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A Study the Effectiveness of use of I.T. Practices in Banking Sector

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Abstract: *For the development of economic condition of any country, banking sector plays key role by providing different services and facilities to the citizens of the nation. To serve such large customer base it is very important that the banks use advance technologies to mitigate risk occurred due to human errors and risk of use of financial institution for money laundering and terrorist financing. With the use of technology there had been an increase in penetration, productivity and efficiency. The banking sector has embraced the use of technology to serve its client's more efficiently and effectively. The uses of emerging technologies and software has changed the typical old way of banking system, where customer has to go to branch to open account for Saving/Commercial/Demat account for deferent purposes. In this pandemic conditions due to country wide lockdown, Video KYC for virtual on boarding of client to financial system is new normal and every financial institution is on the race to capture as many as they can. It has changed the banking industry from paper and branch based banks to digitized and networked banking services. The limitation of branch banking which was unable to achieve the concept of 24/7 working, The use of I.T and software made it possible by the use of Tele banking, ATMs, Internet banking, Mobile banking and E - banking. Information technology and software refers to the acquisition, processing, storage and dissemination of all types of information using computer technology and telecommunication systems. Information technology architecture is an integrated framework for acquiring and evolving IT to achieve strategic goals. It also enables the banks to maintain the client life cycle to mitigate the risk. After 9/11 attack on "World Trade Center" has changed the dynamics of banking sector. USA passed the Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA patriotic act) in 2001. The regulatory bodies globally, provided the protocols to maintain global standards in financial institutions including banks. The fundamental approach must be to ensure that the right level of due diligence is carried out to ensureto create, maintain and report the customers data as part of Client life cycle management to ensure that the bank is able to.*

- *To establish that our client exists*
- *Understand what our client does*
- *Understand where our client does the business*
- *Understand who own and controls the our client*
- *What are source of funds & source of wealth of our client*
- *Establish what our client will be doing with us, how the relationship will be funded and where the proceeds of financing will go.*

All individuals/entities must be rated based on the risk with the customer/entities to bank. Every bank around the world has to maintain these global standards. All entities must be risk rated as Low, Medium, High or Higher Risk. Client Risk Rating (CRR) methodology used to risk rate the client which impacts the level of due diligence, the periodic review cycle and AML Transaction Monitoring threshold..

Keywords: I.T. practices in Banking sector, Anti Money Laundering (AML), Customer Identification Process, Know your Customer (KYC), Transaction Monitoring.

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I. INTRODUCTION

The banking industry is being influenced to a considerable extent, directly and indirectly by the sophistication of IT environment and the emergence of diverse software and smart devices. Previously the change in banking sector is largely involved the automation of bank's teller jobs. However, the future of banking sector evolved drastically and the use of information technology and software strengthen the banking sector to identify the risk factors.

The matter of the fact is the banks are facing with a dilemma, In line with the spread of diverse forms of banking automation solution. The bank customers can get their details hands on great variety of financial services without visiting to bank. Their visit to banks is declined. Bank would like to provide their services to their customer with their differentiated financial services & instruments while enhancing their bond with them face to face. The use of I.T in KYC has made bank customer personal visit and documentation to it minimal.

The use of IT in banking sector is very important for streamlining the banking process to meet the Global Standards and procedure around the world to meet Regulatory Requirements. With these variations in the level of information technology in Indian banks, it is useful to take account of the trends in Information technology and use of different software internationally as also to see the comparative position with Indian banks on below verticals.

- Know Your Customers (KYC)
- Customer Due Diligence (CDD)
- Customer Identification Process (CIP)
- Financial Crime Compliance (FCC)

Know Your Customers: KYC is a legal requirement for financial institutions to verify the identity of customers and a necessary measure to monitor and assess customer risk. A typical process follows KYC and Anti-Money Laundering (AML) policies and procedures by collecting, identifying and verifying customer ID, wealth and funding and by performing checks to identify and mitigate any financial crime risks.

Customer due diligence: In order to gauge transactions against risk profiles, banks should establish and verify their customers' identities by conducting appropriate due diligence. The customer due diligence (CDD) process requires banks to collect identifying information including names, addresses, dates of birth, and company incorporation details.

Customer Identification Process: The purpose of CIP is to establish the standards we must apply to enable us to identify our clients, to meet regulatory and legal obligations and have effective and robust defense against financial crime in Investment Banking.

Financial Crime Compliance: Financial Crime, Compliance & Operational Risk Control ("Financial Crime Prevention") is responsible for the Owning and managing any changes necessary in consultation with stakeholders from the business areas and other support functions by providing training and guidance on the procedure and establishing an appropriate monitoring programme to ensure that new client relationships have been properly vetted by the on boarding team and that periodic reviews have been completed to the correct standards.

II. OBJECTIVES

Every day the use of Information Technology is increasing and had been an increase in penetration, productivity and efficiency. The purpose of the research is to study and establish the relationship between the uses of I.T & different software in banking system for client life cycle management across Investment Banking, Commercial Banking & Retail Banking towards its customer satisfaction. information technology which enables banks in meeting such high expectations of the customers who are more demanding and are also more techno-savvy compared to their counterparts of the yester years

Following are the main objectives of the study.

- To find out new technology, techniques and services in banking sector with respect to Know Your Customer (KYC) as first line of defense.
- To study the challenges faced by the banks to provide I.T services to their customers.
- To find how the Information Technology and different software help the bank to onboard, maintain, evaluate and if required exit the customer.
- To study the expertise required in providing sophisticated I.T services to get the KYC data of the customers without reaching out to the customers directly which will which helps the bank to enhance service facilities

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and satisfaction.

- To study the use of I.T practices and different applications helps in Client life cycle management.

III. INFORMATION TECHNOLOGY & SOFTWARE DELIBRATOIN AS BANKING VERTICAL

Every year every financial institutions is evolving its I.T practices and use of sophisticated AI based software to mitigate the risks and meeting the below requirements.

1. **Regulatory Requirements:** Every country has its own financial system and to regulate it they have regulatory bodies. These regulatory bodies regulates the financial system of the country to meet the country specific standards and Global Standards e.g. RBI, SEBI for INDIA, OCC, FATF, FINCEN, FACTCA for USA, FCA, HM Treasury for UK, MAS for Singapore etc. These regulatory bodies provide the protocols to the financial institutions to conduct their business in the country to protect the reputation, public & national interest.
2. **Internal Requirements:** Based on the customer base every bank focus on their target segment to generate business effectively and efficiently to gain more profits and provide services to their customers to improve customer satisfaction. To provide the wide range of services every bank has spread their branches in the country and to serve the customers spread across the nation effective I.T and software is required to maintain and provide banking service to such huge customer base.
3. **Customer Requirements:** As the country is technologically growing, the rise in customers' expectations is significantly rising every single day. Hence, the race to provide good customers services among the banks rose at competitive price. So it is very important that the customers should know and aware about the different services and options available in banking sector in the country. So we can see there is always a bank available near us waiting to engage and hire the customer.
4. **Business Requirements:** In this competitive environment it is necessary for the banks to develop new technology to reach out wide customer base and provide their services effectively to enhance customer satisfaction. To achieve it marketing and data base of the customer plays an important role and help the bank to focus on improving client reach, new product development, enhance profits and more importantly it enhance the customer satisfaction which pave way to brand loyalty and reputation of the bank.
5. **Awareness & Training:** As the Banking sector is a service based industry, it is the employees of banks who provide the services to the end users. We have seen the Banking sector evolved technically however virtual banking is likely to have a few more years to fully establish and hence the staff dependency is unavoidable. The staffs are large in number and the majority is non-technical. The customer satisfaction levels at the counter determine the ultimate benefit of IT offensive. Giving due consideration to this aspect in choosing architecture in necessary.

IV. USES & BENEFITS OF IT

Information Technology provided the wide range of products development, services; infrastructures in client management, client service and risk management. It helps the banks to reach geographically distant and diversified markets.

Internet has significantly influenced delivery channels of the banks. Internet has emerged as an important medium for delivery of banking products and services to the customers globally. The customers can view the accounts; get account statements, transfer funds and purchase drafts on few keys using sophisticated applications and software through mobile devices. As the banking sector is in the verge of globalization and technological advancement the customer expectations has increasing day by day.

The IT used for the Form of banking automation that connects the customer service desk in a bank office with the bank's customer's records in the back office. Banking automation refers to the system of operating the banking process by highly automatic means so that human intervention is reduces to a minimum also referred to as platform automation. It also improved and speeds up the processing time in handling credit applications, because paperwork is reduced.

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V. BANKING SECTOR & RISK INVOLVED AS PER REGULATORY PERSPECTIVE

Every financial institution has to perform due diligence based on the risk rating of the customer/entity. All the customers/entities must be risk rated as Low, Medium, High & Higher. The risk rating methodology is calculated based on below risk factors.

- Individual/business/Entity
- Geographical location
- Products
- Enhanced Monitoring
- Transaction

Individual/business/Entity

The customer/entity or its connected persons, particularly any relevant beneficial owners are involved.

- Any natural person who operates the account/entity from other country.
- The ownership issued via share capital in Bearer form.
- The client itself or its connected person, particularly any relevant beneficial owner/ultimate controllers in a local or global PEP's (Political Exposes Person).
- Where an individual is direct client and it's engaged in an occupation with assigned waited attributes with direct engagement with the financial intermediary and sensitive intermediary.
- The client is identified as a complex client structure and the one who has involvement in commodities transport and has dealings in hedge funds entering into a prime brokerage relationship.

5.1 Geographical Location

The client or its connected person, our team to have material exposure to sanction risk.

- The client location in high sensitive country or high intensity drug trafficking area and high intensity financial crime area.
- In any country, the client is registered/incorporated in our has its principal place of business in Tax Haven Jurisdiction with the exception of client that are listed on approved exchange or regulated by an approved regulators or when the client is Supra national or sovereign government.
- When the client is incorporated in, our has its principal place of business or Financial Action task Force country list.
- When the client is registered in. When the client is incorporated in our has been said place of business in sensitive jurisdiction.

5.2 Products

At on boarding the KYC analyst is expected to populate the expected volume and value of relevant payment transaction in the system. In the ongoing. Country risk rating model. The CRR methodology quantitatively calculate the transaction risk based on the English investigation. The volume and value of wire transfer general check another high risk transaction based on the 12 month volume compared to peer groups.

Transaction for the IB were selected based on the relevance. It has on the risk rating such as. Sensitivity of the country affected party. Third-party payments, Prime brokerage transaction e.g. cash and cash equivalent transactions and physical commodity settlement and payments i.e. the physical delivery of precious metals, the physical settlement and the delivery of the precious metal with global IB outside the country of incorporation which flag the higher risk from Anti Money Laundering (AML) perspective and thus significantly increase the risk of score of the Country Risk Rating tool (CRR). Every bank has identified certain products with a particular characteristic that indicate and increase vulnerability to money laundering, corruption and terrorist financing Or other type of financial crime.

5.3 Enhanced Monitoring

There is a material negative news about the client or its connected person, particularly any relevant beneficial owner ultimate controllers. Such as any high-risk products utilized or consumed by the customer can be treated as part of enhance monitoring and if the compliance team or the regulatory teams identifies any risk involved in the customer

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profile/account activity or any previous Suspicious Activity Report (SAR) filed against the customer or the client and related parties. Which determine should be reflect in the client risk profile. This kind of trigger to the enhance monitoring system.

On October 15, 2021, the Financial Crimes Enforcement Network (FinCEN) published a document on ransomware trends based on data from Suspicious Activity Reports (SARs) submitted between January 1 and June 30, 2021. This report complies with the requirement of the Anti-Money Laundering Act of 2020, which requires FinCEN to provide "threat pattern and trend information" derived from SARs.

According to the research, ransomware-related SARs and the regularity with which they are filed have surged in the first six months of 2021 and have already eclipsed totals for the full calendar year of 2020. According to the research, the amount of ransomware-related SARs submitted monthly has climbed fast, with 635 SARs filed and 458 transactions recorded between January 1, 2021, and June 30, 2021.

According to the research, the overall value of suspicious activity reported in ransomware-related SARs within the first six months of 2021 was $590 million, which surpasses the amount recorded for the full year of 2020 ($416 million). Additionally, Bitcoin was the most often used ransomware means of payment. The study was produced in conjunction with the distribution of an instructional pamphlet by the Treasury Department's Office of Foreign Assets Control to encourage sanctions compliance in the cryptocurrency business.

Ransomware is a sort of harmful software that infects users' files and locks them down until a ransom is paid to free them. The quantity and severity of ransomware assaults on vital US infrastructure are increasing. This year has witnessed a number of high-profile assaults, including those on the Colonial Pipeline, a vital East Coast gasoline supply, and JBS, one of the country's largest livestock providers. FinCEN's Analysis was provided in reply to an upsurge in ransomware attacks and in accordance with Section 6206 of the Anti-Money Laundering Act of 2020, which requires FinCEN to report threat patterns and trends information generated from financial institutions' SARs on a regular basis.

According to FinCEN's Analysis, sixty-three percent of all ransomware-related SARs are submitted by Digital Forensic Incident Response ("DFIR") businesses. DFIR businesses negotiate and arrange ransomware payouts on victims' behalf by converting client fiat funds, recognizing legal cash to CVC, and then transmitting the funds to crime-operated accounts.

In reported transactions, FinCEN identified BTC as the most prevalent ransomware-related payment mechanism, with a slight rise in the usage of Monero. After receiving money, cybercrooks provide the decryption keys to the victim. On the other hand, some variations take the discussion to the next level and raise the payment demands even after the first payment, such as threatening to publicize the stolen data if subsequent payment is not made. The usage of Anonymity-Enhanced Cryptocurrencies ("ACEs") and other anonymizing services, such as email protected by The Onion Router, or Tor, was also emphasized by FinCEN.

5.4 Transaction Monitoring

Transaction monitoring is the mean by which bank monitor its customer financial activity for the money laundering, terrorist financing and other financial crimes. The transaction monitoring process should allow banks to understand who are there customers are doing business with and reveal important details about the transaction themselves: how much money is involved, where it is being sent and so on. Transaction monitoring is an important part of Anti Money Laundering/Counter Terrorist Financing (AML/CFT) framework because it's enabled bank to keep pace. With criminal methodologies and ensure that they are fulfilling their risk-based compliance obligation.

Risk based transaction monitoring. Depends on bank being able to build accurate risk profile for their customers. Accordingly, a transaction monitoring solution should be supported by the following measures and controls.

- Customer due diligence.
- Sanction screening.
- PEP screening.
- Adverse media monitoring.
- Transaction monitoring software.

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All the customers/entity on boarded has be reviewed and transaction monitoring needs to be done to identify the suspicious activity which may lead to elevate/downgrade the risk rating of the customer/entity. Transaction monitoring team will do the thorough review on the historical transactions in the account activity and try to identify the suspicious activity/Different trends &typology/patterns which may involve Terrorist financing/Drug trafficking/Human trafficking/Sanction related concerns. Those transaction needs to be reported to the Regulators/Central Bank of the country. In the form of suspicious activity report within 30 days.

Sanctions screening: Banks should screen their customers against relevant sanctions and watch lists to ensure they are not facilitating transactions with sanctioned persons or entities.

PEP screening: Politically exposed persons (PEPs), including elected and government officials, pose a higher AML/CFT risk. Accordingly, banks should screen their customers on an ongoing basis to establish their PEP status.

Adverse media monitoring: The risk level associated with a particular transaction may also be informed by a customer's involvement in adverse media stories. Banks should monitor for adverse media stories from screen, print, and online sources, to ensure their risk profiles remain as accurate as possible.

There are two types of Transaction Monitoring

1. Periodic review
2. Trigger Driven

5.5 Periodic Review Transaction Monitoring

The transaction monitoring done based on the risk rating of the customer/entity is called as periodic review transaction monitoring. Find below table based on risk rating of the customer/entity the periodic review is done.

Risk Rating	Periodic Review Transaction Monitoring Done
High risk customer/entity	Every year
Medium risk customer/entity	Once in 2 years
Low risk customer/entity	Once in 3 years

5.6 Trigger Driven Transaction Monitoring

Every Bank has their sophisticated systems in place which generates triggers when certain criteria is breached e.g., in USA if the customer want to deposit $10K and above cash in the branch, the customer has to fill the Currency/cash transaction report (CTR) which include detailed questionnaires about the source of fund of the cash and source of wealth of the customer. To avoid CTR report customers in US deposit the amount in different denomination within week. However, the system in the background will trigger the account as structuring as that the cash deposited in the account within week is cumulates to $10K. The trigger generated in the system will be routed to transaction monitoring team to review the customer profile and the account activity.

Transaction monitoring team will do the thorough review on the transactions in the account activity and try to identify the suspicious activity/Different typology/patterns inthe historical transactions. If the account activity appears to be usual and inline with the customer profile & no trends/typologies/sanctions concerns/negative news identified of the customer/entity the team will take decision on risk-based approach and close the triggered alert. If the account activity which may leads to Terrorist financing/Drug trafficking/Human trafficking/Sanction related concerns on the customer as well as entity. Those transaction needs to be reported to the Regulators of the country/Central Bank. In the form of suspicious activity report within 30 days.

The amount of data involved in the transaction monitoring process, means that manual transaction monitoring is unfeasible and, given the likelihood of human error, risky. With that in mind, banks should seek to implement a suitable software platform to facilitate their transaction monitoring process.

5.7 Challenges/Issues

- Meet customer expectations on service and facility offered by the bank and Customer retention.
- Frequent challenges in technologies used focusing up grades in hardware and software along with the implementation.
- Training & improving the skill of work force.

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- Managing technology, security and business from cybercrime risks and data loss which may lead to reputational damage.
- Defined and implemented efficient processes to be able to reap benefits off technology to its fullest potential.

VI. CONCLUSION

The main aim of the study is to assess the service quality of banks and impact of use of I.T and Software for KYC in banking sector on customer satisfaction. The study also tried to test the relationship that exists between customer satisfaction and their loyalty. This indicates that improvement in the service quality should be conducted on the service quality dimension. Applications of IT in banks enables sophisticated product development, reliable techniques for risk management, brings transparency to the system and helps banking sector reach geographically distant and diversified markets. IT and communication networking system have crucial impact on money, capital and foreign exchange market. Especially dimension of responsiveness and empathy. This study also found a positive relationship between all service quality dimension and customer satisfaction.

Accordingly, the results of this research confirmed the theory of literatures regarding the relationship between service quality dimension and customer satisfaction.

Automated monitoring tools not only add speed, efficiency, and accuracy to transaction monitoring in banks, but bring added smart technology benefits including risk categorization and prioritization algorithms designed to aid the remediation of money laundering alerts. Transaction monitoring software may also incorporate machine learning systems that are capable of spotting suspicious activity based on customers' past behavior, and of adapting quickly to new criminal methodologies.

Although this research provides some significant insights into service quality in banking industry, there is still a chance to extend the findings to gain a more comprehensive understanding of the nature of banking services and use of IT practices and software to get the KYC details of the customers across banking verticals to improve the customer satisfaction towards bank.

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