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Role of Analytics in Indian Banking Sector

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ABSTRACT:

India banking sector is experiencing huge reforms, they have burden of managing huge data every day. Data analysis is the analysis of large sets of data to discover hidden pattens. Data analytics in the banking sector involves using advanced data processing techniques to extract valuables insights from huge financial data, data analytics enables the banks to make data-driven decisions, optimizes operations and helps to understand the customer behavior which enhances the overall customer experience. Data analytics in banking sector helps to build customer relationship, predicts future risks, fraud detection, operational efficiency, product and service development. Though there are numerous challenges with analytics in banking sector like data privacy, data security data quality, data silos, high costs and various ethical concerns. Banks are catching up with all the setbacks, however there are lot opportunities available for successful implementation of analytics in banking sector.

Keywords: Banking, Analytics, Data analytics, Indian Banking sector

1. Main text

Today, data analytics plays a key role in helping Banking analytics is the process of collecting, analyzing and interpreting data within the banking industry. Banking analytics requires the usage of various analytical techniques and technologies, including data visualization, business intelligence, AI-assisted data modelling, data mining, real-time KPI (Key Performance Indicators) monitoring and big data platforms. By extracting valuable information from various sources like customer transactions, market trends, risk assessments, operational performance, banks and financial institutions can get valuable insights that helps to make smart decisions, improve services, manage risks, save costs, identify potential risks and find different ways to operate more efficiently.

The convergence of multiple technology innovations enabled by connectivity i.e., data and analytics; cloud computing, mobile solutions, social media and other collaborations, applications, connected devices and IoT, artificial intelligence, and machine learning, blockchain, web 3.0, and virtual reality. Analytics can help banks become smarter and efficient. By using various data filtering and data mining techniques, they gather data from their users. It can help businesses determine and forecast the customer perception and also helps to provide customized services and personalized solutions to their customers.

Although the main focus of banks is on customer analytics, the banking industry also depends on business analytics in various areas like fraud detection and prevention, risk identification, applying credit restrictions, and regulation settings.

2. Objectives:

The objectives of the present paper are:

- 1. To understand the concepts of analytics in banking sector
- 2. To study the challenges faced in successful implementation of analytics in banking sector
- 3. To design model framework for analytics in banking.

3. Model framework for analytics in banking.



Fig.1: model framework for analytics in banking

• Customer engagement:

In-depth study of customer data helps the banks to came up with multiple sales and marketing strategies which enables the banks to understand the customers behaviour in advance. Banks also integrate their system with social media networks to get more personalized customers information regarding the transaction history and personal data of customers.

• Risk management:

Business analytics provides in-depth insights to the banks IT systems, customer data, financial transactions and environments in innovative approach helps to mitigate certain risks.

Credit tracking

business analytics provides banks with most updated information on their customers earning and spending patterns it helps to identify loyal banking customers and also identify the customers with low credit scores who may fails to repay the loans to be terminate their accounts in future.

Performance tracking

Analytical data helps the banks to track the employee and overall banking business performance. This helps to set goals at both organizational and employee level and also helps to identify various areas for training, research and development.

Real-time reporting

Analysing and visualizing the data using animated pictures, charts, graphs, and graphical user interface tools etc, can helps the stakeholders of banking sector to access the real time information and also it helps to take quick decisions regarding the business operations.

4. Tools for analytics in the banking



Fig.2: tools for analytics in banks

5. Challenges with analytics in Indian banks

Analytics offers numerous benefits to the banking sector; it also presents with various challenges. It is very important to clearly understand these issues for successful implementation and effectively managing data technologies in banking sector.

- a. **Data privacy and security:** collecting and securing the customers data remains a significant concern. There is a higher risk of cybersecurity threat associated to banks especially when they collect and apply customers data. so, to mitigate the risks the banking industry must invest on robust technology for cybersecurity.
- b. **Data quality:** analysing the data often requires stringent validation and data cleaning. Impoverished data quality can lead to inaccurate analysis, which in turn leads to poor decision making.
- c. High costs: implementation of analytical technologies requires hardware, software, and skilled personnel investment. Some financial. institutions may find difficult to implement.
- d. **Data silos**: data stored in hidden silos in the organization can hinder practical data analysis. For historical data view breaking down theses silos is essential, but can be challenge due to incompatible data formats.
- e. Ethical concerns: adopting data analytics to collect target banking customers data raises discrimination and unfair issues. So, banks be very cautious in utilizing the data results in fair and unbiased outcomes.

6. Successful implementation of banking analytics

There are three important things to be considered for the successful implementation of analytics in banks. They are:

1. Data coverage and relevance: implementation is a continuous process so for the effective implementation proper loops are to be considered. Incomplete and broken data may result in faulty observations so, it is very important to validate the source of data.

- 2. Suitability of technology: technology must be properly selected based on cost, compatibility and further requirement.
- 3. Governance Structures: right governance structures are to be adopted, Governance team measures ROI and also assess the changes to organizational, Operational models of the banks.

7. Conclusion:

Data and analytics are very essential and vital for every for banks to grow. Analytics helps the banks to understand the customers behaviour and providing personalized solution to them, mitigating risks, fraud detection and prevention, monitoring credit profiles of the customers, and real time reporting helps the banks to take informed decisions. Implementing analytics in banking is very challenging looking at the basic realities such as lack of qualitative data, high implementation costs, data silos, data privacy and security. However, data relevancy, robust technology and good governance structure helps the banks to implement analytics in banking successfully.

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