

The Role of AI and Blockchain in Fraud Detection in the Insurance Sector

Title

AI and Blockchain Role in Fraud Detection in Insurance Claims: A Qualitative Study at Care Health Insurance

Introduction

Fraud throughout the insurance industry is still quite an important challenge, leading up to financial losses, increased premiums for policyholders, and inefficiencies throughout claims processing. Established fraud detection mechanisms frequently rely on rule-based systems and manual intervention, which remain prone to multiple errors and several inefficiencies. New technologies such as Artificial Intelligence (AI) and Blockchain can improve fraud detection by providing automated, data-driven understandings with immutable transaction records.

This study seeks to explore fraud detection mechanisms at Care Health Insurance, as well as assess the role of AI and Blockchain in improving them. In addition, the study will evaluate the views of key stakeholders involved in claims processing and fraud management. Since that study follows such a qualitative approach, those findings will be based upon several interactions with certain employees, multiple managers, as well as individual IT professionals working within fraud detection and then claims processing.

Research Questions:

- What fraud detection mechanisms are currently implemented at Care Health Insurance?
- What are the existing challenges in fraud detection as perceived by stakeholders?
- How can AI and Blockchain be integrated to enhance fraud detection mechanisms?
- What are the potential barriers to implementing AI and Blockchain in fraud detection at Care Health Insurance?

Objectives:

- To investigate the current fraud detection strategies employed by Care Health Insurance.
- To identify the limitations and challenges associated with existing fraud detection mechanisms.
- To explore the potential role of AI and Blockchain in addressing fraud-related challenges.
- To provide recommendations for optimizing fraud detection strategies at Care Health Insurance.

Review of Literature (ROL):

Understanding Insurance Fraud	Battle against Insurance Fraud in India: Types, Prevention, and Innovations	Aman Jain
	Impact of Health Insurance Frauds on the Insurance Companies	Advocate Shikha Awasthi
	A Consumer Guide to Insurance Fraud	Maryland insurance administration
Role of AI in Fraud Detection	Role Of Artificial Intelligence in Financial Fraud Detection	Birajit Mohanty Aashima Shweta Mishra
	AI in Insurance: Enhancing Fraud Detection and Risk Assessment	Chinmay Mukeshbhai Gangani
	A Secure AI-Driven Architecture for Automated Insurance Systems: Fraud Detection and Risk Measurement	Najmeddine Dhieb Hakim Ghazzai Hichem Besbes Yehia Massoud
Role of Blockchain in Fraud Prevention	Blockchain technology for Fraud Detection and Risk Prevention in Insurance Industry	Inayatulloh Siti Elda Hiererra
	A novel fraud detection and prevention method for healthcare claim processing using	Anokye Acheampong Amponsah Adebayo Felix Adekoya

	machine learning and blockchain technology	
	Blockchain And Distributed Ledger Technology In Modernizing Insurance Systems: Enhancing Transparency And Reducing Fraud	Padmaja Dhanekulla
Integration of AI and Blockchain in Insurance	The Integration of Blockchain and Artificial Intelligence in Securing Healthcare Insurance Data	Shwetha S

Methodology

Study Design: A qualitative research approach using an exploratory framework.

Study setting and timeline: The study will be conducted at Care health insurance over a period of 3 months.

Study population: Employees involved in fraud detection team, IT professionals and claim processing team.

Sample Size: The study will follow a purposive sampling approach, with 15-20 participants.

Methods of Data Collection:

Semi-structured interviews conducted with claims processing professionals, fraud detection teams, and IT experts to understand the current fraud detection mechanisms and the feasibility of AI and Blockchain implementation.

Analysis Plan: Thematic analysis will be conducted to identify recurring themes and patterns from interview transcripts, discussion summaries, and document reviews.

Ethical Considerations:

Informed consent will be obtained from all participants.

Confidentiality and anonymity will be maintained to ensure data privacy.

Ethical approval will be sought before initiating data collection.

Expected Outcome:

- A detailed understanding of the fraud detection mechanisms currently in place at Care Health Insurance.
- Identification of key challenges and gaps in existing fraud detection strategies.
- Insights into how AI and Blockchain can potentially address fraud detection inefficiencies.
- An evaluation of stakeholder perceptions regarding AI and Blockchain adoption in fraud detection.
- Recommendations for implementing AI and Blockchain technologies to optimize fraud detection processes.

Study Timeline:

Week 1-4: Literature review, research design finalization, and obtaining necessary approvals.

Week 5-8: Data collection through interviews, focus groups, and document analysis.

Week 9-12: Data analysis, interpretation of findings, report writing, validation of findings, and submission for evaluation.

Reference:

<https://ongrid.in/blogs/insurance-fraud-in-india/>

<https://ijrpr.com/uploads/V5ISSUE9/IJRPR33355.pdf>

<https://insurance.maryland.gov/Consumer/Documents/publicnew/consumerguide-toinsurancefraud.pdf>

<https://www.digitalocean.com/resources/articles/ai-fraud-detection>

<https://www.infopulse.com/blog/ai-risk-assessment-insurance>