a key driver of technology acceptance. In this context, blockchain's features, such as immutability and traceability, are perceived as highly beneficial, encouraging broader organizational buy-in.

*Hypothesis 8: User Satisfaction Influences Blockchain Technology Decision.*

Finally, the study confirms that user satisfaction is a critical factor in the decision to continue using blockchain systems. Users who are satisfied with the speed, security, and interface of the system are more likely to support its sustained implementation. This reinforces the importance of focusing on user experience to build long-term engagement and acceptance of new technologies.

## 9. RESEARCH CONTRIBUTION

This research has expanded the application of Davis's (1989) Technology Acceptance Model (TAM) and the IS Success Model by DeLone and McLean (2003) to the context of blockchain technology, an emerging innovation with limited existing research on user acceptance behavior, particularly in the Thai context. This study addresses that gap, contributing valuable insights that can serve as a foundation for future comparative research. In practice, the findings offer strategic guidance for organizations. They highlight key factors influencing the decision to adopt blockchain technology, such as improving data quality, enhancing system stability and usability, and fostering positive user experiences. The research also proposes strategic recommendations, including promoting digital literacy within organizations, investing in digital infrastructure, and encouraging collaboration among government agencies, private sectors, and educational institutions. These strategies can be applied in the development of digital policies, digital transformation initiatives, and efforts to drive the country's digital economy. Furthermore, the study provides practical value for public companies navigating technological transitions. It can serve as a reference framework for designing strategic plans to implement emerging technologies in a structured, systematic, and sustainable manner at the organizational level.

## 10. RECOMMENDATION

### 10.1. Academic Benefits

The findings of this study contribute to the academic understanding of how data quality and system quality influence perceived usefulness and user satisfaction in the context of blockchain adoption. These insights expand existing theoretical frameworks such as the IS Success Model and the Technology Acceptance Model (TAM), offering a basis for further research into emerging technologies within the Thai public business sector. Future academic studies can build on these results to explore comparative analyses, longitudinal studies, or sector-specific applications of blockchain technology.

### 10.2. Professional Benefits

For practitioners and professionals, the results emphasize the importance of designing systems that deliver accurate, complete, and up-to-date information. A stable, user-friendly, and secure platform not only boosts user confidence but also supports long-term adoption. Organizations should invest in professional development by organizing workshops and training sessions to enhance the understanding and practical skills of employees at all levels. A well-informed workforce will be more capable of leveraging blockchain technologies to improve efficiency, transparency, and decision-making processes within the enterprise.

### 10.3. Policy-Making Benefits

From a policy perspective, the study highlights the need for supportive regulations and clear national frameworks that facilitate blockchain adoption. Government agencies and regulators should establish guidelines focusing on cybersecurity, data protection,

and interoperability standards. These policies will ensure a secure and standardized environment for blockchain implementation. Furthermore, public-private partnerships and collaboration with international stakeholders should be encouraged to foster knowledge exchange and the development of best practices. This will help align Thailand's digital infrastructure with global standards and drive sustainable technological growth.

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