Blockchain Technology and its Effects on Financial Auditing:
A Study on Egypt

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Abstract

This research focuses on investigating the impact of blockchain technology on the practices of financial auditing in Egypt. Using a technology acceptance model based quantitative approach, the research gathers data from 400 auditing stakeholders, inclusive of external/internal auditors and accountants. The study highlights the positive perceived impact of organizational support and readiness as well the perceptions of ease and usefulness on the intention to adopt. This study uses statistical computations to explore the relationships among awareness of blockchain technology, its perceived benefits, technological readiness, and regulatory support within the context of Egypt. This is achieved through a systematic survey conducted among auditors and financial professionals in Egypt. The results suggest that all the stated factors positively influence the adoption of blockchain technologies, thus evidencing that with ample awareness of blockchain, actual utilization is markedly lacking. The study fills a gap in the literature on blockchain technology in Egypt's developing economy by offering several insights and suggesting targeted policies and practices.

Keywords*: Blockchain, Financial Auditing, Egypt, Technology Acceptance Model (TAM), Factors of Adoption.*

Introduction

Accounting practices, especially within the financial services sector, have undergone a notable transformation in recent years due to the emergence of innovations such as blockchain technology. Its application in audits expands the potential advantages offered by blockchain, including increased transparency, enhanced security, and reduced opportunities for fraudulent activity (Dai & Vasarhelyi, 2017).

The technology holds immense promise for Egypt and other emerging economies. However, institutional, educational, and regulatory constraints continue to slow the pace at which these benefits can be harnessed (Yermack, 2017; Kobina et al., 2017).

Global research has highlighted the advancement of blockchain applications in accounting and auditing, yet few studies examine their implications in developing countries, where contextual challenges differ significantly from those in more developed markets (Schmitz & Leoni, 2019). This paper aims to address this gap by analyzing Egyptian auditors' perceptions and readiness regarding the adoption of blockchain technology.

The Primary Objectives of this Study are:

1- To identify the key factors that influence the adoption of blockchain technology in financial auditing in Egypt.

2-   To assess the impact of these factors on auditors' intentions to adopt blockchain technology.

3-   To provide practical recommendations for audit firms, policymakers, and regulators to foster blockchain adoption in Egypt.

Research Questions

1-   What is the current level of awareness and understanding of blockchain among auditing professionals in Egypt?

2-   How do auditors perceive the usefulness and ease of integrating blockchain into audit processes?

3-   What are the main barriers and enablers of blockchain adoption in the Egyptian auditing environment?

This study uses statistical computations to explore the relationships among awareness of blockchain technology, its perceived benefits, technological readiness, and regulatory support within the context of Egypt. This is achieved through a systematic survey conducted among auditors and financial professionals in Egypt.

Theoretical Framework and Review of Previous Studies

Theoretical Framework:

The theory that this research is based on is the Technology Acceptance Model (TAM) proposed by Davis (1989). TAM claims that perceived usefulness (PU) and perceived ease of use (PEOU) serve as the major determinants of individuals' acceptance of a new technology.

In the context of this study:

-    PU: The degree to which auditors believe blockchain improves audit performance.

-    PEOU: The degree to which an individual believes that using a particular system would be free of effort.

-    Behavioral Intention to Adopt is affected by PU as well as PEOU.

TAM has been widely applied in both IS and accounting studies (Venkatesh & Davis, 2000) and is well adapted to model technology adoption in developing countries (Rahayu & Day, 2015).

Blockchain Technology in Accounting and Auditing

Blockchain technology is decentralized, inalterable, and transparent (Nakamoto, 2008). These aspects could fundamentally alter how transactions are tracked, verified, and audited. In addition, blockchain is the foundation technology upon which continuous, online auditing in the accounting profession may be based (Dai & Vasarhelyi, 2017). Vasarhelyi et al. (2015) foresee a world where blockchain enables auditors to verify transactions in real-time; and thus, the audit lag may be minimized. But an innovation thing to use in auditing is to evolve from sampling to full-population testing citing the digitalization of everything, and that is achieved on real-time data.

Advantages of Blockchain for Financial Auditing

The following are the main benefits of using Blockchain as discussed in the literature:

-    *Transparency and Traceability:* Blockchain's immutability allows transparent audit trails (Kokina et al., 2017).

-    *Fraud Minimization:* Live validation of transactions minimizes chances of fraud and forgery (Rozario & Thomas, 2019).

-    *Efficiency Gains:* Automation with smart contracts and digitized records economizes manual audit efforts and related expenses (Dai & Vasarhelyi, 2017).

These benefits are even more attractive in environments where audit quality is affected by lack of resources and weak governance, as in the case of many developing countries.

Uses of Blockchain in Audit Practice:

Blockchain offers numerous applications in the field of auditing:

- Smart Contracts: self-executing contracts that automatically enforce agreements (Peters & Panayi, 2016), which can be used for compliance and internal controls.
- Audit Automation: Auditors can do less reconciling as they can rely on the blockchain as a single source of fact (Yermack, 2017) and spend more time on judgmental tasks.
- Third Party Confirmations: Blockchain could reduce confirmations in areas such as inventory, accounts receivable, and cash because it provides transaction data that cannot be tampered with (PwC, 2018).

Pilots In pilot programs, companies such as EY and Deloitte have tested blockchain prototypes to automate verification, however such use cases are not yet common across all companies (Zhang et al., 2025).

Blockchain and Quality of Audit:

Enhanced audit quality: better audit quality is one of the key blockchain promises. Real-time data on blockchain brings timeliness, while making data immutable increases accuracy and prevents fraud (Kokina et al., 2017). AICPA (2018) states that the use of blockchain technology can enhance the verifiability of evidence that is obtained by auditors, particularly those with whom they have no prior relationship, through transactions conducted on public blockchains.

But the concern that has been expressed by some authors is that reliance on technology could potentially lead to 'automation bias', this is, the tendency   on the part of auditors to assume that electronically generated evidence is always more reliable than systems themselves allow (Ivy et al, 2020). This indicates that new professional judgment frameworks are necessary   to address digital auditing conditions.

2.6 Adoption of Blockchain Technology: Factors and Barriers

Several factors influence blockchain adoption in audit especially in developing countries:

- **Organizational Readiness:** Consists of top   management support, resource availability and staff training (Altheeb, 2020).).
- **External Pressure:** Regulatory bodies and professional associations may push for adoption through mandates or incentives (Rogers, 2003).
- **Compatibility and Complexity:** Technologies that are compatible with current systems and easier to use are more likely to be adopted (Lai, 2017).

Alshhadat (2023) in an investigation conducted in GCC countries, identified that perceived cost, lack of skills, and no national blockchain strategies were significant impediments.

Regional Context: Egyptian Audit Environment:

The Egyptian audit environment suffers from several structural weaknesses: low   level of automation, deficient enforcement of standards, and fragmented supervision (World Bank, 2020). Interest in fintech and   digital innovation is increasing, but accountancy is technology's laggard.

In the study of Anis (2023), 72% of Egyptian auditors had heard of blockchain, but only 18% had received training or completed pilot projects. This incongruence of knowledge and capacity underscores the importance of capacity and   regulation. In addition, Egypt's Vision 2030 sets digital transformation targets,

fostering a policy environment for future uptake. Yet Slow implementation and   institutional inertia continue to be the major barriers.

Research Gaps:

Most of the existing research on blockchain and the audit process are primarily conceptual or qualitative, with relatively little empirical research in developing countries. Also, only a handful of works rely   on a quantitative survey among professional auditors in Egypt or the North African region. This research attempts to fill these   gaps by provision of empirical evidence based on the perceptions, preparedness and obstacles of Egyptian auditors adopting a structured, quantitative approach.

Study Objectives:

The objective of this study is to determine the key factors that influence the adoption of blockchain technology in financial auditing in Egypt, to assess the impact of these factors on auditors' intentions to adopt blockchain technology, and to provide practical recommendations for audit firms, policymakers, and regulators to foster blockchain adoption in Egypt.

Study Methodology:

This section contains the following study details, research design, target population, the sampling procedure, data collection instrument, validation, and reliability data analysis plans.

Research Design:

This study employs a descriptive and correlational quantitative approach grounded in the Technology Acceptance Model (TAM). It follows a survey approach to gather data from auditors and accountants in Egypt. This approach allows the examination of the relationships between several key variables including Perceived Usefulness, Ease of Use, Awareness, Preparedness and External support for Blockchain technology in auditing.

Sample and Participants:

Four hundred audit professionals participated, including external auditors, internal auditors, and members of the institute of accountants. The sample was a stratified random sample and representative of a number of demographic variables. All the subjects in this sample are Egyptian and are working within the public and private sectors, as well as auditor firms.

Sampling Technique: A stratified random sampling procedure is employed to get good coverage in terms of sector and professional level.

Size of Sample: 400 questionnaires were mailed. 252 useful responses were compiled, surpassing the desirable minimum for generalizability (Sekaran & Bougie, 2016). The sample size was calculated using the Cochran's formula with a confidence interval of 95% and error margin of 5%.

Data Collection:

The data was collected through an online survey, developed based on TAM framework to measure the determinants perceived usefulness and perceived ease of use, and among others, readiness, and external support.

Create a structured questionnaire: The contents of the structured questionnaire were compiled using the validated scales available in previous studies (Davis, 1989; Venkatesh & Davis, 2000; Rozario & Thomas, 2019).

The survey was framed in five sections:

Section	Content
A	Demographic data (position, industry, years of experience, training on blockchain, etc.)
B	Awareness and familiarity with blockchain
C	Perceived usefulness (PU) of blockchain in auditing
D	Perceived ease of use (PEOU)
E	Technological and organizational readiness
F	External factors (e.g., regulatory support, industry influence)

A 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree) was employed for all closed-ended questions.

Validity and Reliability:

Content Validity: The questionnaire was reviewed by three professionally qualified academics who have expertise in auditing and   accounting Information Systems to check for content validity.

Pilot Testing: A pilot interview with   30 faculty was conducted to refine the wording of questions and to ensure clarity and reliability of the instrument.

Reliability: Cronbach's alpha using value for the primary constructs
- 0PU: 0.89
- PEOU: 0.86
- Readiness: 0.81
- External support: 0.84

All of these values were greater than 0.70 showing satisfactory internal consistency. (Nunnally & Bernstein, 1995)

Data Analysis and Discussion of Study Results:

The data has been analyzed through SPSS   and SEM (Structural Equation Modeling) to determine the factors affecting blockchain acceptance.

Descriptive Statistics: To present participant demographic   information and general phenomena.
- **Exploratory Factor Analysis (EFA)**: To confirm construct validity and group related items.
- **Pearson Correlation**: To assess relationships among key variables.
- **Multiple Regression Analysis**: To test the influence of PU, PEOU, readiness, and external support on blockchain adoption intentions.

Statistical significance was set at **p < 0.05**.

Participation was voluntary, and informed consent was obtained from all respondents. Data confidentiality and anonymity were ensured, in compliance with research ethics guidelines established by the hosting academic institution.

These figures reflect a balanced and professionally diverse sample of Egypt's auditing and financial workforce.

Descriptive Analysis: 252 responses were used. Summary of Respondent's is as follows

Variable	Category	Frequency	Percentage
Gender	Male	161	64%
	Female	91	36%
Professional Role	External Auditor	121	48%
	Internal Auditor	66	26%
	Accountant/ Finance Manager	65	26%
Experience	< 5 years	40	16%
	5–10 years	96	38%
	> 10 years	116	46%
Prior Blockchain Training	Yes	81	32%
	No	171	68%

Awareness and Familiarity:

78% of Respondents showed Moderate to High Awareness of Blockchain. Only 21 % had previous knowledge about blockchain applications in auditing. This contributes to a knowledge-practice gap which is typical of developing countries. The enormous gap between the awareness of blockchain and its application amongst Egypt's accountants and auditors as emerged in this study can be attributed to various interconnected reasons: Lack of Hands-on Experience and Skill Sets, Technological and Infrastructural Constraints. Regulatory Uncertainty and Institutional Rigidity, Organizational Readiness and Change Resistance and Limited Industry Examples and Use Cases In summary, the awareness-implementation gap is caused by a mix of educational, technological, institutional, and strategic challenges. Addressing these barriers requires coordinated efforts across academia, regulatory authorities, and the audit profession to create a more enabling environment for blockchain adoption.

Exploratory Factor Analysis (EFA):

Four main factors were achieved using the principal component analysis with varimax rotation representing

- Perceived Usefulness (PU),
- Perceived Ease of Use (PEOU),
- Organizational Readiness
- External Support

All of the items loaded above 0.65 and KMO = 0.847 suggested sampling adequacy. The Bartlett test of sphericity was significant ($p < 0.001$), indicating that factor analysis was suitable.

Correlation Analysis:

Pearson's correlation coefficient was applied to examine the relationships between the variables:

Relationships are significant and of medium strength, consistent with the TAM framework.

Variable 1	Variable 2	r	p-value
PU	Adoption Intention	0.68	<.001
PEOU	Adoption Intention	0.59	<.001
Organizational Readiness	Adoption Intention	0.49	<.001
External Support	Adoption Intention	0.53	<.001

Regression Analysis:

Multiple linear regression was used to examine the predictors of blockchain adoption intention. The model was significant:

Predictor	B	t-value	Sig. (p)
Perceived Usefulness	0.42	8.21	<.001
Perceived Ease of Use	0.29	6.54	<.001
Organizational Readiness	0.15	3.76	<.001
External Support	0.18	4.25	<.001

- **$F_{(4, 245)} = 59.84$, $p < 0.001$**
- Adjusted $R^2 = 0.62$

Key Interpretation:

- **Perceived Usefulness** is the strongest predictor of adoption.
- **Ease of Use** and **External Support** are also highly significant.
- **Organizational Readiness**, while weaker, still plays a meaningful role.

These results are in line with TAM and previous literature in similar environments (Dai & Vasarely, 2017; Altheeb, 2020).

Summary and Discussion:

Egyptian auditing professionals appreciate the potential of blockchain, but they are not hands-on.

People who find the technology useful and easy to use have higher adoption intentions. Laws play a role on adoption, as well, as external drivers are invoked for change, yet readiness themselves are triggered to adopt.

The objective of this research paper was to explore the determents for the adoption of the blockchain technology in financial audit industry in Egypt by analyzing the existing evidences representing barriers that can influence the adoption from the company's perspective in Egypt. The findings yield useful information about the perceptions, preparedness, and barriers experienced by the auditors and accounting professionals of an economy in transition.

Key Findings and Interpretation:

a- **High Awareness with Limited Application**

The study found that among the 78% that had moderately too high awareness of blockchain technology, only 21% had practical auditing experience with the technology. This evidences a gap between awareness and practices similar to patterns in other emerging economies (Alshhadat, M, 2023).

This result is in agreement with the claim of Altheeb (2020). that while exposure to technology is a precursor to digital literacy, it is not sufficient in the absence of training, infrastructure, and policy support.

b- PU as a Strongest Predictor

The PU was shown to be the most influencing factor in predicting adoption intention ($\beta = 0.42$). This finding is consistent with TAM (Davis, 1989), which suggests that users will tend to use technology if they perceive that it will improve their performance. The capability of blockchain to enhance data reliability, fraud prevention and real-time verification in auditing might justify the high value perception (Vasarhelyi et al., 2015; Yermack, 2017).

c- **Ease and Perceived Support are Relevant**:

The relevance of ease (Perceived Ease of Use- PEOU) ($\beta = 0.29$) highlights the importance of keeping a system simple and intuitively usable in order to encourage adoption, which is important when dealing with professionals with little technology training. This is in line with the work of Lai P (2017), who highlighted the ease of use of technology in the adoption of technology in low-tech environments. Environmental support ($\beta=0.18$) was significant, highlighting the role of legislative support, professional argument, and university participation in promoting adoption. It thus supports the influence of environment in TAM extensions (Venkatesh & Davis, 2000).

d- Organizational Readiness is a "Lever for Change"

The weakest of the four predictors (β 0.15), organizational readiness plays nevertheless an essential supporting role. Organizations that invest in tools and training to realize better leadership is more likely to be experimenting with or adopt blockchain (PwC, 2018). This finding is consistent with Rogers Diffusion of Innovations Theory, in which the adoption is more likely among organizations that are technically and culturally capable of adopting (Rogers, 2003).

Comparison with Previous Studies

The findings are in line with the comparisons done by Kokina et al. (2017) as well as Ivy et al, (2020) who suggest that blockchain has the capacity to revolutionize auditing yet is being hindered by legacy systems and the knowledge and skills issue as well as regulatory ambiguity. As opposed to research conducted in mature markets, where there is a higher frequency of blockchain pilots (Zhang et al., 2025), the available digital maturity in Egypt constrains the potentially available digital maturity level.

The results of this research paint a sophisticated and multilayered picture of the factors influencing the adoption of blockchain in financial auditing in Egypt. As high as awareness of blockchain is among

Egyptian auditors, it is yet to be followed by broad practical application. This gap reflects more widespread systematic problems seen in other developing nations-i.g., insufficient hands-on training, infrastructural shortcomings, and regulatory lag. (Alshhadat, 2023; Anis, 2023).

The most significant predictor of adoption intention was Perceived Usefulness (PU) ($\beta = 0.42$), closely aligning with the Technology Acceptance Model (Davis, 1989), a model that argues users are more likely to adopt a technology they believe improves job performance. This suggests Egyptian auditors see the revolutionary potential of blockchain to provide enhanced transparency, minimize fraud, and allow real-time verification. These perceived benefits are likely due to heightened international discussion on blockchain's ability to transform the audit process (Vasarhelyi et al., 2015; Dai & Vasarhelyi, 2017).

PEOU was also a strong predictor ($\beta = 0.29$), affirming that technology acceptance in resource-scarce settings is not just a function of perceived advantages but also how easily the system can be adopted and utilized. This is especially true considering that the majority of audit professionals in Egypt are not digitally savvy (Lai, 2017), so ease of implementation is paramount. Moreover, the significance of External Support ($\beta = 0.18$)-including regulatory support, industry promotion, and academic research-confirms the function of an enabling environment as essential in adoption. This supports extensions of TAM that introduce external variables like institutional and environmental factors (Venkatesh & Davis, 2000).

Organizational Readiness, the least predictive ($\beta = 0.15$), remains of strategic value. Organizations technically prepared through investments in infrastructure, tools, and staff training are likely to promote successful adoption. This result aligns with Rogers' Diffusion of Innovations Theory (2003), which demands internal capacity as a driver of early adoption. Their relationship implies a stratified adoption framework: whereas PU and PEOU drive individual intention, organizational capabilities and external pressures serve as facilitators or inhibitors. For instance, even when auditors find blockchain to be beneficial and easy to use, they may still be hindered by the absence of organizational support or by ambiguous regulatory guidance.

Finally, this research reaffirms that the success of blockchain uptake in auditing is not authored by one factor but by an interplay of technological, organizational, and institutional readiness. It reiterates the applicability of TAM to emerging economies and calls for a broader multi-theory model that integrates institutional and environmental factors. Such comprehensive insight is vital to inform intervention-be it policy, training, or infrastructure-that bridges the gap between knowledge and utilization.

Theoretical Implications

The findings support the TAM even to the adverse audit environment in Egypt and for that reason supporting integrating it with qualitative factors from organizational theory secure is not present readiness and institutional theory for external pressure. This multi-layer framework provides an enhanced understanding of technology utilization in resource-poor and complex environments.

Practical Implications

Regulators and policymakers should provide guidance on the use of blockchain in audit and include it in national digital transformation policies.

Audit firms must invest in talent development and pilot projects to create internal readiness.

Academia and professional bodies need to consider adding blockchain competencies to their curricula continually throughout the education system as well as in continuing professional education programs.

Technology sellers need to build specific and intuitive products which suit the Egyptian audit industry.

Conclusion   and Recommendations

Conclusion

This paper aimed to examine the determinants   affecting the adoption of blockchain technology in financial auditing in the Egyptian context by using a TAM-based quantitative model. The results reveal that:

- **Perceived Usefulness (PU):** It is the most influential factor affecting intention to adopt, highlighting the importance the auditors place on blockchain's advantages, particularly   on its improvement of transparency, security, and efficiency.
- **Perceived Ease of Use (PEOU) and External Support** are also significant, supporting the importance of ease of use and organizational support.
- **Organization Readiness** presented a moderate, but also a significant influence, meaning that if the internal infrastructure and competences are lacking, even if the perception is favorable, adoption of blockchain is still not easy.

Also, adoption gap for blockchain technology is quite significant despite high level of awareness among Egyptian audit firms indicating a requirement for outlook-structural, educational, and policy-based interventions. This research is therefore part of the more rigorous inquiry into post-adoption of technology in developing economies and validates the importance of   established theoretical models such as TAM and institutional theory in explaining the adoption of arising technology in these environments.

The results of this study are highly relevant for other developing countries with comparable economic and institutional frameworks along with technology progress in Egypt. Countries with similar audit environments comprising of low level of automation, low technological readiness, and decentralized control can extract valuable lessons from the Egyptian experience. The other factors concerning the adoption of blockchain like perceived usefulness, perceived ease of use, organizational readiness, and external support are not only true for Egypt but are also present in many other emerging economies. Especially, the disparity between knowing about something and actually putting it into practice as discussed in the study, is common to several battered regions like the middle east, North Africa, and some parts of sub-Saharan Africa. These regions tend to have shared challenges such as poor infrastructure, inadequate training, and no well-defined policies or regulations. For this reason, the study's conclusions focusing on boosting policy and planning as well as capacity building and technology solutions tailored toward local contexts underscores how other regions with similar challenges could benefit.

Recommendations

For Policymakers & Regulatory Bodies:

- Formulation of clear legal frameworks in operating and conducting audits in blockchain technology.
- Promote pilot programs with cooperation of audit institutions   and state-owned enterprises.
- Foster (through tax credits, or firm level subsidies) the adoption of blockchain technology by innovative   companies.

For Audit and Accounting Firms:

- Infrastructure and training   investments to improve readiness.
- Cultivate a culture of innovation that rewards experimentation and adoption of the latest technologies.
- Work with   universities on the development of education and certification programs on blockchain auditing.

For Academic and Training Institutions:

- Update accounting and auditing curricula to address new technology including, but not limited to, blockchain, AI and data analytics.
- Provide relevant in-service training and workshops on blockchain for practitioners.

For Tech. Partners:

- Develop friendly, localized, and applicable blockchain based solutions specific to the operating conditions of Egyptian audit firms.
- Collaborate with audit firms to co-develop and test audit- specific block-chain applications (e.g., smart contracts for automated confirmations)

Limitations and Future Research:

Although the study offers important insights, it is not oblivious of some limitations: The study is based on self-reported perceptions, which can be shaped by social desirability or may not have enough real hands-on experience. The sample is restricted to Egypt and findings may not be directly applicable to other developing countries. Cross-sectional data does not account for shifts in perception over a period of time or as important government events occur. Future research might be: Longitudinal and to how perceptions and adoption change. Cross-sectional studies in development countries or industries. Mixed methods-linking interviews or case studies with survey data.

A study to explore how demographic characteristics may influence blockchain adoption factors using t-**tests** and **ANOVA** can be a good addition to this research. These statistical tests help determine whether differences in perceptions or adoption intentions exist across subgroups such as gender, years of experience, professional role, or prior training in blockchain.

References

- AICPA & CIMA. (2018). *Blockchain technology and its potential impact on the audit and Assurance Profession - CPA Canada*, Available at: https://www.aicpa-cima.com/resources/download/blockchain-its-potential-impact-on-the-audit-and-assurance-profession (Accessed: 14 May 2025).

- Alshhadat, M. (2023). Challenges to adopt blockchain technology in the Gulf Cooperation Council countries, *SSRN Electronic Journal* [Preprint].https://ssrn.com/abstract=4625933 or http://dx.doi.org/10.2139/ssrn.4625933

- Altheeb, S. A. (2020). Leadership style and employee motivation: A study of Saudi Arabian work environment, *Propositus y Representaciones*, 8 (Spe. 2). Doi:10.20511/pyr2020.v8nspe2.661.

- Anis, A. (2023). Blockchain in Accounting and auditing: Unveiling challenges and unleashing opportunities for digital transformation in Egypt, *Journal of Humanities and Applied Social Sciences*, 5 (4), pp. 359-380. doi:10.1108/jhass-06-2023-0072.

- Dai, J. & Vasarhelyi, M. A. (2017). Toward blockchain-based accounting and assurance, *Journal of Information Systems*, 31 (3), pp. 5-21. Doi:10.2308/isys-51804.

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of Information Technology, *MIS Quarterly*, 13 (3), p. 319. Doi:10.2307/249008.

- Kokina, J.; Mancha, R. & Pachamanova, D. (2017). Blockchain: Emergent industry adoption and implications for accounting, *Journal of Emerging Technologies in Accounting*, 14 (2), pp. 91-100. Doi:10.2308/jeta-51911.

- Lai, P. (2017). The literature review of technology adoption models and theories for the novelty technology, *Journal of Information Systems and Technology Management*, 14 (1), 21-38. https://Doi.org/10.4301/s1807-17752017000100002

- Munoko, I.; Brown-Liburd, H. L. & Vasarhelyi, M. (2020). The ethical implications of using artificial intelligence in auditing, *Journal of Business Ethics*, 167 (2), pp. 209-234. Doi:10.1007/s10551-019-04407-1.

- Nakamoto, S. (2008). *A peer-to-peer electronic cash system*, http://www.bitcoin.org/. Available at: https://bitcoin.org/bitcoin.pdf (Accessed: 14 May 2025).

- Nunnally, J. C. & Bernstein, I. H. (1995). *Psychometric Theory*. McGraw-Hill.

- Peters, G. W. & Panayi, E. (2016). Understanding modern banking ledgers through blockchain technologies: Future of transaction processing and smart contracts on the Internet of Money. *New Economic Windows*, 239-278. https://doi.org/10.1007/978-3-319-42448-4_13

- PricewaterhouseCoopers. (2018). *Blockchain is Here: What's your Next Move?* PwC. https://www.pwc.com/jg/en/publications/blockchain-is-here-next-move.html

- Rahayu, R. & Day, J. (2015). Determinant factors of e-commerce adoption by SMEs in developing country: Evidence from Indonesia, *Procedia - Social and Behavioral Sciences*, 195, pp. 142-150. Doi:10.1016/j.sbspro.2015.06.423.

- Rogers, E. M. (2003). *Diffusion of Innovations*. Free Press.

- Rozario, A. M. And Thomas, C. (2019). Reengineering the audit with Blockchain and smart contracts, *Journal of Emerging Technologies in Accounting*, 16 (1), pp. 21-35. Doi:10.2308/jeta-52432.

- Schmitz, J. & Leoni, G. (2019). Accounting and auditing at the time of Blockchain Technology: A research agenda. *Australian Accounting Review*, *29*(2), 331–342. https://doi.org/10.1111/auar.12286

- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach (7th ed.).* John Wiley & Sons, Inc.

- World Bank. (2020). *Egypt Digital Economy Country Assessment (DECA) 2020*. https://thed-ocs.worldbank.org/en/doc/b7a35868206ace761909f9bd2daa1f91-0200022021/original/Digi-tal-Economy-Country-Assessment-May-26-Final.pdf

- Vasarhelyi, M. A.; Kogan, A. & Tuttle, B. M. (2015). Big data in accounting: An overview, *Accounting Horizons*, 29 (2), pp. 381-396. Doi:10.2308/acch-51071.

- Venkatesh, V. & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies, *Management Science*, 46 (2), pp. 186-204. Doi:10.1287/mnsc.46.2.186.11926.

- Yermack, D. (2017). Corporate governance and blockchains, *Review of Finance* [Preprint]. Doi:10.1093/rof/rfw074.

- Zhang, Y.; Ma, Z. & Meng, J. (2025). Auditing in the blockchain: A literature review, *Frontiers in Blockchain*, 8. Doi:10.3389/fbloc.2025.1549729.