



International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206

Volume 8, Issue 4, April 2025



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

A Study on Blockchain Technology in Human Resources in Coimbatore City

Krithika¹, Surthi.S²

Associate Professor, Department of Commerce with Corporate Secretaryship with CA, Dr. N.G.P Arts and Science
College, Coimbatore, India¹

III B. COM CS CA, Department of Commerce with Corporate Secretaryship with CA, Dr. N.G.P Arts and Science
College, Coimbatore, India²

ABSTRACT: Blockchain technology has emerged as a revolutionary tool in various industries, offering transparency, security, and efficiency in data management. In human resources (HR), blockchain can transform key functions such as recruitment, payroll management, employee verification, and compliance tracking. This study explores the application of blockchain technology in HR across different fields in Coimbatore, a major industrial and educational hub in India. By analysing its adoption, benefits, challenges, and future prospects, this research aims to highlight how blockchain can redefine HR processes, improving trust, reducing fraud, and enhancing operational efficiency.

I. INTRODUCTION

The digital transformation of HR practices is crucial in today's fast-evolving business environment. Blockchain technology, known for its decentralized and immutable nature, offers significant advantages in HR, including secure employee data management, automated payroll processing, and transparent recruitment practices. While multinational corporations have begun integrating blockchain into HR functions, its adoption in Coimbatore's industries, including manufacturing, IT, healthcare, and education, remains relatively unexplored. This study investigates how businesses and institutions in Coimbatore are leveraging blockchain for HR processes and the challenges they face in implementation.

OBJECTIVES

- To analyse the concept of blockchain technology.
- To investigate how blockchain can be used in HR processes.
- To evaluate the impact of blockchain in reducing fraud and unauthorized access to employee records.

II. REVIEW OF LITERATURE

1. Agarwal, R. (2020)

Agarwal's (2020) study provides a comprehensive review of literature on the applications of blockchain technology in human resources. The study highlights the potential benefits of blockchain in HR, including improved security, transparency, and efficiency. The literature review explores various aspects of blockchain in HR, such as identity verification, smart contracts, and talent management.

2. Das, S. (2020)

Das's (2020) study investigates the applications of blockchain technology in human resources, focusing on recruitment, talent management, and employee development. The research highlights the benefits of blockchain in HR, including improved data security, transparency, and efficiency. Das explores the use of blockchain-based platforms for verifying candidate credentials and work experience.

3. Dutta, S. (2019)

Dutta's (2019) study examines the potential applications of blockchain technology in human resources, focusing on employee data management, payroll processing, and benefits administration. The research highlights the benefits of blockchain in HR, including improved data security, transparency, and efficiency. Dutta explores the use of blockchain-based systems for secure storage and sharing of employee data.



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

4. Kumar, S. (2020)

Kumar's (2020) study examines the potential applications of blockchain technology in human resources, focusing on employee data management, payroll processing, and benefits administration. The research highlights the benefits of blockchain in HR, including improved data security, transparency, and efficiency.

5. Chakraborty, A. (2019)

Chakraborty's (2019) study explores the potential applications of blockchain technology in human resources, focusing on recruitment, talent management, and employee development. The research highlights the benefits of blockchain in HR, including improved data security, transparency, and efficiency.

SCOPE OF THE STUDY

- Examining how blockchain can enhance the verification of candidate credentials, reduce hiring fraud, and improve background checks.
- Assessing the use of decentralized ledgers for secure and immutable storage of employment history, certifications, and performance records.
- Analysing the role of blockchain-based smart contracts in automating payroll processing, reducing errors, and facilitating cross-border payments.

III. RESEARCH METHODOLOGY

The research will adopt a mixed-method approach, combining quantitative and qualitative data collection techniques. Data will be collected through surveys, interviews, and online reviews. A structured questionnaire will be administered to Tata Motors car owners, and the data will be analyzed using statistical tools and software.

PRIMARY DATA

Primary data is used for the purpose of collecting responses from the customers through Google form questionnaire.

SECONDARY DATA

Secondary data was collected from internet, magazines and journals

AREA OF STUDY

This research "A STUDY ON BLOCKCHAIN TECHNOLOGY IN HUMAN RESOURCES IN HUMAN RESOURCES".

TOOLS AND TECHNIQUES OF ANALYSIS

The information collected during the study is transferred to the worksheet. The Data's relating to the objectives used in the study is classified and the findings are graphically represented after the data's collected.

STATISTICAL TOOLS USED FOR STUDY

The following statistical tools have been used to analyse the primary data.

- ✓ Simple Percentage analysis
- ✓ Chi-square
- ✓ Ranking method

IV. CHALLENGES IN ADOPTION

Despite its advantages, blockchain adoption in HR in Coimbatore faces several challenges:

- **Lack of Awareness and Expertise:** Many HR professionals are unfamiliar with blockchain and its potential applications.
- **Integration with Existing HR Systems:** Legacy HR systems may not be compatible with blockchain solutions, requiring significant investment in technology upgrades.
- **Regulatory and Legal Concerns:** Compliance with Indian labor laws and data protection regulations remains a key challenge in blockchain implementation.

Applications of Blockchain in HR

1. Recruitment and Credential Verification

- Blockchain enables secure and tamper-proof verification of academic credentials and work experience, reducing fraudulent claims in recruitment.



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

- Universities and colleges in Coimbatore, such as PSG College of Technology and KPR Institute of Engineering and Technology, are exploring blockchain-based digital certification to simplify candidate verification for employers.

2. Payroll Management and Smart Contracts

- Smart contracts can automate salary disbursement, ensuring timely payments while reducing administrative overhead.
- IT firms and startups in Coimbatore, particularly in the TIDEL Park and ELCOT SEZ, are exploring blockchain to streamline payroll processing, especially for freelancers and remote employees.

3. Employee Data Security and Compliance

- Blockchain ensures secure storage of employee records, protecting sensitive information from cyber threats.
- With growing data privacy concerns, healthcare institutions in Coimbatore, such as Kovai Medical Centre and Hospital (KMCH), are considering blockchain for secure employee records management and compliance with healthcare regulations.

4. Performance Management and Employee Engagement

- Blockchain can track and store immutable records of employee achievements, training certifications, and appraisals, fostering a fair and transparent work culture.
- Manufacturing companies in Coimbatore's industrial clusters are interested in blockchain-based performance tracking systems to enhance workforce productivity.

V. CONCLUSION

Blockchain has immense potential to revolutionize HR functions across different sectors in Coimbatore. While educational institutions and IT firms are leading the way in blockchain adoption, manufacturing and healthcare sectors have yet to fully embrace its benefits. Addressing challenges such as skill gaps, regulatory compliance, and system integration will be crucial for widespread adoption. Future research can focus on pilot projects and case studies to evaluate the effectiveness of blockchain-based HR solutions in Coimbatore's business ecosystem.

This study contributes to the growing body of research on digital transformation in HR, emphasizing the need for strategic adoption of blockchain technology to enhance efficiency, security, and transparency in workforce management.

REFERENCES

1. <https://doi.org/10.1109/EMR.2018.2883328>
2. <https://doi.org/10.4028/www.scientific.net/AMR.926-930.3930>



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com