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BLOCKCHAIN-BASED SKILL AND EMPLOYMENT VERIFICATION: CHALLENGES AND STRATEGIES FOR EXECUTIVE HIRING IN DUBAI'S FINTECH INDUSTRY

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Abstract

Dubai's traditional executive recruitment process faces challenges, including the use of fake credentials, screening delays, and high recruitment costs. With its decentralized and immutable nature, blockchain offers a potential solution to these problems by ensuring secure, accurate and efficient verification. The paper examines how HR professionals and IT specialists from various Dubai FinTech companies perceive the effectiveness of blockchain in verifying credentials, reducing fraudulent claims, and enhancing recruitment efficiency. Additionally, the paper examines organizations' readiness to adopt blockchain technology and its potential impact on operational costs and efficiency. The research findings show that blockchain significantly improves verification accuracy by reducing human error and preventing fraud. Blockchain has been identified as an effective tool to curb fraudulent claims in executive hiring, positively impacting both time and cost efficiency. However, resistance to new methods and concerns about implementation costs were identified as potential barriers to widespread adoption. To overcome resistance to change and reduce implementation costs, adequate training is essential for successful adoption. The study proposes further research into the long-term adoption of blockchain and its impact on different industries.

Keywords: blockchain, executive recruitment, fraud reduction, skill verification, efficiency, adoption barriers

1. INTRODUCTION

The FinTech sector in Dubai has

experienced substantial growth over the last decade, driven by the Emirate's ambition to become a leading international financial hub

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(Zarrouk et al., 2021). This growth has created a pressing demand for agile, high-quality hiring processes that can meet the evolving needs of FinTech firms (Shuhaiber & Aldwairi, 2023). However, traditional verification methods dominate recruitment practices, often resulting in time-consuming and error-prone procedures (Muduli & Trivedi, 2020). These inefficiencies pose a critical challenge, particularly in executive hiring, where the stakes are higher, and the need for trust and speed is paramount (Kişi, 2022). In dynamic economic hubs like Dubai, where the demand for high-level professionals with verified, globally competitive credentials intensify, secure and efficient hiring processes are crucial (Razavi & Habibnia, 2024; Shailaja et al., 2025). However, despite Dubai's reputation as a global leader in innovative governance and digital transformation, the adoption of blockchain technology in human resource management, especially for executive hiring, remains relatively limited (Kang et al., 2020). This limited adoption can be attributed to several factors, including concerns about integration with existing human resources (HR) systems, lack of familiarity with Blockchain among HR professionals, and the absence of standardized frameworks for its application in recruitment (Dwivedi et al., 2021; Mishra & Venkatesan, 2021). With its decentralized, immutable, and transparent characteristics, blockchain can revolutionize HR functions, including credential verification, background checks, and employment history authentication (Alabdulkarim et al., 2023; Ramachandran et al., 2022). By enabling secure and tamper-proof records, blockchain could significantly reduce fraudulent applications and streamline the decision-making process in talent acquisition (Rashmi

et al., 2023). While global examples highlight the promise of Blockchain in HR (Sarda et al., 2018; Zhong et al., 2025), its actual application remains in the early stages, particularly in Dubai's private sector, where adoption is hindered by technical, regulatory, and organizational barriers (Ali & Maheshwari, 2025).

This paradox — where a technologically advanced city with ambitious blockchain strategies shows low uptake in HRM (Ramachandran et al., 2022) — raises important questions about the underlying causes of this gap. Despite initiatives such as the Dubai Blockchain Strategy 2021 Digital Dubai (N/A) and Smart Dubai, the implementation of blockchain in executive recruitment processes has yet to gain meaningful traction (Khan et al., 2022, Kişi, 2022). Understanding the reasons behind this low adoption and exploring strategic enablers for broader implementation is essential to align Dubai's FinTech HR practices with its broader innovation agenda (Ramachandran et al., 2022).

The paper aims to explore how blockchain technology can be effectively leveraged to address existing inefficiencies, risks, and limitations in executive recruitment practices within Dubai's FinTech industry. In the first part of the paper, a literature review is presented on the possibilities of blockchain in HR practices. The second part of the paper presents research conducted on the use of blockchain in executive hiring in Dubai. In the final section of the paper, a conclusion is presented, along with a proposal for future research.

2. LITERATURE REVIEW

In today's dynamic and digitally connected business environment, hiring executives and senior-level professionals is becoming increasingly complex (Solanki & Gujarati, 2024). Unlike hiring for entry-level or mid-level positions, selecting executives requires greater precision, speed, and reliability (Baykal, 2020). These positions are critical to an organization's leadership and strategic development, and making the wrong choice can have serious financial and reputational consequences (Schaedler et al., 2022). The pressure to find credible and competent candidates is even greater in highly regulated sectors, such as FinTech, where management must navigate complex regulatory requirements and emerging technologies. To address these challenges, many companies utilize external background check agencies and professional networks, such as LinkedIn, to verify candidates' credentials (Hosain et al., 2020). However, these processes are often manual, disjointed, and prone to human error. They depend heavily on institutional trust and can be time-consuming, especially when verifying education or work experience from abroad (Ramachandran et al., 2022). With the increasing competitiveness of the FinTech ecosystem, for example, in Dubai, the inefficiencies of traditional candidate verification models are becoming increasingly apparent. In executive recruitment, organizations are under increasing pressure to verify the authenticity of candidates' skills, qualifications, and work histories (Kruk et al., 2018). Given executives' strategic influence within the company, hiring mistakes at this level can have widespread consequences, including operational disruptions and reputational

damage (Sterkens et al., 2023). As a result, companies employ various mechanisms to mitigate risk in the hiring process. These mechanisms typically include structured interviews, cognitive and psychometric testing, reference checks, and the services of external background check agencies. While these approaches can provide valuable insights into candidates' cognitive abilities and fit with the organizational culture, they often do not offer verifiable and objective evidence of their achievements and previous roles (Guthrie, 2001). Most employment and education checks are conducted manually or semi-digitally via email confirmations from former employers, educational institutions, or certification bodies (Levashina & Campion, 2009). Such traditional processes are time-consuming and prone to fraud, administrative delays, and human error (Pingili, 2025). The lack of automated and secure systems for verifying credentials at the executive level significantly limits the effectiveness of existing verification methods (Noshi, 2024).

The risks associated with these limitations are particularly pronounced in regions where record-keeping systems are not fully digitalized or where international professionals are frequently hired. For example, the FinTech sector in Dubai attracts executives from various parts of the world, many of whom come from countries with inconsistent documentation standards or environments that lack digitalization. This situation increases the likelihood that credential discrepancies will go undetected during the hiring process (Dwivedi et al., 2021; Meraj et al., 2026).

In addition, there are increasing cases worldwide where executives are hired based on exaggerated or falsified qualifications. Such incidents can have a profound impact

on the organization and raise questions about the effectiveness of existing verification processes (Mishra & Raghatate, 2025). Even when thorough due diligence is claimed, the lack of standardized and universally trusted systems leaves critical gaps (Kişi, 2022).

The problem is even more pronounced in sectors that require specialized and rapidly evolving knowledge, such as blockchain development, data analytics, or financial cybersecurity (Demirkan et al., 2020). These positions often require candidates to demonstrate specific technical skills acquired through short-term certifications or practical experience in decentralized or freelance environments (Fisher & Gonzales, 2020). Traditional methods of verifying such qualifications are almost unenforceable, further complicating the recruitment of capable executives in innovative industries such as FinTech (Wu & Kao, 2022; Ding et al., 2023).

Due to the aforementioned challenges, there is an urgent need for more sophisticated, universally accessible, and secure methods of verifying executive credentials. Blockchain technology, as a decentralized and immutable system, has the potential to solve this problem (Bokariya & Motwani, 2021), although its application is still in its early stages (Monteiro et al., 2024). Understanding how this technology can enhance vetting practices while addressing industry-specific challenges is crucial for refining the hiring process for executives in advanced economies, such as the United Arab Emirates.

The global human resources market is undergoing a paradigm shift driven by the need for faster, more secure, and more transparent hiring processes (Llorens, 2021). Blockchain has emerged as a transformative tool in this context, particularly for skills and

employment verification (Shaheen et al., 2023). This technology is characterized by immutability, decentralization, transparency, and cryptographic security. Such features allow data to be stored and shared across a distributed network in a manner that is resistant to alteration or deletion (Yi et al., 2020). In human resources, these features can be leveraged to create permanent, verifiable records of candidates' education, work experience, certifications, and even assessments of their soft skills (Aishwarya, 2018; Murray et al., 2018).

Several governments (e.g., Estonia – Semenzin et al., 2022), institutions (e.g., MIT – Capece et al., 2020), and corporations worldwide (e.g., IBM - Caramihal & Severin, 2023) have already begun piloting or implementing blockchain systems for credential verification. These examples demonstrate that blockchain is a viable, secure, efficient, and scalable solution for credential verification. However, blockchain adoption in HR, particularly in the Middle East, is still limited despite its potential (Aishwarya, 2018; Yi et al., 2020). These efforts have significantly advanced the digitization of government records, financial transactions and healthcare data. However, the HR sector, including executive recruitment, has seen minimal integration of blockchain solutions (Shuhaiber & Aldwairi, 2023). This is potentially a result of regulatory uncertainty, lack of in-house technical expertise, challenges in integrating with existing HR platforms and limited awareness among decision-makers. Additionally, while blockchain offers transparency, its implementation raises concerns about data privacy and user consent. Employers must balance creating verifiable records and complying with data protection regulations, such as the UAE

Personal Data Protection Law (DLA Piper, N/A). Furthermore, the decentralized nature of blockchain also requires a cultural change within organizations, where trust in technology should replace reliance on traditional intermediaries and data custodians (Deepa, 2022; Esan & Abimbola, 2024).

2.1. Blockchain as a tool for employment verification

Blockchain is fundamentally a distributed ledger technology (DLT) that enables secure, immutable data recording and sharing across a decentralized network. This makes data tamper-proof and traceable to its origin, eliminating the risks associated with data manipulation or forgery (Ramachandran et al., 2022).

Blockchain has achieved broader financial success (Mohammed et al., 2023), as well as notable successes in tourism (Erceg et al., 2020), logistics (Kişi, 2022), and supply chain management (Damoska Sekuloska & Erceg, 2022). In finance, blockchain enables real-time settlement of transactions, fraud prevention, and regulatory transparency (Adewale et al., 2022; Rane et al., 2023), all of which align well with business objectives and regulatory requirements.

In employment verification, blockchain can facilitate the creation of digital identities for candidates, where their academic records, past roles, and certifications are permanently stored and cryptographically secured (Koncheva et al., 2019). Smart contracts—a unique feature of blockchain—can automate employment agreements, offer letters, and reference checks, streamlining a multi-step, manual process (Adel et al., 2021). In contrast to PDF certificates or LinkedIn

endorsements, which can be fabricated or exaggerated, blockchain offers employers a high-confidence, data-backed profile of each candidate (Rhemananda, 2020). Blockchain shortens verification processes from days or weeks to minutes, allowing HR teams to make quicker and more informed decisions without compromising accuracy (Prybila et al., 2020). This is especially beneficial for startups and scale-ups in Dubai's FinTech sector, where agility and innovation cycles are tightly linked to human capital decisions. There are numerous worldwide cases in which blockchain is used for employment verification. In the education sector, the Massachusetts Institute of Technology (MIT) has launched digital diplomas on blockchain, allowing graduates to share verifiable credentials with employers worldwide. This innovation has significantly reduced the administrative burden on both graduates and employers, while ensuring complete trust in credential authenticity (Capece et al., 2020). In the private sector, companies such as IBM and SAP have integrated blockchain into their talent management systems (Caramihal & Severin, 2023). IBM's "Learning Credential Network" allows employees to store their verified training achievements on a blockchain (Tapscott & Kaplan, 2019). SAP's blockchain initiative in Asia enables security background checks for contract workers and executives in multinational firms as part of supply chain transparency (Ravi & Jampani, 2024).

The critical barrier to blockchain adoption in HR is the perception and understanding of technology among HR professionals (Agarwal et al., 2024). Many HR managers view blockchain as a complex, technical concept best suited for IT or finance departments (Mohammed et al., 2023). This disconnect is further reinforced by a lack of

training and exposure to practical blockchain applications in HR, leading to the misconception that the technology is irrelevant to recruitment, talent management, or credential verification (Kişi, 2022).

Blockchain can significantly enhance transparency in candidate profiling by ensuring that all submitted credentials are authentic, verified, and immutable once added to the ledger (Yi et al., 2020). Since blockchain records cannot be altered retroactively, they provide a trustworthy audit trail for every stage of a candidate's career (Mishra & Raghatate, 2025). This enhanced transparency is especially valuable in the executive context, where candidates often cite informal or freelance consulting roles that are difficult to verify (Najgad et al., 2022). Blockchain can legitimize these less formal credentials by allowing project collaborators or organizations to validate participation and contribution using tokenized confirmations or verified attestations (Shuhaiber & Aldwairi, 2023).

Blockchain offers significant organizational and operational benefits in executive hiring. In traditional hiring systems, HR professionals manually verify education, employment records, and certifications, a time-consuming and costly task (Tapscott & Tapscott, 2016). Blockchain simplifies this through smart contracts that automatically authenticate and verify credentials, drastically reducing the time-to-hire, which is crucial in a competitive market like Dubai's FinTech sector (Mer et al., 2025). In terms of security, blockchain's immutable nature ensures that once data is recorded, it cannot be altered or tampered with, mitigating risks related to resume manipulation and fraud. Moreover, the decentralized structure of blockchain reduces the vulnerabilities of centralized HR systems

to cyberattacks and data breaches, which are common concerns for organizations managing sensitive personal information (Deloitte, 2021).

For blockchain to be effectively integrated into HR processes, targeted and continuous training programs must be provided to HR departments. Establishing ongoing education initiatives will enable HR departments to stay at the forefront of the technological developments in blockchain. It will empower them to effectively incorporate it into their recruitment and verification processes (Buterin, 2013). Furthermore, incorporating blockchain into university curricula and industry certifications can create a workforce skilled in technology, thereby accelerating its implementation across various industries (Williams, 2019; Desplechin et al., 2025).

Despite these advantages, HR professionals perceive risks and limitations when considering blockchain for skill and employment verification. One of the primary concerns is the technical complexity of blockchain. Many HR departments lack the technical expertise to effectively implement and manage blockchain-based systems, resulting in resistance or improper use of the technology (Krigsholm et al., 2019). Without seamless integration with enterprise resource planning (ERP), the expected operational benefits of blockchain may be hindered, resulting in workflow disruptions rather than improvements (Hariyani et al., 2025). The initial setup costs, infrastructure development, and the need for specialized training can be prohibitively expensive, deterring firms from adopting Blockchain (Renduchintala et al., 2022). Moreover, regulatory uncertainty regarding the application of blockchain in HR processes is another limiting factor. While Dubai is

known for its progressive stance on blockchain innovation, the legal framework surrounding the use of blockchain in HR and employment verification remains unclear, particularly regarding data privacy and decentralized data storage (Alketbi et al., 2018). Until these issues are resolved, many HR professionals may be hesitant to integrate blockchain into their recruitment practices fully.

3. METHODOLOGY

This study aims to explore the potential of blockchain technology in addressing the challenges of hiring executives in Dubai's rapidly growing FinTech sector. As the focus is on understanding the relationship between blockchain adoption and its effectiveness in recruitment, the study employs statistical methods to analyze numerical data and gain empirical insights. A stratified random sampling approach is used to ensure the sample is representative of the various roles and experiences within the FinTech industry. The strata include company size and respondents' roles within their organizations. Specifically, the sample comprises small to medium-sized enterprises (SMEs) and larger FinTech firms to investigate how blockchain adoption might vary by firm size. Additionally, respondents are selected from various key positions, including HR managers, recruitment specialists, and executives, to ensure a broad range of perspectives on the use of blockchain in the recruitment process.

The final sample size for this study consists of 206 respondents. This sample size is sufficient to achieve statistical significance and ensure that the findings are representative of the broader population of

HR professionals and recruitment managers in Dubai's FinTech sector. The participants are selected based on their involvement in the executive hiring process and familiarity with blockchain technology, ensuring they can provide informed and relevant responses. The survey is conducted online using Google Forms, which allows for easy access and efficient data collection. It was distributed via email and professional networks to recruiters, recruitment agencies and executives in the FinTech sector in Dubai. Data collection took two weeks and was supplemented with reminders to encourage participation and ensure a high response rate.

The survey consists of closed-ended questions and items using a Likert scale, which helps assess respondents' opinions on different aspects of blockchain in recruitment. The Likert scale ranges from 1 (strongly disagree) to 5 (strongly agree), enabling straightforward statistical analysis of responses. The survey covers several key themes, including perceived usefulness (PU), focusing on how blockchain technology could improve recruitment processes, especially in skills and employment verification. It also examines perceived ease of use (PEOU), evaluating how easy it is to integrate blockchain into existing recruitment systems. Additionally, the survey identifies barriers to adoption, such as cost, technical complexity, and regulatory issues. It also explores the impact of blockchain on recruitment efficiency, particularly how it can speed up hiring, prevent fraud, and lower recruitment costs.

After collecting the responses, the data undergoes a thorough cleaning and validation process to remove incomplete or inconsistent entries, ensuring the dataset is suitable for analysis. The cleaned data is then

analyzed using statistical methods, including descriptive statistics and regression analysis, to examine the relationships between blockchain adoption and key recruitment outcomes such as time to hire, fraud reduction, and cost efficiency. First, descriptive statistics are used to summarize the data and provide an overview of the main variables. Measures such as the mean, standard deviation, and frequency distributions are calculated for variables including the perceived usefulness of blockchain technology, barriers to adoption, and the impact of blockchain on recruitment efficiency. T-tests with independent samples are employed to compare perceptions of blockchain adoption across different groups, such as between smaller companies and more established firms.

Additionally, chi-square tests are conducted to explore the relationships between categorical variables, such as the level of blockchain adoption and barriers to implementation, and to assess whether factors like company size or industry focus are related to higher or lower levels of blockchain adoption among hiring managers. Regression analysis is used to examine the relationship between blockchain adoption and key recruitment outcomes, including time to hire, fraud prevention, and cost-effectiveness. This analysis provides valuable insights into how blockchain technology influences various aspects of the recruitment process and its potential benefits in enhancing recruitment efficiency.

4. RESULTS AND DISCUSSION

The data is collected through a questionnaire circulated among 206 respondents which work in some of the top

Dubai's FinTech companies (e.g., Ziina, Huspy, Cashew, YallaCompare, Foolosi, Cashew Payments, Ajar, etc.). A total of 35 questions are asked of the respondents, and the questionnaire is divided into five sections, including a demographic section in Table 1. Data analysis is conducted to answer the following objectives: (1) to analyze the effectiveness of blockchain technology in verifying skills and employment history for executives in Dubai's FinTech industry; (2) to assess the impact of blockchain-based verification on reducing hiring fraud and misrepresentation in executive recruitment; (3) to examine the acceptance and adoption rate of blockchain-based verification systems among FinTech companies in Dubai and (4) to evaluate the efficiency of blockchain-based verification in streamlining the executive hiring process in terms of time and cost.

Most respondents, comprising those with 4–7 years of experience, represent the largest segment, followed closely by individuals with 1–3 years and 8–12 years of experience. Regarding company size, the predominant group consists of respondents from organizations with 51–200 employees, followed by those from companies with 201–500 employees. When these two categories are combined, they account for 80% of the total respondents. The data also reveal that the survey is primarily comprised of participants from the cryptocurrency and blockchain solutions sector (e.g., Prypco, BitOasis), indicating a significant interest or focus in this area. The second largest group in the survey pertains to payments and transactions (e.g., Tabby, Ziina), indicating that this area holds considerable relevance in the overall findings. This distribution likely highlights the growing importance of blockchain technology within the

cryptocurrency and payment sectors. Most participants demonstrate a moderate to high understanding of blockchain, with a significant concentration of responses falling into the "Moderately Knowledgeable" and "Highly Familiar" categories. This suggests that while awareness of blockchain is relatively widespread, it does not extend to an expert level across the sample. Many respondents noted that organizations are primarily in the early stages of blockchain adoption. A substantial number are either exploring blockchain or expressing interest in its implementation, reflecting an intense curiosity and potential for future adoption of the technology. However, the relatively small proportion of companies that have fully

adopted blockchain (e.g., Prypco, BitOasis) or are not considering it at all indicates that, for many, blockchain adoption remains in its nascent stages. This further suggests that, despite the growing interest, organizations continue to face practical challenges in implementation.

The majority of respondents possess a "moderate understanding of digital hiring practices," along with a significant number of individuals who are "highly familiar with the concept of digital hiring." Additionally, there is a noteworthy contingent of participants who demonstrate moderate knowledge, indicating a widespread awareness of the topic. However, the smaller group of those who are somewhat familiar or

Table 1. Respondents' demographics

| Working Experience | Frequency | % | Total % |
|---|------------------|----------|----------------|
| Less than 1 year | 23 | 11.17% | 11.17% |
| 1-3 years | 42 | 20.39% | 31.55% |
| 4-7 years | 71 | 34.47% | 66.02% |
| 8-12 years | 42 | 20.39% | 86.41% |
| More than 12 years | 28 | 13.59% | 100.00% |
| Company Size | | | |
| 1-50 employees | 43 | 20.87% | 20.87% |
| 51-200 employees | 68 | 33.01% | 53.88% |
| 201-500 employees | 55 | 26.70% | 80.58% |
| More than 501 employees | 40 | 19.42% | 100.00% |
| Industry focus | | | |
| Cryptocurrency and blockchain solutions | 65 | 31.55% | 31.55% |
| Payments and transactions | 45 | 21.84% | 53.40% |
| RegTech & Compliance | 42 | 20.39% | 73.79% |
| Lending & Credit Services | 37 | 17.96% | 91.75% |
| Wealth Management | 17 | 8.25% | 100.00% |
| Blockchain familiarity | | | |
| Not familiar | 16 | 7.77% | 7.77% |
| Somewhat familiar | 38 | 18.45% | 26.21% |
| Moderately knowledgeable | 64 | 31.07% | 57.28% |
| Highly knowledgeable | 64 | 31.07% | 88.35% |
| Expert level | 24 | 11.65% | 100.00% |
| Blockchain adoption | | | |
| No, and not considering | 29 | 14.08% | 14.08% |
| No but interested | 55 | 26.70% | 40.78% |
| Currently exploring | 61 | 29.61% | 70.39% |
| Partially implemented | 45 | 21.84% | 92.23% |
| Fully implemented | 16 | 7.77% | 100.00% |

Source: Authors

regarded as experts in digital hiring suggests that, while the concept is gaining traction, in-depth expertise remains limited among those surveyed.

4.1. Effectiveness of blockchain technology in verifying skills and employment history for executives

Most respondents believe that the process of skill and employment verification is not overly manual. Conversely, a significant number agree that the organization predominantly relies on technology-driven solutions for these verifications. Only a small fraction considers traditional methods to be slow and inefficient, indicating that the majority find these methods effective. While there are some concerns regarding fraudulent credentials in the recruitment process, most respondents either maintain a neutral stance or disagree with the idea that such credentials pose a substantial problem. Transparency in recruitment processes is viewed favorably by the majority. There is strong support for the necessity of secure verification within recruitment, with the largest group of respondents expressing strong agreement.

Furthermore, most do not perceive international candidates as a considerable challenge in recruitment. Many respondents also do not view manual verification as

costly, with most either strongly disagreeing or disagreeing with that notion. (Table 2)

Technology is viewed as playing a crucial role in the verification process, although there remains a moderate dependence on manual methods. Traditional approaches are not seen as overwhelmingly inefficient or slow; however, there is widespread acknowledgement of the need for secure, automated verification, particularly in the FinTech sector. Concerns over fraudulent credentials in hiring processes are notable, while issues related to transparency and international verification are considered less urgent. Although manual verification is recognized as costly, it is not perceived as the most significant challenge overall.

Figure 1 illustrates the differences in the variables determining the efficiency of the hiring process between those companies that adopt and do not adopt blockchain technology. A T-test is performed to analyze the differences in mean scores between companies that have adopted blockchain technology for skill and employment verification and those that have not implemented such technology (Table 3).

Across all five variables examined, blockchain adoption demonstrates a significant and positive influence on hiring processes. It reduces costs, enhances efficiency, and shapes future HR strategies. The low p-values provide strong evidence

Table 2. Effectiveness of blockchain technology

| | Count | Mean | std |
|----------------------------|-------|-------|-------|
| Man_verification | 206 | 2.402 | 1.430 |
| Tech_verification | 206 | 3.519 | 1.374 |
| Ineff_Trad_Methods | 206 | 2.461 | 1.301 |
| Fraud_Credentials | 206 | 2.781 | 1.243 |
| Lack_transparency | 206 | 2.300 | 1.192 |
| Need_Sec_Verification | 206 | 3.674 | 1.305 |
| Intl_Cand_Challenges | 206 | 2.436 | 1.270 |
| High_Cost_Man_Verification | 206 | 2.368 | 1.310 |

Source: Authors

that blockchain delivers concrete advantages over traditional methods in executive recruitment, particularly concerning cost reduction, speed, and overall efficiency.

4.2. Assessing the impact of blockchain-based verification on reducing hiring fraud and misrepresentation in executive recruitment

In this section of the survey, participants are asked to evaluate the effectiveness of blockchain-based verification in mitigating hiring fraud and misrepresentation within executive recruitment. Most respondents either agreed or strongly agreed that blockchain fosters greater trust, reflecting a shared belief in its capacity to enhance trustworthiness through its transparency and security features.

A majority of respondents believe that

blockchain effectively reduces fraud, with a significant portion expressing strong agreement. This demonstrates a widespread perception that the immutable and transparent nature of blockchain can substantially mitigate fraudulent activities across various processes. The data indicates robust support for the idea that decentralized verification enhances fraud prevention, as most participants concur that decentralized systems improve the verification process.

There is a pronounced demand for blockchain training, with most respondents agreeing on its importance for understanding and effectively utilizing blockchain technology. This highlights a collective acknowledgement of the necessity for blockchain education to leverage its potential fully. Furthermore, most respondents feel confident about the adequacy of smart contract verification, with a notable number

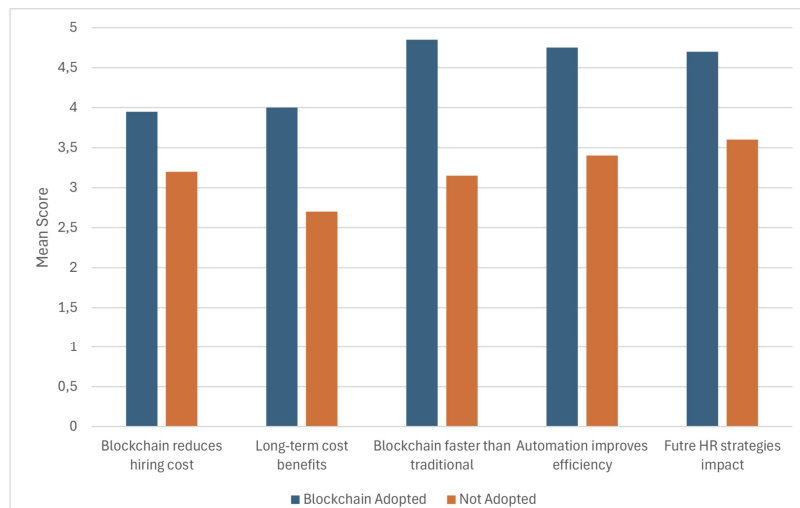


Figure 1. Comparison of Adopted vs. Non-Adopted Blockchain (Source: Authors)

Table 3. T-test on blockchain effectiveness

| | T-test | p-value |
|---------------------------------------|--------|----------------|
| Blockchain Reduces Hiring Costs | 7.14 | 0.000000000159 |
| Long-term Cost Benefits | 7.75 | 0.000000000004 |
| Blockchain is Faster than Traditional | 7.18 | 0.000000000124 |
| Automation Improves Efficiency | 7.11 | 0.000000000186 |
| Future HR Strategies Impact | 7.01 | 0.000000000337 |

Source: Authors

strongly agreeing. This suggests trust in the reliability and security of smart contracts for automating and verifying agreements without the need for intermediaries, although a few participants did express some skepticism.

Additionally, most respondents agree that blockchain enhances transparency, driven by its decentralized and transparent characteristics. While the overall sentiment is largely positive, a minor segment of participants either disagreed or strongly disagreed, indicating some concerns or a lack of awareness regarding blockchain's practical applications in promoting transparency.

The analysis indicates that with the maximum number of variables examined, the p-values are significantly low (well below 0.05), implying that blockchain adoption has a statistically significant effect on perceptions related to trust, fraud reduction, verification, training requirements, and transparency (Table 4). These findings suggest that organizations that have embraced blockchain view it as an essential tool for improving various elements of their recruitment and verification

processes. Furthermore, this analysis indicates that blockchain adoption is closely linked to favorable views on recruitment efficiency, fraud prevention, and transparency, potentially promoting further integration of blockchain technology within organizations. Conversely, the p-value exceeds 0.05, signifying no significant relationship between blockchain adoption and the perceived usefulness of smart contracts in the verification process, indicating that blockchain adoption does not substantially influence the perceived effectiveness of smart contracts for verification.

Since the p-value is very small (much lower than the typical significance level of 0.05), it can be concluded that there is a statistically significant difference between the two groups (Table 5). Specifically, companies that have adopted blockchain for fraud reduction report significantly different (likely lower) incidence of fraudulent claims compared to those that have not adopted blockchain (Figure 2). This finding supports the idea that blockchain technology could play a crucial role in minimizing fraudulent activities in the relevant processes.

Table 4. Chi-Square Test

| | Chi-Square statistic | p-value | Degrees of freedom |
|--|-----------------------------|----------------|---------------------------|
| Blockchain increases trust | 210.24 | 6.70e-36 | 16 |
| Blockchain reduces fraud | 209.86 | 8.01e-36 | 16 |
| Decentralized verification minimizes fraud | 208.80 | 3.51e-36 | 16 |
| Need for blockchain training | 214.33 | 2.91e-36 | 16 |
| Smart contracts streamline verification | 15.78 | 0.468 | 16 |
| Blockchain improves transparency | 211.68 | 3.42e-36 | 16 |

Source: Authors

Table 5. Paired T-test on fraud reduction

| | T-test | p-value |
|--|---------------|----------------|
| Blockchain technology's influence on fraud reduction | 12.99 | 1.45e-09 |

Source: Authors

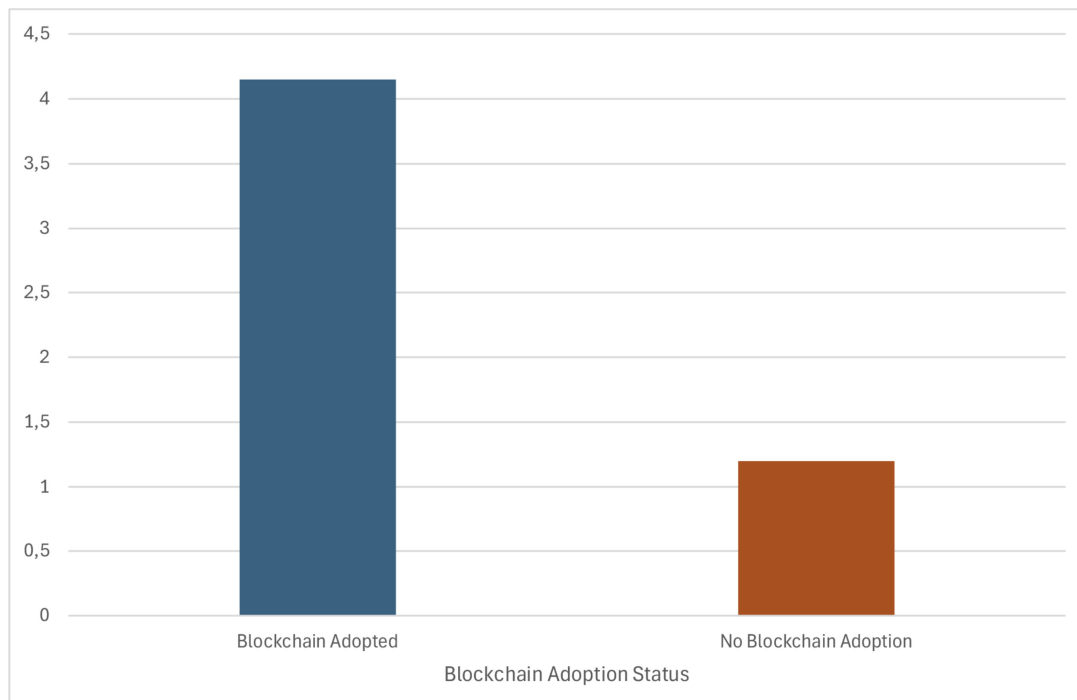


Figure 2. Fraud Reduction: Blockchain Adoption vs. Non-Adoption (Source: Authors)

4.3. Acceptance and adoption rate of blockchain-based verification systems among FinTech companies in Dubai

Most respondents do not feel hesitant due to a lack of familiarity, as the majority strongly disagree or disagree with the statement. The data suggest that a lack of familiarity is not regarded as a major barrier. A significant number of respondents strongly agree or agree that integrating blockchain with HR systems is beneficial. This indicates strong support for using blockchain to improve HR systems, with only a small proportion disagreeing or strongly disagreeing. Most respondents agree that cost is a concern, reflecting a high level of awareness about the potential financial impact. Most respondents also agree that resistance to new methods is a significant

issue, indicating that most participants perceive substantial resistance to change. There is some support for the idea that awareness of Decentralized Identifiers (DIDs) is necessary, but most respondents remain neutral. This implies that, while awareness may be valuable, many respondents either lack sufficient knowledge or do not hold a strong opinion on the matter. Most respondents strongly agree or agree that blockchain can be adapted for use in HR systems, indicating robust support for its potential integration into HR. Only a small percentage disagree, demonstrating confidence in blockchain's ability to enhance HR functions.

Data suggests that respondents acknowledge specific challenges and barriers to blockchain adoption in HR processes (Table 6), while also indicating a willingness to address these challenges. The areas of most significant concern are integration with

HR systems and resistance to new methods. However, barriers such as cost concerns, resistance or lack of familiarity are moderate, indicating that these issues are not overwhelmingly high for most organizations. There is also recognition that blockchain solutions for HR need to be tailored, and a moderate level of awareness of Decentralised Identifiers (DIDs) exists among respondents. In summary, the results suggest that while barriers exist, there is a moderate to strong level of recognition of the need for blockchain in HR, provided these challenges are addressed effectively.

The One-Way ANOVA is conducted to assess the impact of different factors on blockchain adoption. The variables tested include Company Size, Industry Focus, Blockchain Familiarity, and Resistance to New Methods (Table 7).

Based on the One-Way ANOVA test, it is possible to conclude that Resistance to New Methods stands out as the most significant predictor of blockchain adoption. Organizations that are more resistant to change are less likely to adopt blockchain,

whereas those with an open attitude toward innovation are more likely to embrace it. On the other side, Company Size, Industry Focus, and Blockchain Familiarity do not significantly influence blockchain adoption in this analysis.

4.4. Evaluating the efficiency of blockchain-based verification in streamlining the executive hiring process in terms of time and cost

Most respondents express strong agreement that blockchain contributes to cost reduction, highlighting a robust belief in its cost-saving potential. A negligible number oppose or strongly oppose this notion, suggesting minimal dissent regarding blockchain's benefits in reducing costs. Furthermore, many respondents are firmly convinced that blockchain provides long-term cost advantages, indicating a widespread perception of it as a worthwhile investment for future savings. Additionally, a significant number of participants strongly agree that blockchain operates more quickly

Table 6. Challenges and barriers to blockchain adoption in HR processes

| | Count | Mean | Std |
|-----------------|-------|-------|-------|
| Hes_Lack_Fam | 206 | 2.226 | 1.268 |
| Inte_HR_Sys | 206 | 3.650 | 1.323 |
| Cost_Con | 206 | 3.796 | 0.998 |
| Resi_New_Meth | 206 | 4.053 | 1.061 |
| Need_Aware_DIDs | 206 | 2.776 | 1.176 |
| BC_Tail_HR | 206 | 3.809 | 1.101 |

Source: Authors

Table 7. One-Way ANOVA

| | F-statistic | p-value |
|---------------------------|-------------|----------|
| Company size | 2.18 | 0.092 |
| Industry focus | 1.25 | 0.292 |
| Blockchain familiarity | 1.56 | 0.186 |
| Resistance to new methods | 291.79 | 2.00e-67 |

Source: Authors

than traditional methods. However, a small contingent strongly disagrees, which points to some skepticism about the speed of blockchain in comparison to conventional systems. Most respondents strongly agree that automation enhances efficiency, reflecting a robust endorsement of its role in boosting productivity. Only a small number of respondents express disagreement, indicating a high level of confidence in the efficiency of automation. There is also a prevailing belief that future HR strategies will significantly influence outcomes, as most respondents are in strong agreement with this notion. Conversely, many respondents disagree or strongly disagree with the assertion that verification processes are swift, pointing to widespread concerns about their efficiency.

Additionally, numerous respondents either agree or remain neutral on the idea that verification is susceptible to errors, revealing apprehension regarding the accuracy of these

processes. While a smaller group disagrees, there is an explicit acknowledgment of potential issues related to verification errors. Overall, respondents demonstrate strong confidence in the ability of blockchain and automation to enhance efficiency and reduce costs (Figure 3), while simultaneously raising concerns about verification processes, particularly in terms of their speed and error-prone characteristics.

The negative T-statistic and p-value (0.034) for time efficiency suggest a statistically significant decrease in the time required for verification following the adoption of blockchain technology (Table 8). This implies that companies implementing blockchain experience accelerated verification processes compared to their pre-adoption practices. Furthermore, the negative T-statistic (-3.56) and p-value (0.002) indicate a significant reduction in hiring costs post-adoption. This signifies that companies utilizing blockchain benefit from

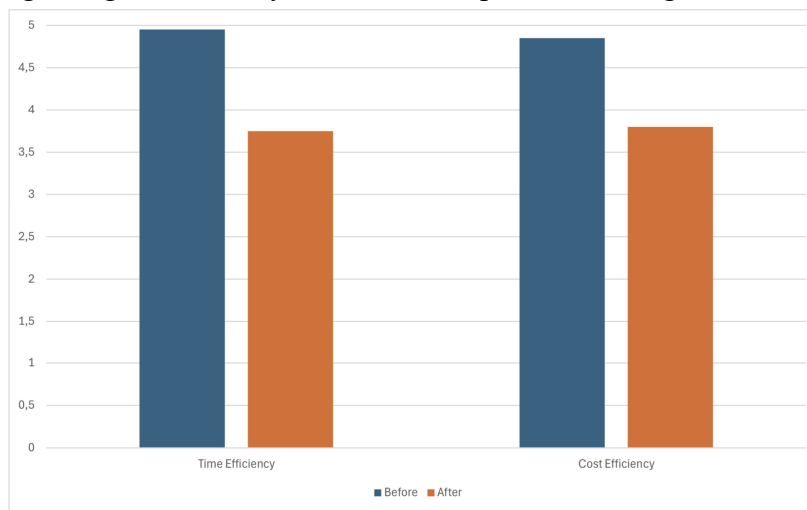


Figure 3. Time and cost efficiency before and after blockchain adoption (Source: Authors)

Table 8. Paired T-test

| | T-statistic | p-value |
|-----------------|--------------------|----------------|
| Time efficiency | -2.15 | 0.034 |
| Cost efficiency | -3.56 | 0.002 |

Source: Authors

lower verification costs relative to those that have not yet adopted the technology.

Both regression models (Table 9) demonstrate statistical significance, evidenced by the extremely low p-values for the F-statistics and the Blockchain Adoption Numeric coefficient (0.000). This indicates that blockchain adoption significantly influences both the perception of blockchain as being faster than traditional methods and its effectiveness in reducing hiring costs. A positive relationship exists with blockchain adoption, as reflected in the coefficient of 0.3834. This suggests that as organizations increase their adoption of blockchain—from lower to higher levels—they perceive it to be more effective in accelerating processes and minimizing hiring expenses (Figure 4).

5. CONCLUSIONS

Blockchain has the potential to transform HR practices by improving the integrity, speed, and efficiency of the recruitment process. By utilizing blockchain for secure and automated verification, HR professionals can streamline recruitment, reduce costs, and prevent fraud, an especially important factor in high-level executive hiring. Although there is strong interest in adopting blockchain technology, concerns about costs and resistance to new methods remain significant barriers to its implementation. These barriers can be minimized by promoting an innovative culture and through careful change management. Considerable emphasis should

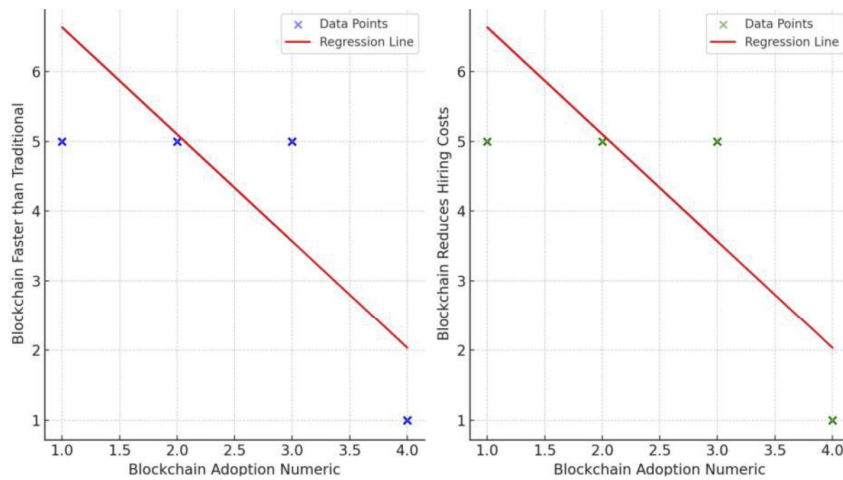


Figure 4. Blockchain adoption: Blockchain is Faster than Traditional and Blockchain Reduces Hiring Costs (Source: Authors)

Table 9. OLS regression

| | R-squared | Adjusted R-squared | F-statistic | P-value for F-statistic | Intercept | Blockchain adoption numeric |
|------------------------------------|-----------|--------------------|-------------|-------------------------|-----------|-----------------------------|
| Blockchain Faster than Traditional | 0.625 | 0.623 | 292.2 | 3.65e-39 | 5.7919 | 0.3834 |
| Blockchain Reduces Hiring Costs | 0.625 | 0.623 | 292.2 | 3.65e-39 | 5.7919 | 0.3834 |

Source: Authors

be placed on applying the change management methodology, focusing on process, cultural, and policy changes. To enable successful integration, it will be essential to address these concerns through education, training, and clear demonstrations of blockchain's value.

Integrating blockchain technology with existing HR systems is vital for its successful implementation. Organizations must ensure that blockchain is seamlessly incorporated into their recruitment workflows to maximize its potential benefits, particularly regarding transparency, security, and efficiency. A key finding is blockchain's effectiveness in preventing fraudulent claims, which has significant implications for reducing recruitment risks. Its ability to provide tamper-proof records enhances the security of the hiring process, making it an invaluable tool for combating credential fraud.

Based on the analysis of survey responses, statistical tests, and bar graphs, the research concludes that blockchain technology has substantial potential to transform skill and employment verification processes within the FinTech industry. The tests reveal a positive link between blockchain adoption and improvements in efficiency, cost savings, and fraud prevention in executive hiring. Furthermore, results from descriptive statistics, T-tests, and regression analysis support the idea that organizations using blockchain-based verification systems experience faster and more cost-effective hiring procedures. The research emphasizes the urgent need for secure and automated verification systems, particularly within the FinTech sector, where transparency and trust are essential. Although some barriers to blockchain adoption exist, such as the need for

integration with existing HR systems and the perceived necessity for specialized training, the overall attitude indicates that blockchain is a highly effective and valuable tool for enhancing the reliability and efficiency of recruitment processes. The study suggests that increased adoption and training could help overcome these challenges and fully harness the benefits of blockchain in recruitment.

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ВЕРИФИКАЦИЈА ВЕШТИНА И ЗАПОСЛЕЊА ЗАСНОВАНА НА БЛОКЧЕЈН ТЕХНОЛОГИЈИ: ИЗАЗОВИ И СТРАТЕГИЈЕ ЗА ЗАПОШЉАВАЊЕ РУКОВОДИЛАЦА У ФИНТЕК ИНДУСТРИЈИ ДУБАИЈА

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Извод

Традиционални процес регрутовања руководилица у Дубаију суочава се са изазовима, укључујући употребу лажних акредитива, кашњења у провери и високе трошкове регрутације. Са својом децентрализованом и непроменљивом природом, блокчејн нуди потенцијално решење за ове проблеме осигуравањем безбедне, тачне и ефикасне верификације. Рад испитује како стручњаци за људске ресурсе и ИТ стручњаци из различитих финтех компанија у Дубаију доживљавају ефикасност блокчејна у верификацији акредитива, смањењу лажних захтева и побољшању ефикасности регрутације. Поред тога, рад испитује спремност организација да усвоје блокчејн технологију и њен потенцијални утицај на оперативне трошкове и ефикасност. Резултати истраживања показују да блокчејн значајно побољшава тачност верификације смањењем људских грешака и спречавањем превара. Блокчејн је идентификован као ефикасан алат за сузбијање лажних захтева при запошљавању руководилица, позитивно утичући и на време и на ефикасност трошкова. Међутим, отпор према новим методама и забринутост због трошкова имплементације идентификовани су као потенцијалне препреке широком усвајању. Да би се превазишао отпор променама и смањили трошкови имплементације, адекватна обука је неопходна за успешно усвајање. Студија предлаже даља истраживања дугорочног усвајања блокчејна и његовог утицаја на различите индустрије.

Кључне речи: блокчејн, регрутовање руководилица, смањење превара, верификација вештина, ефикасност, препреке усвајања

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