

SUSTAINABLE DEVELOPMENT GOALS AIM TO ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL IN INDIA, WITH SUPPORT FROM BLOCK CHAIN TECHNOLOGY

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Abstract: *Employee welfare has become a crucial component of sustainable HR practices in the changing corporate governance landscape, especially when it comes to adoption and localization in the Indian setting. Revolutionary instrument for creating safe, open, and effective employee welfare programs in Indian business environments, organization can improve the delivery. Oversight and accountability of welfare programs pertaining to healthcare, insurance, mental health, and work life balance by utilizing block chain's built-in capabilities, such as decentralization, immutability, and smart contract. In order to guarantee ethical data management, real-time access, and fair benefit distribution, this conceptual study suggests a block chain based framework that combines HR operations with welfare programs. The framework is intended to strengthen adherence to national labor laws and international sustainability objectives while filling up current gaps in corporate welfare procedures. The results enable corporate HR technologists to innovate their wellbeing in a socially conscious and technologically driven way. The planning, implementation, and oversight of welfare systems have all been profoundly changed by technology. Block chain is one of the most important emerging technologies because of its capacity to guarantee accountability. Security, and transparency Block chain is perfect for tracking welfare transfers confirming recipient identity and stopping fraud since it makes it possible to create digital records that cannot be altered. Smart contracts reduce human interaction and delays by enabling social benefits like financial aid, insurance claims, and healthcare access to be automatically triggered based on predetermined criteria. Block chain in employee welfare enables. The results give HR technologists, Businesses reinvent their wellbeing in a socially conscious and technologically advanced way.*

Keywords: *Block chain, HRM, SDG 3, employee welfare, and technology.*

INTRODUCTION

In recent years, Indian organizations have increasingly focused on employee welfare by offering a variety of facilities. These include educational support such as schools, libraries, and financial assistance for workers and their children. Medical benefits are provided through insurance schemes and the Employees' State Insurance (ESI) program. Transport facilities are arranged from the workplace to employees' residences, even for shift-based work, along with conveyance allowances. To support employees' physical and mental well-being, organizations also organize recreational activities such as annual home day events, team outings, and cultural programs like dance and drama. Housing facilities equipped with essential amenities and durable items are also provided. Additionally, many companies run consumer stores that offer food grains and other essential items at affordable prices. By prioritizing employee health and safety in the workplace, businesses can significantly contribute to achieving SDG 3. This includes implementing safety measures, offering training programs, and fostering a culture of health. Furthermore, prioritizing employee well-being leads to a more productive and satisfied workforce, ultimately advancing the broader economic and social development goals in other SDGs. Technology has transformed the design, delivery, and monitoring of welfare systems. Among emerging technologies, block chain plays a pivotal role through its capabilities in ensuring transparency, security, and accountability. Block chain is perfect for tracking welfare transfers, confirming recipient identity, and combating fraud since it makes it possible to create digital records that cannot be altered. Welfare benefits using smart contracts financial aid insurance claims and healthcare access can all be automatically initiated based on predetermined criteria reducing the need for human interaction and delays. Block chain enables the following in employee welfare systems.

- ◆ Secure storage of employee health and benefits data
- ◆ Efficient claim processing and real-time updates
- ◆ Decentralized access that empowers both employers and employees
- ◆ Improved compliance tracking and auditability

SCOPE AND SIGNIFICANCE OF THE RESEARCH

This study focuses on the application of block chain technology in employee welfare systems within the Indian corporate sector, specifically in relation the use of block chain technology in employee welfare programs in the Indian corporate sector is the main subject of this study. It is conceptual in nature and seeks to provide a framework that incorporates block chain characteristics like automation, decentralization, and transparency into HR welfare procedures. It mostly focuses on HR procedures pertaining to wellness initiatives, leave management, insurance, health benefits and reimbursements. With an emphasis on how technology may improve welfare service delivery, compliance, and employee well-being, the scope is restricted to business firms that operate in India.

In the modern era, when businesses are attempting to implement sustainable and technology driven HR practices, this research is important by investigating blockchain as a means of improving welfare systems, the research advances Innovative HR solutions that eliminate fraud in welfare distribution, guarantee accountability, and cut down on delays.

1. Strategic alignment with SDG 3 and other national and international sustainability goals.
2. Advice on how to create transparent, safe, and employee friendly welfare ecosystems for technologists, HR specialists, and business policymakers.
3. Academic and practical technology into employee – focused policy in India.

This study encourages ethical and sustainable corporate government governance inn the Indian setting in addition to enhancing employee well- being.

REVIEW OF LITERATURE

Environmental, Social, and Governance (ESG) aims and more general environmental sustainability objectives are supported by Catherine Mulligan's thorough investigation of technology in 2024. To ensure thorough coverage, the study analyzed 10,188 technical and policy-related articles from reputable sources including IEEE and Scopus using the PRISMA SLR methodology. The research's conclusions were unaffected by any conflicts of interest, according to the authors.

Anshu Singh (2023) concentrated on locating and summarizing the body of current literature (SD). Database searches yielded an initial pool of 1,277 studies, which was then reduced to 157 primary research. To investigate BCT features and their influence on current sustainability literature, the study used bolometric analysis and VOS viewer software. A mind map based on thematic classification was created to direct future research questions. And key study subjects were matched with the United Nations Sustainable Development Goals (UNSDs)

Vilma Mattila (2022) looked into how block chain technology might help achieve the Sustainable Development Goals. The study used both digital and physical documents to gather data from reliable academic sources such as Web of Science, DOAJ, and Scopus. It made clear that while block chain technology has great potential to promote sustainable development, the majority of current advancements focus on financial applications that are unrelated to actual economic value. The author expressed worries regarding the focus on financial intermediation and speculative gains, pointing out that this tendency along with regulatory loo-holes and quick innovation, may result in speculative bubbles and financial instability.

RELEVANT THEORIES IN WELFARE AND HRM

This highlights how Blockchain-based welfare systems can encourage self-actualization and esteem by guaranteeing equitable treatment and employee recognition, as well as safety and security demands through transparent health benefits, timely insurance, and job stability. They are probably going to react with performance and loyalty. Link to Blockchain: An open and fair benefit system driven by blockchain builds trust and makes workers feel appreciated, which increases dedication and lowers attrition. Rules). Blockchain guarantees that incentives like transparent awards can be tracked, and benefits and policies are equitably implemented and shared.

Theory of Equity Relevance: To assess fairness, workers compare their contributions and results to those of others, Block chain lowers perceptions of prejudice or inequality by ensuring equitable access to and distribution on welfare benefits.

HR procedures: Must be in line with the company environment and strategy, according to the contingency theory of

HRM. Block chain use in welfare is a strategic fit for tech – forward companies seeking digital transformation and sustainability.

Fundamentals of Technology

Transparency all authorized users can instantaneously view and verify data on a block chain network. In order to promote confidence and accountability which are especially important in welfare systems to guarantee equitable benefit distribution his principle guarantees that each transaction record added to the system is visible, traceable, and verifiable.

Immutability: Block chain guarantees that once data is recorded, it cannot be altered and is safe from secure. In employee welfare system. Where manipulation or mistakes in medical records, insurance claims or reimbursements might have dire repercussions, this guarantees the accuracy and dependability of data.

Decentralization: Blockchain uses a distributed ledger system, which decreases single points of failure, increases the effectiveness and resilience of benefit distribution methods, and lessens reliance on middlemen. Together, these ideas make blockchain the perfect option for creating safe, effective, and reliable employee welfare programs, particularly when it comes to SDG 3 Good Health and Well-Being.

CAPABILITIES IN LINE WITH WELFARE OBJECTIVES

The goals of employee welfare systems are naturally aligned with the features of blockchain technology, especially when it comes to encouraging health, wellbeing, equity, and accountability. The main ways that blockchain technology advances welfare objectives are broken down as follows:

Alignment of Block chain Capability	Welfare Goals
Transparency	Employees keep track of their entitlements, including insurance, medical claims, and leave benefits; it also ensures transparency in benefit distribution and lessens information asymmetry.
Immutability	Ensures the integrity of health data, policy documents, and service history by preventing the manipulation of welfare records.
Decentralization	Encourages equitable access to social services regardless of location or hierarchy and cuts down on bureaucratic delays by eliminating middlemen.
Smart Contracts	Improves efficiency and equity by automating benefit disbursement (such as health insurance payouts and wellness reimbursements) based on predetermined rules.
Data privacy and security	Promotes system trust by protecting sensitive employee data, particularly health-related data.
Auditability	Allows welfare operations to be tracked and monitored in real time, promoting ethical HR practices and compliance.

Welfare systems become more effective, safe and responsive by incorporating block chain which advances the overall goal.

Welfare systems based on SDG 3 Indicators when used in employee welfare systems, block chain technology can either directly or indirectly support a number of important SDG3 indicators.

SDG 3 Measure	The Contribution of Block chain-Based Welfare Systems
Ensure access to high-quality, necessary healthcare services and attain universal health coverage, including financial risk protection.	By facilitating transparent automated health benefit management (including insurance, claims, and wellness programs), blockchain guarantees fair access and reduces delays.
"Governments should strengthen the recruitment, development, training, and retention of the health workforce and significantly increase health financing."	Secure data exchange can facilitate partnerships between insurance companies, employers, and healthcare providers to optimize welfare programs and training access.

Bolster the ability to monitor health hazards, reduce risks, and provide early warning.	Using realtime data and smart contracts, employers can manage wellness monitoring and early health interventions (such as health screenings and immunization tracking).
"Promote mental health and well-being and lower premature mortality from non-communicable diseases."	Blockchain can enhance mental health initiatives by providing safe access to counseling services, wellness payments, and recording participation in physical and mental health activities.

Human Resources and Workers' Welfare

By providing safe, transparent, and decentralized solutions that tackle important issues in employee data management, welfare administration, and trustbuilding, block chain technology is revolutionizing traditional human resource management (HRM). The main uses in HR and welfare are as follows:

Employee Records Management:

Blockchain makes it possible to store employee data, including credentials, certifications, employment history, and performance evaluations, in a safe and unchangeable manner. This lowers administrative overhead and enhances background verification.

Payroll and Benefits Administration:

By automating payroll processing and welfare disbursements (such as health insurance claims reimbursements, and bonuses), smart contracts can lower fraud risk, errors, and delays.

Health and Well Being Programs:

Blockchain technologies enable the safe management and tracking of welfare programs like wellness benefits, mental health assistance, and medical reimbursements, guaranteeing transparency and adherence to legal requirements.

Transparency and Trust: By providing employees with visibility into welfare entitlements, transactions, and HR policies, blockchain ensures fairness and strengthens employer-employee relationships, fostering a high-trust environment.

Data Security and Privacy: Employee health and welfare information is extremely sensitive. According to India's Digital Personal Data Protection Act, blockchain technology improves data security by offering decentralized, encrypted data storage.

Welfare benefit smart contracts:

Smart contracts are self-executing digital agreements that are recorded on the block chain and initiate procedures when predate ruined criteria are met. Smart contracts provide an extremely effective, transparent, and tamper proof way to distributed benefits in the co text of employee welfare- By automating approval workflows and payments, employee systems simplify procedures like insurance claims, medical reimbursements, and leave management for instance, the smart contract can immediately initiate compensation without human interaction when a medical claim has been uploaded and validated. Similar to this, HR workload and delays can be minimized by automatically processing leave requests based on eligibility requirements, leave balance, and corporate policy. Additionally, insurance payouts can be minimized by automatically processing leave requests based on eligibility requirements leave balance and corporate policy. Additionally, insurance payouts can be connected to policy criteria or real time health data, allowing for quicker, impenetrable settlements.

These applications guarantee increased efficiency, fairness, and transparency, which enhances employee happiness and harmonizes welfare practices with the objectives SDG 3.

DECENTRALIZED MEDICAL RECORDS AND HEALTH

In today's rapidly evolving digital environment, safeguarding employees' private health information is essential. By providing decentralized, encrypted storage options that guard against illegal access and manipulation, blockchain technology protects the privacy of health data. Block chain based decentralized medical records are different from

conventional centralized databases. Networks are more secure and resistant to intrusions because they are spread over several nodes. With permissioned systems, workers may manage who has access to their health information, guaranteeing rules. Additionally, this decentralized method reduces paperwork and boosts the effectiveness of welfare services including insurance claims, wellness initiatives, and occupational health management by facilitating the easy exchange of certified medical records with insurers and healthcare providers. In general, blockchain improves employee health data management security and autonomy. Examples of blockchain's practical uses in health data privacy and welfare benefits in India and around the world. The health System in Estonia (Global Company)

A blockchain-based eHealth system for patient medical records has been put in place in Estonia. The technology guarantees patient privacy and autonomy while offering safe, decentralized access to health data. This helps preserve security and confidentiality, but only when permitted. Blockchain guarantees the immutability of documents, offering an auditable trail of any modifications made to medical data.

Guard time (International Organization)

A business called Guardtime uses blockchain technology to protect health information. It has collaborated with insurance companies and healthcare providers to offer safe, unchangeable medical records. The technology ensures that patient records cannot be changed once they are recorded on the blockchain, preventing fraudulent claims and protecting data privacy. The Guardtime system is used worldwide in a variety of industries, including healthcare, where trust and privacy are crucial.

Manthan (a company based in India)

Manthan is an Indian blockchain based healthcare platform that specializes in safe medical data handling. The platform uses blockchain technology to store and manage patient health records, guaranteeing their security and immutability. Manthan seeks to enhance healthcare quality while streamlining the exchange of health data across various healthcare providers without sacrificing security or privacy. Patients may manage their own health information and choose who can access it thanks to the technology.

Apollo Hospitals, a company based in India:

One of the biggest healthcare organizations in India, Apollo Hospitals, has started a blockchain-based project to guarantee safe access to medical records. In order to enable patients to keep their medical records in a decentralized, unchangeable format, they are testing the incorporation of blockchain technology. In addition to improving patient privacy, this system will increase hospital, clinic, and insurance company interoperability, which will expedite the claim process and reduce fraud.

CONSEQUENCES FOR INDIAN BUSINESS HR PROCEDURES:

Increasing Openness and Confidence Blockchain technology has the potential to revolutionize human resource (HR) processes in India, especially by boosting trust and transparency across a range of HR tasks. The main ramifications for Indian organizations are as follows:

1. **Better Management of Employee Welfare and Benefits:** Blockchain can make it easier to track and verify employee benefits like leave records, insurance claims, and medical reimbursements. Blockchain guarantees that HR departments, employees, and thirdparty providers have access to consistent, transparent data in real time by preserving all transactions in a safe and unchangeable ledger. This improves employee trust and drastically lowers problems with delays or mistakes in benefit administration.
2. **Fair and Transparent Performance Evaluation:** Businesses can set up an open system for performance evaluations using blockchain technology. Feedback, assessments, and progress information are stored on a blockchain to guarantee that they are unchangeable and that only authorized workers can access them.
3. **Verified Recruitment and Background Checks:** By storing verified employee credentials including education, certificates, and prior work experience, block chain technology helps expedite the hiring process. Real time candidate information verification is simple for employers, lowering the possibility of fraudulent claims and guaranteeing more trustworthy hiring selections. As a result, the hiring process is more reliable overall.

4. **Employee Control over Personal Data:** Because blockchains are decentralized, employees have more control over their personal information. Sensitive data, including personal or medical information, can be safely stored and protected, and employees can choose who has access to their data. Employees' confidence in the company's ability to handle their personal data appropriately is bolstered by this empowerment.
5. **Automated and Transparent Payroll Systems:** Smart contracts driven by blockchain technology can automate the payroll procedure, guaranteeing prompt and precise employee payouts. Blockchain eliminates inconsistencies and guarantees that payroll is visible and unchangeable by establishing predetermined norms within the contract (such as salary, bonuses, and deductions). Workers' ability to independently monitor their payments promotes confidence in the precision and equity of remuneration.

CONCLUSION

The transformative potential of blockchain technology in improving employee welfare systems within Indian corporate HR practices is examined in this study. By utilizing blockchain's fundamental principles of transparency, immutability, and decentralization, organizations can guarantee more dependable, secure, and effective management of welfare programs like insurance claims, medical reimbursements, leave tracking, and data privacy. While decentralized medical records protect employee privacy and give them authority over personal health data, the use of smart contracts can expedite benefit disbursements and cut down on delays. Furthermore, by removing the possibility of data tampering, bureaucratic bottlenecks, and human mistake, blockchain promotes a high degree of confidence between workers and HR systems. All things considered, blockchain based welfare programs have the potential to increase both operational effectiveness and worker wellbeing, which makes them an innovative approach to socially conscious corporate governance in India.

REFERENCE

- [1] [https://www.emerald.com/insight/content/doi/10.1108/978-1-80455-209-420231001/full/html#:~:text=Health%20and%20Safety%20in%20al.%2C%202023\).](https://www.emerald.com/insight/content/doi/10.1108/978-1-80455-209-420231001/full/html#:~:text=Health%20and%20Safety%20in%20al.%2C%202023).)
- [2] <https://pmc.ncbi.nlm.nih.gov/articles/PMC9690209/#:~:text= specifically, the hypothesis explains time demand and job overload.>
- [3] <https://www.unoosa.org/oosa/sk/ourwork/space4sdgs/sdg3.html>
- [4] <https://sdgs.un.org/goals/goal3>
- [5] Anthony C. Klotz (2013), "The role of trustworthiness in recruitment and selection: A review and guide for future research," *Journal of Organizational Behavior* 34(S1) Reference: 10.1002/job.1891
- [6] https://m.economictimes.com/small-biz/sustainability/circular-economy-the-synergistic-role-of-sdgs-blockchain-and-industry-5-0/amp_article/show/119985441.cms
- [7] https://www.niti.gov.in/sites/default/files/202001/Blockchain_The_India_Strategy_Part_I.pdf
- [8] <https://www.mdpi.com/20711050/15/3/2109>
- [9] Catherine Mulligan (2024) Blockchain for sustainability: A comprehensive literature assessment for policy effect, *Telecommunications Policy*, Volume 48, Issue 2, March 2024, 102676
- [10] Anshu Singh (2023) Blockchain technology for sustainable development: a comprehensive assessment of the literature, *Journal of Global Operations and Strategic Sourcing* 16(5), DOI:10.1108/JGOSS-06-2022-0054
- [11] Vilma Mattila, "The Role of Blockchain in Sustainable Development Goals (SDGs), *International Journal of Management and Commerce Innovations*," 2022 ISSN 2348-7585 (Online) Vol. 9, Issue 2, pp. 231-241, Month: October 2021–March 2022