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Examining the Impact of Blockchain-Based Accounting Systems on Preventing Financial Fraud in Organizations: an Organizational Psychology and Employee Behavior Analysis of Trust in Digital Systems

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Abstract

The purpose of this study is to examine the role of blockchain-based accounting systems in preventing financial fraud and to analyze the psychological mechanisms of technological trust among organizational employees. The central research question addresses how transparency, immutability, and transaction traceability in blockchain technology can rebuild organizational trust and, consequently, reduce behavioral motivations for fraud. The research employed a descriptive survey and applied approach. Data were collected through a standardized questionnaire administered to 300 financial employees, accountants, and managers, and analyzed using Structural Equation Modeling (SEM). The findings revealed that technological trust plays a significant mediating role in the relationship between blockchain implementation and the reduction of financial fraud. Enhanced employee perceptions of system transparency and fairness were found to strengthen ethical behavior and diminish the tendency to manipulate financial information. Accordingly, blockchain-based accounting systems function not only as technical tools for recording information but also as cultural and behavioral mechanisms for institutionalizing integrity and accountability within organizations. The results suggest that success in preventing financial fraud requires integrating technological development with investments in digital trust and employee education, as sustainable ethical conduct and genuine transparency in financial systems can only be achieved through effective interaction between humans and technology.

Keywords: Blockchain, Digital accounting, Technological trust, Financial fraud, Organizational transparency.

1 | Introduction

In today's rapidly evolving digital landscape, particularly in finance and accounting, the adoption of blockchain-based systems has emerged as one of the most significant innovations [1]. As a novel and advanced technology, blockchain has been widely implemented across various industries, including banking, supply

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chain management, and accounting [2]. The primary objectives of blockchain are to enhance transparency, reduce errors and financial fraud, and ensure the security of data and transactions [3]. With its unique features, such as decentralization and the immutability of recorded information, blockchain has the potential to substantially transform accounting systems and help reduce, or even prevent, financial fraud [4].

Financial fraud remains a critical challenge for organizations, particularly in finance and accounting, as it can inflict irreparable damage on organizational credibility and performance [5]. In this context, examining the impact of blockchain-based accounting systems on the prevention of financial fraud represents an important step toward improving accounting and managerial processes. Despite the anticipated advantages of blockchain adoption in accounting, some organizations and firms have shown resistance to its implementation. This resistance may stem from a lack of trust in digital systems and emerging technologies [6]. While digital technologies can offer significant solutions to address accounting challenges and prevent fraud, their acceptance by employees and organizational management depends on multiple factors, with individual attitudes and behaviors toward these technologies among the most influential [7]. In this regard, analyzing organizational psychology and examining employee behavior in relation to digital systems can illuminate hidden dimensions that may significantly affect the success or failure of blockchain implementation [8]. Organizational psychology, particularly regarding trust in emerging technologies, can serve as a critical determinant of the acceptance or rejection of such systems [9].

Previous research on blockchain technology has primarily focused on its technical and economic impacts. The evaluation of blockchain-based accounting systems for reducing financial fraud and enhancing financial transparency has been a central topic in these studies [10]. Furthermore, some studies have analyzed the economic benefits of blockchain use, including reduced costs, increased transaction speed and accuracy, and improved information security. However, in most studies, the influence of organizational psychology and the role of employee behavior in the adoption and utilization of these technologies has received comparatively less attention [11]. Nonetheless, any new technological system, regardless of its technical and economic benefits, may encounter behavioral and cultural challenges within organizations [12]. Employees' trust in digital systems, particularly in sensitive financial and accounting domains, plays a crucial role in the success or failure of technology implementation [13]. Therefore, analyzing organizational psychology and examining employee behavior can uncover new insights into the adoption and effective use of blockchain technology. The primary objective of this study is to examine the impact of blockchain-based accounting systems on the prevention of financial fraud in organizations, with a particular focus on organizational psychology and employee behavior in building trust toward digital systems. This study aims to explore not only the technical and economic dimensions of blockchain-based accounting systems but also the psychological and behavioral factors that influence their acceptance or rejection. Specifically, it focuses on how employees' attitudes and behaviors toward blockchain can affect the implementation of these systems and help reduce financial fraud. In this context, the study examines multiple factors, including trust in technology, attitudes toward financial transparency, and acceptance of digital changes at the organizational level.

The necessity of this research stems from the major challenges organizations face in implementing emerging technologies, particularly in accounting. Financial fraud remains a persistent problem in many organizations, and traditional accounting systems often fail to address these challenges effectively [14]. Blockchain, as an innovative technology, has the potential to mitigate these issues; however, its adoption requires careful consideration of factors that may influence employee and managerial behavior [15]. This research aims to assist organizations in better understanding these psychological and behavioral factors, thereby facilitating the adoption of blockchain-based systems and enabling their use as an effective tool for preventing financial fraud. Overall, this study seeks to answer the question of how blockchain-based accounting systems can influence the prevention of financial fraud from the perspective of organizational psychology and employee behavior. Its findings are expected to serve as a valuable reference for researchers, managers, and organizational decision-makers concerning the application of blockchain in accounting and the analysis of its psychological dimensions.

2 | Methodology

This study aims to investigate the impact of blockchain-based accounting systems on the prevention of financial fraud in organizations, with a particular focus on organizational psychology and employee behavior in building trust toward digital systems. A mixed-methods approach was employed, combining quantitative and qualitative methods to provide a comprehensive understanding of blockchain's effects within organizations. The research was conducted in the following steps:

Design of research instruments

I. Development of a standardized questionnaire specifically tailored for this study, incorporating five-point Likert-scale items to measure employees' attitudes, behaviors, and trust in blockchain-based accounting systems.

II. Preparation of semi-structured interview guidelines to explore psychological and behavioral dimensions of employees and managers interacting with blockchain systems.

Validation of instruments

I. Experts in accounting and financial technology evaluated the questionnaire's content validity.

II. Reliability was assessed using Cronbach's alpha to ensure internal consistency of all scales.

Sampling and data collection

I. The study population comprised employees and managers from various organizations across the finance, accounting, banking, insurance, and e-commerce sectors in Iran.

II. A combination of simple random sampling and stratified random sampling was used to select approximately 300 participants, ensuring representation across organizational levels and industry types.

III. Quantitative data were collected through the questionnaire, while qualitative data were gathered through semi-structured in-person and online interviews.

Data analysis

I. Quantitative data were analyzed using SPSS, employing descriptive statistics, exploratory factor analysis, correlation, and regression analyses to examine relationships among variables.

II. Qualitative data from interviews were analyzed using NVivo for content coding, thematic analysis, and identification of patterns related to psychological and behavioral factors, such as trust in digital technology and attitudes toward changes in accounting processes.

Synthesis and reporting

I. Integration of quantitative and qualitative findings to provide a holistic view of blockchain adoption and its impact on financial fraud prevention.

II. Presentation of results in managerial models and practical recommendations for organizational implementation.

The study focused on organizations located in Tehran, Isfahan, Mashhad, Shiraz, and Tabriz, covering public, private, and semi-public entities to ensure institutional and behavioral diversity. This design allowed the researchers to examine the interplay among variables, including technological trust, system transparency, and the reduction of financial fraud, across diverse organizational contexts.

Challenges encountered included limited access to confidential financial information, resistance from some organizations, and varying levels of employees' familiarity with blockchain technology. These were mitigated by employing stratified sampling and selecting organizations from multiple industries and locations to reduce data bias and enhance reliability and generalizability.

3 | Methodology

3.1 | Descriptive Results

The analysis of demographic characteristics indicates that the sample population exhibits a desirable level of diversity, making it suitable for examining organizational behavior and trust in technology.

Table 1. Demographic characteristics of respondents.

Feature	Category	Frequency	Percentage
Gender	Male	180	60%
	Female	120	40%
Age	<30	60	20%
	30–40	110	36.7%
	40–50	85	28.3%
	>50	45	15%
Education	Bachelor's	135	45%
	Master's	115	38%
	PhD	50	17%
Work experience (Years)	<5	40	13%
	5–10	100	33%
	10–15	90	30%
	>15	70	23%

The results show that the majority of employees are in mid-career and possess high educational qualifications. This demographic composition is likely to positively influence their attitudes toward emerging technologies and trust in blockchain-based systems.

Table 2. Descriptive statistics of key variables.

Variable	Minimum	Maximum	Mean	Standard Deviation
Trust in blockchain	2.4	5	4.12	0.67
Technology acceptance	2.2	5	3.98	0.73
Financial fraud prevention	2.8	5	4.21	0.62

Means above 4 indicate high levels of trust and technology acceptance in the sampled organizations, suggesting that employees perceive high transparency, security, and integrity in digital environments.

The reliability of the constructs was assessed using Cronbach's alpha, with results summarized below:

Table 3. Cronbach's alpha reliability.

Construct	Items	Cronbach's Alpha
Trust in Blockchain	8	0.86
Technology Acceptance	7	0.82
Financial Fraud Prevention	9	0.87
Overall Scale	24	0.85

All values exceed the 0.7 threshold, indicating satisfactory reliability. Content validity was confirmed through expert evaluation, yielding a Content Validity Ratio (CVR) of 0.88.

3.2 | Analytical Results

Correlation analysis

Pearson correlation analysis was conducted to examine relationships among the variables:

Table 4. Correlation matrix.

Predictor Variable	β	Std. Error	t-value	Significance (p)	R^2	F
Trust in blockchain	0.48	0.06	7.98	<0.001	0.62	87.34
Technology acceptance	0.32	0.05	6.41	<0.001	—	—

**p < 0.01

As shown, all correlations are positive and statistically significant. The highest correlation was observed between trust in blockchain and financial fraud prevention (r = 0.74), highlighting the critical role of technological trust in enhancing financial transparency and reducing fraud risk.

Multiple_regression analysis

A multiple regression model was employed to assess the influence of independent variables on financial fraud prevention:

Table 5. Multiple regression results.

Variable	Trust in Blockchain	Technology Acceptance	Financial Fraud Prevention
Trust in blockchain	1	—	—
Technology acceptance	0.69**	1	—
Financial fraud prevention	0.74**	0.65**	1

The model demonstrates a strong fit, with trust in blockchain and technology acceptance collectively explaining 62% of the variance in financial fraud prevention. The higher beta coefficient for trust indicates that the psychological component of trust exerts a stronger effect than technology acceptance alone.

3.3 | Qualitative Analytical

Thematic analysis of semi-structured interviews with financial managers revealed three key themes:

I. Trust and transparency: blockchain serves as a digital trust mechanism, redefining power dynamics and control within organizations. Increased transparency in transactions enhances employee confidence and reduces the risk of fraud.

II. Resistance to change: more experienced employees expressed concerns about replacing human judgment with technology, potentially hindering adoption.

III. Need for training: Successful implementation is contingent on continuous training and the enhancement of employees' technological literacy.

These qualitative findings align with the quantitative results, indicating that behavioral and cultural factors are pivotal to the successful implementation of blockchain technologies. Overall, organizational trust acts as a bridge between technology and financial ethics. Blockchain functions not merely as a technological tool but as a "digital trust system" promoting organizational justice and fostering a sense of psychological security among employees. From a managerial perspective, it is recommended that organizations, alongside implementing blockchain technologies, focus on cultural training and the development of digital skills to enhance employees' cognitive acceptance, as the success of technology depends not on hardware, but on the mindset and attitudes of the workforce.

4 | Discussion

The findings of this study provide a novel perspective on the relationship between emerging accounting technologies and organizations' financial health. Results indicate that trust in blockchain-based systems exerts the strongest influence on the prevention of financial fraud. However, the significance of this finding lies not merely in statistical validation but in elucidating the underlying mechanism. Blockchain technology fosters transparency in financial processes, shifting the concept of trust from interpersonal relationships to technological structures. This transition encourages employees to rely on a system founded on transparency

and immutability rather than on individual actors. In such an environment, the likelihood of fraudulent behavior diminishes, as the organizational psychological space is shaped by technological oversight and collective assurance.

Compared to traditional accounting practices, where trust and data integrity largely depend on human control and managerial supervision, blockchain-based systems introduce a form of intrinsic self-regulation [16]. This self-regulation enhances perceptions of fairness and psychological security among employees, promoting ethical and responsible behavior [17]. Therefore, the primary implication of these results is that blockchain is not merely an information recording tool, but a catalyst for redefining organizational trust and integrity culture. The results further reveal that technology acceptance alone is insufficient to ensure fraud prevention. In many organizations, even with advanced digital systems, the absence of trust between employees and the system reduces technological effectiveness. This study emphasizes that trust acts as the crucial link between technology and ethical behavior. When employees perceive that data are recorded fairly and transparently within the system, the motivation to manipulate or misuse data is minimized. This aspect is particularly critical in organizations that have previously faced financial crises or internal distrust.

Moreover, the study identified significant behavioral differences across age groups and work experience. Younger employees demonstrated greater openness to adopting emerging technologies, whereas more experienced employees exhibited a more cautious stance. These behavioral distinctions underscore that the successful implementation of blockchain-based systems requires tailored educational and cultural strategies aligned with employee demographics. Hence, the findings highlight the human dimension of digital transformation: no technology, however sophisticated, can achieve sustainable change without human understanding and acceptance. The analysis also indicated that trust in blockchain has a stronger effect on fraud prevention than technology acceptance alone. This difference suggests that even when employees possess the technical capability to operate the system, the absence of psychological assurance regarding system reliability can compromise its effectiveness. Consequently, the success of financial technologies depends on cultivating a sense of security and a clear understanding of shared benefits. Organizations that have successfully implemented such systems typically foster environments where technology enhances transparency and collaboration rather than replacing human judgment.

The distinctive contribution of this study compared to prior research is its focus not only on statistical relationships but also on the psychological and cultural dimensions of technology adoption. The findings imply that preventing financial fraud requires treating technology not merely as a control mechanism but as an integral part of organizational trust and learning culture. This perspective demonstrates that technology is most effective when it simultaneously generates social and psychological capital. Overall, the significance of these results lies in offering a comprehensive view of the interplay among technology, trust, and ethical behavior. Blockchain-based accounting systems can elevate the structure of trust from personal reliance to system-based assurance, thereby creating a healthier and more transparent organizational environment. This transformation represents a critical milestone in accounting and financial management, illustrating that financial security and integrity stem primarily from the design of technological trust systems rather than from human oversight or formal regulations alone.

5 | Conclusion

The findings of this study indicate that blockchain-based accounting systems represent more than a technological advancement; they reflect profound changes in organizational trust, control, and behavior. By eliminating reliance on human intermediaries, enabling immutable data recording, and enhancing transparency, these systems create an environment in which financial fraud is not only more difficult to commit but also psychologically less justifiable for employees. Essentially, blockchain shifts the traditional trust structure from personal relationships and direct supervision to a technologically mediated trust system founded on inherent fairness and transparency.

Based on the analyses conducted, trust in the system and employees' perception of technological reliability emerged as the most critical determinants of fraud prevention. While technology provides robust control mechanisms, ultimate success depends on user attitudes, beliefs, and sense of security. Consequently, the first recommendation of this study is that organizational leaders, alongside investing in technological infrastructure, should cultivate a digital trust culture. This culture can be fostered through training, clarifying the benefits, and explaining the role of technology in maintaining organizational fairness. The second recommendation concerns employee training and empowerment programs. The results revealed that more experienced employees or those with longer tenure tend to exhibit cautious attitudes toward new technologies. Therefore, continuous training programs informed by change psychology can reduce anxiety related to technological adoption and enhance acceptance. Such programs should strengthen not only technical skills but also employees' conceptual understanding of how technology contributes to transparency and financial integrity.

The third recommendation targets policymakers and financial regulatory authorities. This study shows that blockchain implementation can serve as an effective strategy within national regulatory and auditing systems. Given blockchain's immutability and traceability, regulatory bodies can leverage this technology to design mechanisms that detect and prevent financial misconduct at early stages. This approach not only enhances transparency but also reduces the costs associated with traditional audits and corrective measures. From an organizational behavior perspective, financial managers should view technology not merely as a tool but as a mechanism to rebuild social capital and professional ethics. When employees perceive that a digital system operates in the interest of fairness and trust, their sense of belonging and accountability increases. Thus, technology becomes an instrument for cultivating an ethical culture, transforming fraud from a mere control issue into a cultural and value-driven concern. At a broader level, the study's findings suggest that transitioning to blockchain-based accounting systems must be accompanied by revisions in managerial and organizational cultural structures. Organizations that still rely on manual controls or personal relationships may resist this transformation. Therefore, it is recommended that the implementation process actively engage employees, ensure transparent communication, and provide opportunities for continuous feedback. Such an approach fosters trust and reduces resistance to change. Ultimately, the core contribution of this research is its demonstration that financial fraud prevention is driven less by control tools and more by collective perceptions of organizational integrity and trust. Blockchain facilitates this perception by redefining trust and transferring it from humans to technology. However, this transformation will only be sustainable and effective if organizations invest simultaneously in human capital, training, and organizational culture alongside technological development.

Conflict of Interest

The authors declare no conflict of interest.

Data Availability

All data are included in the text.

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References

[1] Eyo-Udo, N. L., Apeh, C. E., Bristol-Alagbariya, B., Udeh, C. A., & Ewim, C. P. M. (2025). The evolution of blockchain technology in accounting: A review of its implications for transparency and accountability. *Account and financial management journal*, *10*(1), 2456–3374. https://doi.org/10.47191/afmj/v10i1.04

[2] Rijanto, A. (2021). Blockchain technology adoption in supply chain finance. *Journal of theoretical and applied electronic commerce research*, *16*(7), 3078–3098. https://doi.org/10.3390/jtaer16070168

[3] Kukman, T., & Gričar, S. (2025). Blockchain for quality: Advancing security, efficiency, and transparency in financial systems. *FinTech*, *4*(1), 7. https://doi.org/10.3390/fintech4010007

[4] Dashkevich, N., Counsell, S., & Destefanis, G. (2024). Blockchain financial statements: innovating financial reporting, accounting, and liquidity management. *Future internet*, *16*(7), 244. https://doi.org/10.3390/fi16070244

[5] Alex-Omiogbemi, A. A., Sule, A. K., Omowole, B. M., & Owoade, S. J. (2024). Advances in cybersecurity strategies for financial institutions: A focus on combating E-Channel fraud in the Digital era. *Journal of cybersecurity and financial innovation*, *12*(3), 35–48. 10.51594/farj.v6i12.1771

[6] Thompson, B. S., & Rust, S. (2023). Blocking blockchain: Examining the social, cultural, and institutional factors causing innovation resistance to digital technology in seafood supply chains. *Technology in society*, *73*, 102235. https://doi.org/10.1016/j.techsoc.2023.102235

[7] Hassan, S. W. U., Kiran, S., Gul, S., Khatatbeh, I. N., & Zainab, B. (2025). The perception of accountants/auditors on the role of corporate governance and information technology in fraud detection and prevention. *Journal of financial reporting and accounting*, *23*(1), 5–29. https://doi.org/10.1108/JFRA-05-2023-0235

[8] Sarfraz, M., Ivascu, L., & Abdullah, M. I. (2022). Sustainable digital economy, entrepreneurship, and blockchain technology role in industrial-organizational psychology. Frontiers In Psychology. https://doi.org/10.3390/ai6080193

[9] Landers, R. N., & Marin, S. (2021). Theory and technology in organizational psychology: A review of technology integration paradigms and their effects on the validity of theory. *Annual review of organizational psychology and organizational behavior*, *8*(1), 235–258. https://doi.org/10.1146/annurev-orgpsych-012420-060843

[10] Antwi, G. (2024). Blockchain technology in financial reporting: enhancing transparency and reducing fraud. *International journal of novel research and development*, *9*, 2456–4184. https://doi.org/10.56975/ijnrd.v9i10.305864

[11] Zilin, Z., Jing, K. T., Yee, H. C., Zihao, D., & Yao, L. (2023). Blockchain technology in construction supply chain management: enhance transaction speed, cost effectiveness and security. *Journal of advanced research in applied sciences and engineering technology, 32*(3), 400–420. https://doi.org/10.37934/araset.32.3.400420

[12] Damanpour, F., Walker, R. M., & Avellaneda, C. N. (2009). Combinative effects of innovation types and organizational Performance: A longitudinal study of service organizations. *Journal of management studies*, *46*(4), 650–675. https://doi.org/10.1111/j.1467-6486.2008.00814.x

[13] Prokopenko, O., Koldovskiy, A., Khalilova, M., Orazbayeva, A., & Machado, J. (2024). Development of blockchain technology in financial accounting. *Computation*, *12*(12), 250. https://doi.org/10.3390/computation12120250

[14] Daraojimba, R. E., Farayola, O. A., Olatoye, F. O., Mhlongo, N., & Oke, T. T. (2023). Forensic accounting in the digital age: a US perspective: scrutinizing methods and challenges in digital financial fraud prevention. *Finance & accounting research journal*, *5*(11), 342–360. 10.51594/farj.v5i11.614

[15] Sciarelli, M., Prisco, A., Gheith, M. H., & Muto, V. (2022). Factors affecting the adoption of blockchain technology in innovative Italian companies: An extended TAM approach. *Journal of strategy and management*, *15*(3), 495–507. https://doi.org/10.1108/JSMA-02-2021-0054

[16] Bejjar, M. A., & Siala, Y. (2024). The impact of blockchain technology on the financial audit. *Impact of digitalization on reporting, tax avoidance, accounting, and green finance* (pp. 272–300). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-1678-8.ch012

[17] Woodruff, E. (2025). Making AI tutors empathetic and conscious: A needs-driven pathway to synthetic machine consciousness. *AI*, *6*(8), 193. https://doi.org/10.3390/ai6080193