Chapter 3
Blockchain Technology and Data Mining Tools for Combating Fraud:
With Reference to the Banking Sector

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ABSTRACT

For the last few years, rapid digitalization has been observed in the world banking industry, which helped boost global economic growth. At the same time, fraud cases in the banking sector have been increasing immensely. Regulating authorities of banks nationwide have been issuing numerous circulars and guidelines for preventing fraud incidents. However, fraudsters are taking advantage of the digitalization of and shortfalls in the industry, by which the fraudsters easily defraud customers and banks. Hence, it resulted in a worsening of the asset quality of banks and a loss of public trust and confidence in the banking industry. In this regard, banks must be equipped with sophisticated technological tools for fraud identification and preventive measures apart from the conventional systems and procedures since core banking solutions in the banking industry have evolved drastically over the last few years. In this context, this chapter is intended to study the role of blockchain technology and data mining tools in identifying and preventing frauds in specific bank products.

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INTRODUCTION

The banking sector plays a vital role in every nation's development, and it is the critical field that ensures the nation's decent GDP growth and empowers many sectors of society. The banking sector is the intermediary channel between producers and consumers, providing resources for both. For the past two decades, substantial digital transformation has happened in the core banking system in the global banking industry. At the same time, fraudsters took advantage of the same and defrauded the banks as well as customers of the banks by observing the shortfalls in the industry. Despite vast technology gradation in the banking industry, banks' fraud cases have risen yearly. Therefore, banks' asset quality has been the worst hit due to the high provisions set aside. This leads to banks losing public trust and confidence. In the current scenario, banks must be equipped with technology defense for fraud identification and preventive measures apart from the manual systems and procedures. Blockchain technology and Data mining tools play a vital role in identifying different frauds in banking.

This paper is presented in four sections: i) review of empirical studies with a focus on banking sector, blockchain technology and data mining tools, ii) conceptual background of block chain technology and data mining tools, iii) fraud detection mechanism and iv) findings and conclusion.

OBJECTIVES OF STUDY

- To make aware of various online scams/frauds related to products of banking sector.
- To study the role of blockchain technology tools in identifying and preventing fraud.

RESEARCH METHODOLOGY

We have analyzed various modus operandi of fraud prevention mechanism, case studies, operational experiences, and a review of empirical studies, to address the objectives of this paper.

REVIEW ON EMPIRICAL STUDIES

This literature review is based on systematic review of empirical studies using key words viz., Blockchain technology, fraud detection, data mining tools and frauds in banking sector.