Tech Saksham

Case Study Report

Data Analytics with Power BI

Real-Time Analysis of Bank Customers

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ABSTRACT

This study examines the behavior and preferences of bank customers through a comprehensive analysis of quantitative data collected from various banking institutions. The research focuses on understanding the factors influencing customer decision-making processes, including demographic characteristics, economic indicators, and technological advancements. By employing advanced statistical techniques and machine learning algorithms, the study identifies key patterns and trends in customer behavior, such as preferred banking channels, product usage, and satisfaction levels

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

In many various sectors have problem with the efficiency of a customer behavior, preferences. This will play a major role in Banking Sector. However, this problem creating a crucial effect of banking history. Traditional data analysis has a problem with this trend which is rapidly changing, time consuming and lack to provide insightful solution.

1.2 Proposed Solution

This proposed solution outlines a strategy for enhancing bank customer engagement through personalized approaches tailored to individual preferences and needs. Leveraging advanced data analytics and machine learning techniques, banks can segment their customer base effectively and identify unique preferences, behaviors, and pain points

1.3 Feature

○ **Real-Time Analysis:** The dashboard will provide a real-time analysis of customer data
○ **Customer Segmentation:** It will segment customers based on various parameters like age, gender, behavior, etc.
○ **Predictive Analysis:** It will use previous data to forecast the customer behavior.
○ **Trend Analysis:** The dashboard will display the trends of customer behavior.

1.4 Advantages

- **Data-Driven Decisions:** Banks can make insightful decisions with real-time data.
- **Increased Efficiency:** From the analytics the we can get the efficiency of handling the customer's data.
- **Increased Revenue:** By Identifying the flaws, we can grow the trust of customers and increasing the revenue.

1.5 Scope

- The Scope of the project is widely used for all sector other than banking.
- This project can be extended for more data resources.
- We can also build stronger analytics with data.

CHAPTER 2
SERVICES AND TOOLS REQUIRED

Tools:

- ⭘ **Power BI:** The main tool for this project Power BI, which is use to create interactive dashboards for real-time data visualization.

- ⭘ **Power Query:** This is a data connection technology that enables you to discover, connect, combine, and refine data across a wide variety of source.

Software Requirements:

- ⭘ **Power BI Desktop:** This is a windows application that you can create reports and publish them to Power BI.

- ⭘ **Power BI Service:** This is an Online SaaS (Software as a Service) Service that you use to publish reports, create new dashboards, and share insights.

- ⭘ **Power BI Mobile:** This is a mobile application that you can use to access your reports and dashboards on the go.

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture
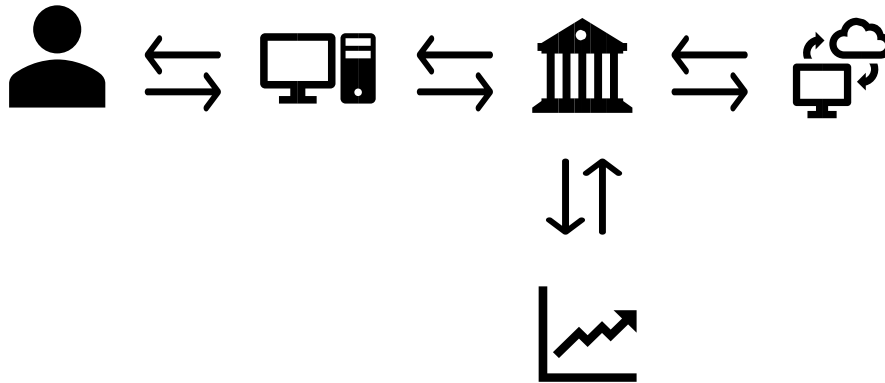
- **Data Collection:** Real-time customer data collected from various sources(transactions, web interaction).

- **Data Storage:** Collected Data is stored in database and Servers.

- **Data Processing:** Non sensitive data is processed to take analysis.

- **Analytics :** Processed Data is analyzed by experts.

CHAPTER 4
MODELING AND RESULT

Manage Relationship

In this Project CSV file with name 'Real-Time Analysis of Bank Customers' is added for analytics.

DASH BOARD

BANK CUSTOMER ANALYSIS

CONCLUSION

The real-time analysis of bank customers offers invaluable insights for enhancing operational efficiency, customer satisfaction, and risk management. By leveraging advanced analytics, banks can swiftly detect patterns, predict customer behavior, and personalize services. This proactive approach enables banks to optimize resource allocation, mitigate fraud, and tailor marketing strategies, ultimately fostering stronger customer relationships and driving financial performance.

FUTURE SCOPE

The future scope of bank customers and analysis is likely to involve more personalized services, enhanced digital experiences, and greater emphasis on data analytics. Banks will increasingly rely on artificial intelligence and machine learning to analyze customer behavior, anticipate needs, and provide tailored financial solutions. Moreover, with the rise of fintech innovations, there will be a growing demand for seamless integration of services across various platforms and channels. Additionally, as cybersecurity threats evolve, banks will need to invest heavily in robust security measures to protect customer data and ensure trust. Overall, the future of bank customer analysis will revolve around leveraging technology to deliver convenient, secure, and personalized banking experiences.

REFERENCE

https://powerbi.microsoft.com/en-us/desktop/

LINK

https://github.com/Shanmugasm/NM_Report