Tech Saksham

Case Study Report

Data Analytics with Power BI

Real-Time Analysis of Bank Customers

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ABSTRACT

In today's digital landscape, data stands out as one of the most valuable assets across all industries.

However, within the Banking Sector, it holds particular significance in shaping new ideas, plans, and decisions.

This underscores the critical importance of analytics, which plays a pivotal role in every decision-making scenario.

In this context, our focus lies on analyzing customer data in a real-time environment to derive deeper insights for informed decision-making.

To achieve this, we rely on software such as Power BI, enabling us to conduct data-driven explorations of customer behavior, preferences, transactions, demographics, and more.

Through these analytics, we aim to enhance innovation, profitability, efficiency, and various other aspects of our operations.

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

Numerous sectors grapple with challenges related to understanding and improving customer behavior and preferences, a concern particularly pertinent in the Banking Sector. This issue significantly influences the historical trajectory of banking operations. Traditional methods of data analysis struggle to keep pace with the rapidly evolving trends, proving time-consuming and often failing to offer insightful solutions.

1.2 Proposed Solution

The proposed solution is taking a most advanced Software's to create insightful real-time analytics. In this project we using a one of powerful Analytical tool called Power BI. We have to real-time dashboard of a bank customers data with Power BI. Using this tool, we can analyze the data for customer preferences and tailoring the User Experience for the customers.

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.

1.2 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.

1.3 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.

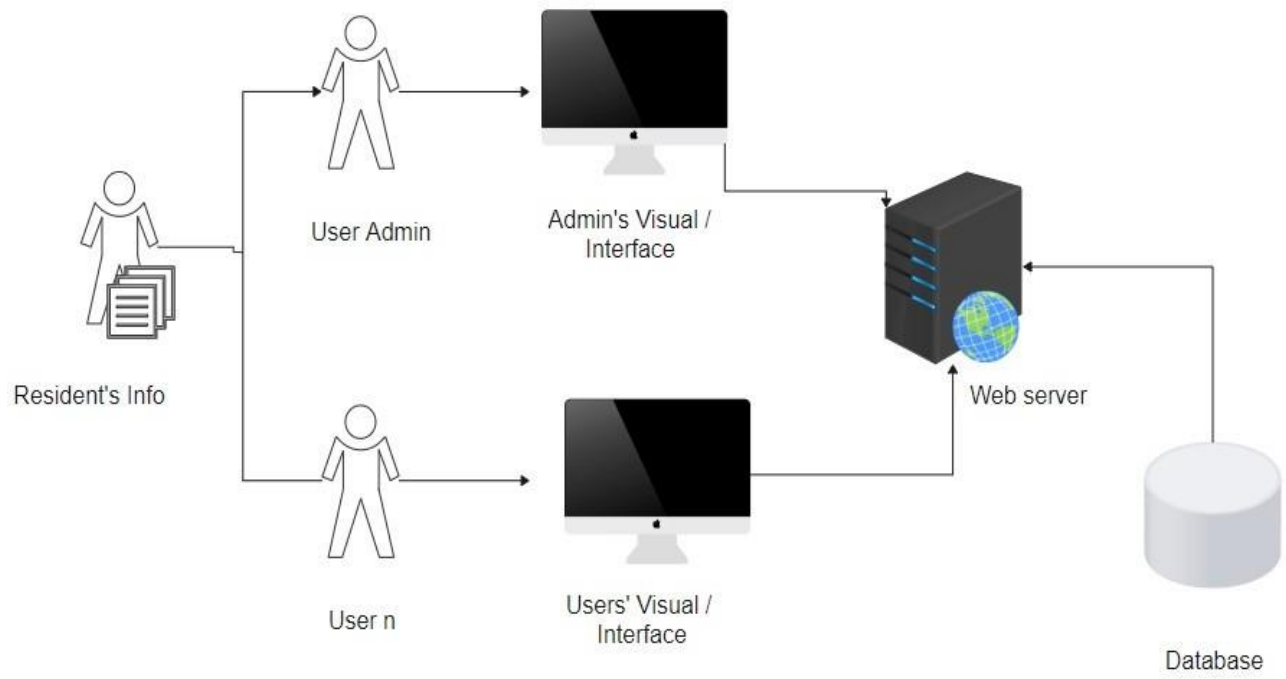
➢ Power BI Service: This is an Online SaaS (Software as a Service) Service that you use to publish reports, create new dashboards, and share insights.

➢ 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.

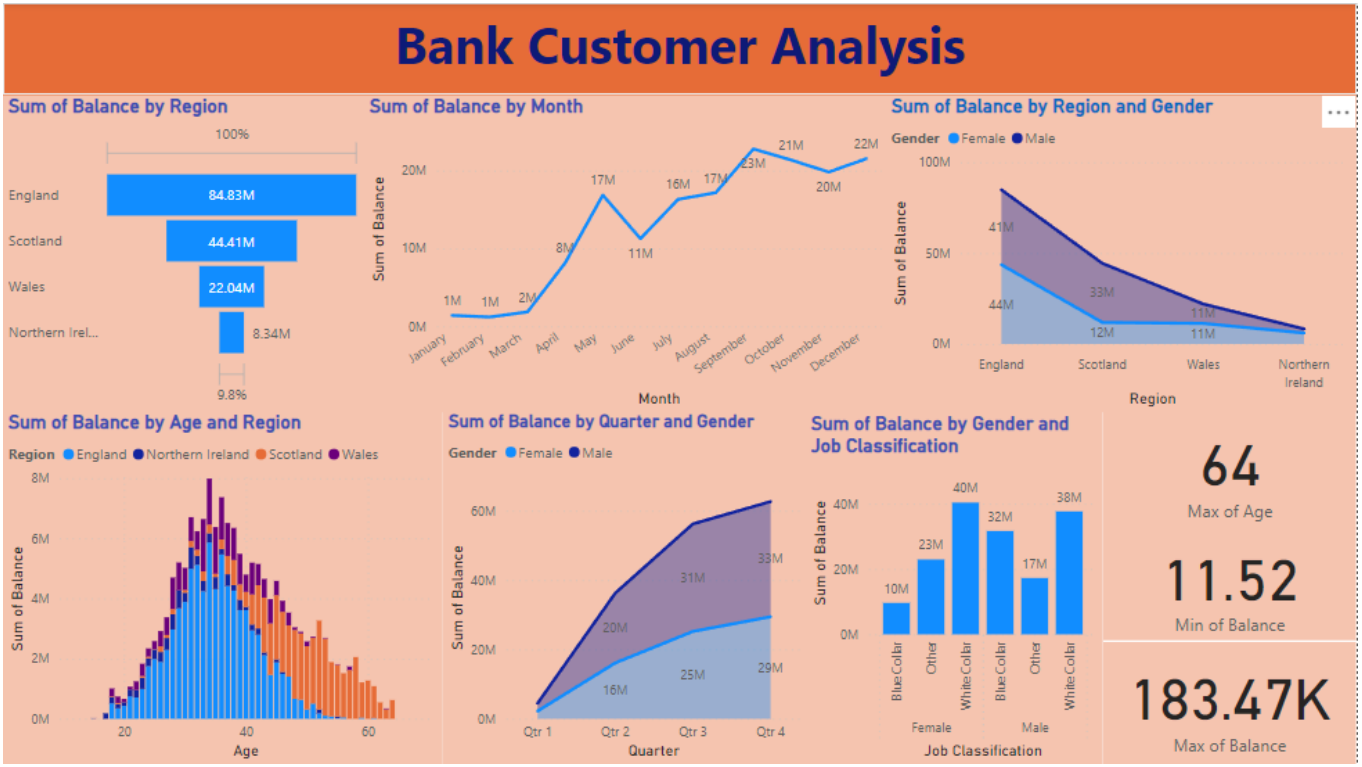
➢ Analytics : Processed Data is analyzed by experts.

CHAPTER 4 MODELING AND RESULT

Manage Relationship

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

Dashboard



CONCLUSION

The implementation of the ”Real-Time Analysis of Bank Customers” project through Power BI has been completed successfully, allowing us to draw significant conclusions from our dashboard. The real-time data has furnished us with a wealth of valuable insights into customer behavior and preferences, enabling us to enhance our efficiency in refining personalized customer experiences. This project has notably augmented our capacity to deliver efficient services to our customers. Additionally, it has underscored the importance of simplifying complex data into easily understandable terms, making the presented information both comprehensible and visually appealing.

FUTURE SCOPE

The future scope of this project is vast. Using the advanced analytics and machine learning, Power BI can be leveraged to predict future trends based on historical data. As data privacy and security become increasingly important, future iterations of this project should focus on implementing robust data governance strategies. This would ensure the secure handling of sensitive customer data while complying with data protection regulations. The project could explore the integration of real-time data streams to provide even more efficient insights. This could potentially transform the way banks interact with their customers, leading to improved customer satisfaction.

REFERENCE

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

LINK

https://github.com/NadhinMoni67/NM-Report