

# A Practical Hybrid Approach for Detecting Suspicious Accounts in Money Laundering using Data Mining Techniques

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**Abstract**— Money laundering is very common problem even in well developed countries that has been a challenge to handle. This paper presents the predictions of money laundering act of account holders in bank by using a hybrid approach on data mining techniques to predict the money laundered accounts through suspicious transactions based on results of account transactions.

**Key words:** Money Laundering, Data Mining, Detection of Suspicious Accounts

## I. INTRODUCTION

The system of converting unaccountable money to accountable is termed as money laundering. Merits and demerits are common in all the system analysis. In this scenario the digitalization and ease of access globally has disciplined the fund transactions with certain hurdles such as fraudulent and breach of trust. Money has the major role play in the human life which tends to attract criminal financial economic offenses. The crimes are categorized into various past experiences and current input data collections. The risk of diagnosing the contingencies is more in higher population with higher transactions area is a concern.

Data Mining is a concept of collecting raw data and differentiating the values with the given presumptive required data to fulfil the expectations of the analysis. The correlation of differential inputs of large data is a verge of the concept of mining the data.

Governing bodies in India for financial transactions vary with type of medium. Banks are the basic medium to transact the money by physical or virtual in nature. Banks are governed Reserve bank of India termed as RBI. Secondary medium of fund investments and transactions are security bonds, shares, mutual funds and other chit funds are controlled by Security Exchange board of India SEBI. Financial Investigations Unit termed as FIU is a system to check the bank flaws through RBI support. The support arranged with the data mining techniques which could be used from banks head office otherwise RBI can take measures directly using this system to detect the flaws in the medium.

## II. LITERATURE SURVEY

Nhien An Le Khac et al. [1][2][3] Inspecting the transactions using data mining to perceive money laundering and suggestions collected from various techniques that is Decision Tree, Genetic algorithm and fuzzy clustering. Solutions provided by knowledge based analysis to give the path on identification of money laundering act.

Yang Qifeng et al. [4] the analysed views are to provoke on online fund transaction, the betterment to avoid money laundering with advancement of electronic commerce system. The outcome of the system is to provide decisions on monitoring the situations based on dynamic data analysis.

Jong Soo Park et al. [5] defines the tentative concerns of mining association guidelines for the large database of sale transactions. Computation cost balancing is done with the iterations of small set values to large set values through brain storming techniques.

PankajRichhariya et al. [6] this presents the views on con detection is unsettled to levitate and swift intensification of e-commerce.

G krishna Priya, Dr. M. Prabhakaran [7] this presents the behavioural patterns of customers transactions differentiated with various time scale. It is limited only in identification of mistrustful accounts and also located the group of accounts.

## III. METHODOLOGY

Money transactions are a huge network where the hassle is to reduce with data mining techniques for maximum possible extent which will not underlay that full elimination of miscreant accounts. The proposed system gives the full edge for monitoring the lineage of fraudulent accounts through a data mining techniques. The raw data is fetched from the central lineage that is central server linked to banks or through the banks in direct which will be the raw data to be diagnosed for contingencies in the data flow through suspicious transactions is analysed based on the past present and flow of values.

Hash Based Techniques and Graph theory are the two major techniques adapted to analyse the contingencies of the data. The data is collected from the server which is fetching data process known as pre-processing of data. Generation of candidate 2 item set by means of hash based techniques and generating item 2 set. Graph theory is further utilised to determine the integrator and the agent. The Depth First Search termed as DFS is the method used to detect the integrator and the agent analysis on the possible outcome to clear the contingency of the data of the customer. Comparison of the past data and verified based on the threshold value stated to check the legality of the transaction and reported as caution on criminal breach.

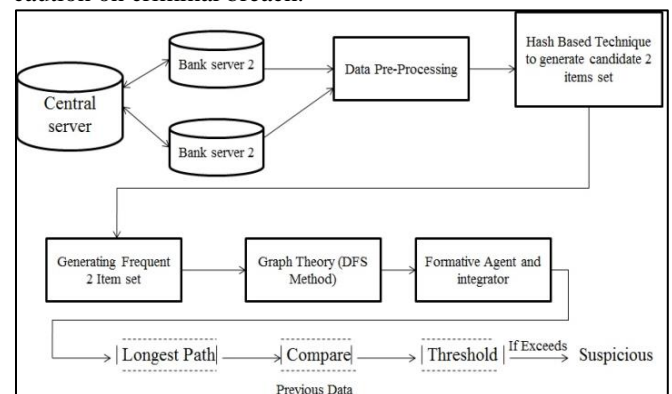


Fig. 1: Proposed System

#### IV. SYSTEM FLOW

In figure 2 Admin, Bank, Employee and Customer are the 4 modules. Admin creates the credentials for the customer employee and bank limiting the access to each domain. Admin sets password for the bank in-charge to monitor the customer transactions and searches for the details found suspicious. The suspicious accounts data are recorded for further processing whereas the bank creates the password to employee with the view of customer transactions on the second level bird eye view to check the details of the customer on suspicious is recorded. Employee has given limited authorization of credentials to register the customer transactions and update on search of details to be updated on timely activity for the clear data mining of system. Customer can transact and view his transactions can even check for any transactions suspicious without his concern for deposit or withdrawn of funds happening.

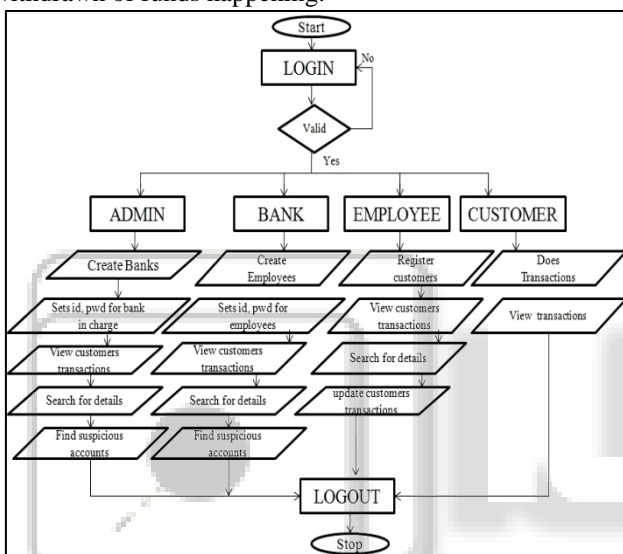


Figure 2: System Flow

##### A. Advantages

- Real time utilisation is possible conveniently.
- Financial distress will be reduced.
- Reliable to diagnose.
- Data management and storage of information for the future fraudulency.

#### V. FUTURE ENHANCEMENT

One of the most common systems which can be utilised to upgrade is the user friendly and quick response creating devices to check and solve the errors with increasing the data quality and thus the result will be effective which will help to extend a support to reduce fraudulency in the financial system.

#### VI. CONCLUSION

One of the utmost current and major encounters that higher money laundering faces today is making globally economic failure. Many countries are not in position to guide their financial system because of lack of information and assistance from financial bodies. To better administer and serve banks globally this system analysis and prediction pools

to better control of the financial crimes and frauds. Considerable amount of work is done in analysing and predicting financial KYC Know Your Customer has been introduced to get the clear input data for segregation of the contingencies. There are large numbers of factors that play significant role in prediction to underlay the difficulties with this graph theory and hash techniques emerges on the betterment of the economic and financial health of the system. Thus the scope is not limited to this even can be enhanced on the future scope for this paper.

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