Utilizing Area Mindful Business Principles for Anticipating Money Laundering

Sangeetha Kalyanaraman [1], Kavitha Subramani [2], S. Meenatchi [3], J. Subasri [4], G.Supriya [5]

Associate Professor [1], [2] U.G.Scholar [3], [4], [5]

Department of Computer Science and Engineering,

Panimalar Engineering College,Chennai

ABSTRACT

Money laundering is the illegal process of concealing the origins of money obtained illegally by passing it through a complex sequence of banking transfers or commercial transactions. The overall scheme of this process returns the money to the launderer in an obscure and indirect way. Considerable time and effort may be put into strategies which enable the safe use of those proceeds without raising unwanted suspicion. Implementing such strategies is generally called money laundering. After money has been laundered, it can be used for legitimate purposes. These conversion or transfer of property, possession or use of property, knowing that these are derived from criminal activity, or participating in or assisting the movement of funds to make the proceeds appear legitimate is money laundering. Anti-money laundering is a system of controls to prevent, detect, and report the above money-laundering activities.

Keywords-:- pattern recognition, money laundering, anti money laundering, AML, financial fraud, community detection algorithm

1. INTRODUCTION

Money laundering is the generic term used to describe the process by which criminals disguise the original ownership and control of the proceeds of criminal conduct by making such proceeds appear to have derived from a legitimate source. The processes by which criminally derived property may be laundered are extensive. Though criminal money m

ay be successfully laundered without the assistance of the financial sector, the reality is that hundreds of billions of dollars of criminally derived money is laundered through financial institutions, annually. The nature of the services and products offered by the financial services industry (namely managing, controlling and possessing money and property belonging to others) means that it is vulnerable to abuse by money launderers. If you're considering developing your career in anti-money laundering, find out more about joining ICA's global community here. Becoming a member today will give you access to a wealth of knowledge, tools, resources and practical support to help develop your career. Being a member of ICA also demonstrates a commitment to the highest standards of practice and conduct and enhances your professional reputation and employability.

Anti-money laundering (AML) refers to a set of procedures, laws and regulations designed to stop the practice of generating income through illegal actions. Though anti-money-laundering laws cover a relatively limited number of transactions and criminal behaviors, their implications are far-reaching. For example, AML regulations require institutions issuing credit or allowing customers to open accounts to complete due-diligence procedures to ensure they are not aiding in money-laundering activities. The onus to perform these procedures is on the institutions, not on the criminals or the government.

Money laundering is one of the most related derivatives of crimes involving money and it is said money laundering activities are being the most difficult crimes . Even if having a good constructed law by good legislature, come together with serious enforcement of the law, soft crimes like money laundering still difficult to trace. Dangerous invincible threats of the social and economic security plus difficult to trace crime like money laundering absolutely turns the relationship between the two into national problem as social and economy are major component in defining stability and harmony of nation.

Money laundering involves the transfer of illegally obtained money into a legal institution, i.e. a bank. Money is obtained from criminal activity and carefully channelled into legitimate organisations and businesses in order to disguise its true origin and avoid alerting the authorities. According to the law, money laundering occurs when someone attempts to conceal or disguise the nature, location, source, ownership, or control of the proceeds of crime. Money laundering usually

involves two crimes: the initial crime from which criminals have profited, and the crime of trying to legitimise those proceeds by exploiting financial institutions.

II. LITERATURE SURVEY

2.1 "Money Laundering Analysis Based On Time Variant Behavioral Transaction Patterns Using Data Mining" (Shubhangi S Wankhede, Leisa J Armstrong)

The growth of internet technology and loosely coupled nature of fund transfer gateways helps the malicious user's to perform money laundering.The behavioral patterns specifies the method of transfer between accounts and the range of amounts and the frequency of destination accounts and etc..

2.2 "Data mining in banking and its applications –a review"(junyong liu,yanxin chai, yue xiang)

Thousands of decisions are taken in a bank daily. It provides an overview of data mining techniques and procedures. It also provides an insight into how these techniques can be used in banking areas to make the decision making process easier and productive.

2.3 A survey of ranging and imaging techniques for precision agriculture phenotyping(francisco yandun, giulio reina)

These decisions include credit decisions,default decisions, relationship start up, investment decisions, AML and Illegal financing related. Interesting patterns and knowledge can be mined from this huge volume of data that in turn can be used for this decision making process.

2.4 "Design of a monitor for detecting money laundering and terrorist financing" (D. Herrera, S. Tosetti and R. Carelli)

The key pillar of a strong Anti-Money Laundering system for any financial institution depends mainly on a well-designed and effective monitoring system.This framework is depending on rule base monitoring, behavior detection monitoring, cluster monitoring and link analysis based monitoring.
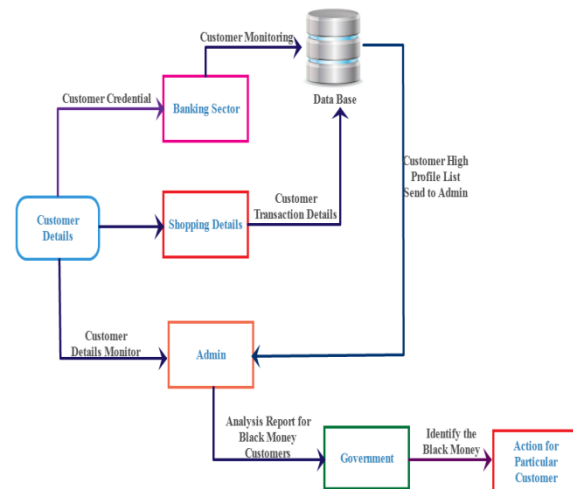
2.5 "Identifying suspicious transactions in financial intelligence service" (OmprakashKaiwartya, Abdul Hanan Abdullah)

The aims to identify the transactions which are illegal in terms of making money and happened in banking sector majorly.Data Mining approach is used to identify those transactions which suspicious

III. PROPOSED SYSTEM

Depending on how much mobile the card owners are, we can easily devise business rules to detect the anomalies. Such anomalies can be directed to appropriate business units to be analyzed further or account owners may be required additional authorizations for banking activities (such as internet money transfers and payments). We have shown in this paper that a significant bulk of users does not leave the vicinity of their living place. We also give some brief use cases and hints regarding what types of business rules can be extracted from location data.

- A larger amount is split to smaller transfers in order to decrease the probability that individual transactions will be reported as suspicious.
- The purpose of obscuring the connection between the sender and the receiver. The entire money laundering operation may involve many such schemes, so identification of a suspicious may help in uncovering much larger network of illegal transactions.
- Money laundering operations are intertwined with many other transactions, including legal ones.

IV. SYSTEM IMPLEMENTATION

The proposed work is implemented as five modules.

   A. Customer Login
   B. Shopping Sector
   C. Banking Sector
   D. Fraudulent findings
   E. Government

A.Customer Login:

Customer create an account using their aadhar ID and the selected bank of their choice and other basic details required for account creation .Once the customer login into the account with a password which was given during the process of account creation ,they can open their bank account and request the bank for authorizing and accepting their account creation process. Customers are allowed to deposit, transfer, and withdraw money.customer can also view the mini statement of their recent money transfers.

B. Shopping Sector:

Customer login into shopping sector using their login credentials same as the one that they use for customer zone login. Once they logged in successfully they can view their own profile which contains details like Name, Email id, Aadhar Id, Address, and Contact no. In shopping site customer can shop the listed products according to their needs ,once it is done customer can confirm their purchase. After their confirmation the purchase details of the corresponding customer will be displayed below the purchase tab.

C. Banking Sector:

Banking sector is for the usage of bank organizations such as Indian bank, State bank, Hdfc bank etc.,. Such bank organizations can login into their accounts under the banking sector tab using the login credentials provided. Once they logged in successfully they can view the details of their customers below the customer details tab. There is another tab called Bank Account Details which displays the specific customer's money transfer details. Specific customer transfer details can be listed using their Aadhar id . Banking sector also authorizes all the money transfer initiated by their customers.

D.Fraudulent findings:

Under this module admin activities are listed. Admin manages the activity of every customer who have bank accounts. Admin has given the right to accept/reject the request for the creation of customer account. Only if admin accept the request , the customer can login into their account or else they will not be allowed to get into their account. Admin can add new products for shopping along with the price and quantity. Admin can view the product details such as quantity remaining, no of sold, and the details of customer who purchased the product below the product details tab. Admin filter out the suspicious accounts and can send the analysis report of suspicious customers to the government.
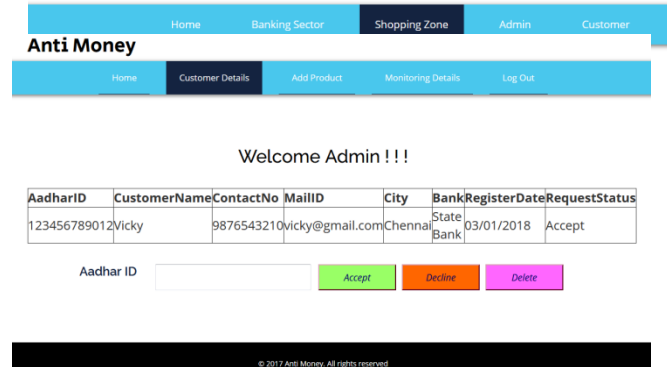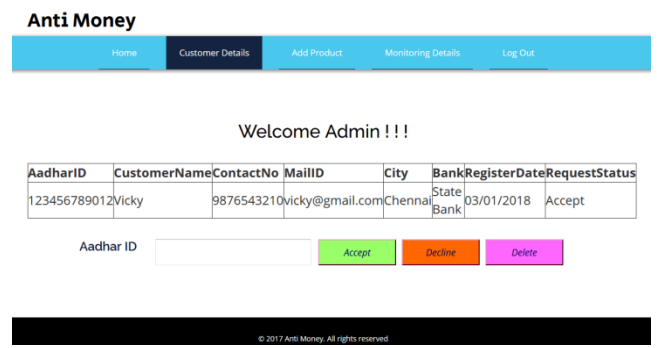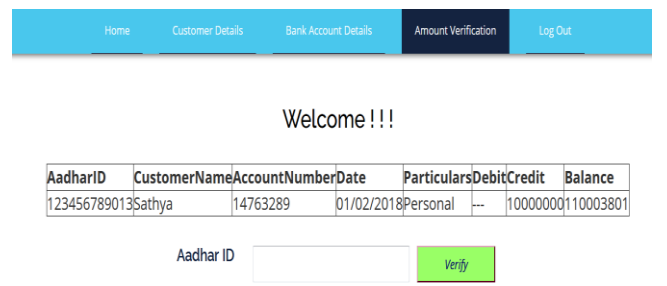
E.Government

Government checks the details of those suspicious accounts and take further actions on the individuals. First the Government needs to login using their credentials provided. After the successful login Government can view the entire money transfer details of the suspicious account and the details of the suspect using the Aadhar id under the monitoring details tab. Using the details of the suspect government take further actions and proceedings.

V. RESULTS

VI. CONCLUSION

We presented a sophisticated solution to find transfer communities with high ML risks in massive transaction networks. Firstly, a whole transaction graph is built by merging edges. The next, transfers with less ML possibility are filtered out by selecting suspicious MCSs. Then combined with AML patterns is proposed and implemented on remaining MCSs. The further divided into different communities with their ML risk scores calculated. Finally, MCSs containing multi communities at high risk levels are further investigated and reported. Note that all these procedures are implemented on the distributed platform of Spark, and TD Louvain algorithm has also been

parallelized and optimized. The results demonstrate that our solution can help to find out criminal gangs with high ML risks in massive transaction networks efficiently and intelligently.

.

REFERENCES

[1] P. D. Meo, E. Ferrara, G. Fiumara, and A. Provetti, "Generalized louvain method for community detection in large networks," IEEE International Conference on Intelligent Systems Design and Applications, vol.79, p. 88-93, 2012.

[2] Y. Liu, F. Chen, W. Kong, H. Yu, M. Zhang, S. Ma and L. Ru, "Identifying web spam with the wisdom of the crowds," Acm Transactions on the Web, vol. 6, p. 1-30, 2012.

[3] X. Que, F. Checconi, F. Petrini and J. A. Gunnels, "Scalable community detection with the louvain algorithm," IEEE International Parallel and Distributed Processing Symposium, p. 28-37, 2015.

[4] N. Dugué, A. Perez, "Directed Louvain: maximizing modularity in directed networks," Research Report, Universitéd'Orléans, 2015.

[5] C. Wickramaarachchi, M. Frincu, P. Small and V. K. Prasanna, "Fast parallel algorithm for unfolding of communities in large graphs," IEEE High Performance Extreme Computing Conference, pp. 1-6, 2014.

[6] SreekumarPulakkazhy and R.V.S.Balan,"Data Mining in Banking and its applications –A Review", Journal of computer science 2013.G.

[7] G.Krishnapriya,Dr.M.Prabakaran"Money laundering analysis based on Time variant Behavioral transaction patterns using Data mining"Journal of Theoretical and Applied Information Technology 2014.

[8] XingrongLuo,"Suspicious transaction detection for Anti Money Laundering", International Journal of Security and Its Applications 2014.

[9] chsuresh,Prof.K.ThammiReddy,"A Graph based approach to identify suspicious accounts in the layering stage of Money laundering",Global Journal of computer science and Information Technology 2015.

[10] Denys A.Flores, Olga Angelopoulou, Richard J. Self," Design of a Monitor for Detecting Money Laundering and Terrorist Financing", International Journal of Computer Networks and Applications 2014.

[11] Anu and Dr. Rajan Vohra," Identifying Suspicious Transactions in Financial Intelligence Service", International Journal of Computer Science & Management Studies July 2014.

[12] Quratulain Rajput, NidaSadaf Khan, AsmaLarik, SajjadHaider, "Ontology Based Expert-System for Suspicious Transactions Detection", Canadian Center of Science and Education, Computer and Information Science; Vol. 7, No. 1, 2014.

[13] Mahesh Kharote, V. P. Kshirsagar, "Data Mining Model for Money Laundering Detection in Financial Domain", International Journal of Computer Applications (0975 – 8887), Volume 85 – No 16, 2015.

[14] Harmeet Kaur Khanuja, Dattatraya S. Adane, "Forensic Analysis for Monitoring Database Transactions", Springer, Computer and Information Science Volume 467, pp 201-210, 2016.