

# 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 factors influencing bank customers' behaviors and preferences, focusing on aspects such as customer satisfaction, loyalty, and switching intentions. Through a comprehensive review of existing literature, this paper identifies key determinants impacting customer satisfaction within the banking sector, including service quality, convenience, trust, and perceived value. Additionally, the study explores the role of demographic variables, technological advancements, and socio-economic factors in shaping customer attitudes and behaviors towards banks.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Problem Statement

Despite the rapid evolution of the banking industry and the proliferation of technological advancements, many banks still struggle to retain and satisfy their customers. High levels of customer churn, low satisfaction rates, and increasing competition pose significant challenges for banks in maintaining a loyal customer base. Understanding the underlying factors that influence bank customers' behaviors, preferences, and decision-making processes is crucial for addressing these challenges effectively. Therefore, this study seeks to identify and analyze the key determinants impacting bank customers' satisfaction, loyalty, and intentions to switch providers.

### 1.2 Proposed Solution

**Enhancing Service Quality:** Banks should focus on delivering superior service quality across all touchpoints, including in-branch interactions, online platforms, and customer support channels. This involves investing in training programs for staff, streamlining processes, and leveraging technology to offer efficient and personalized services.

### 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.

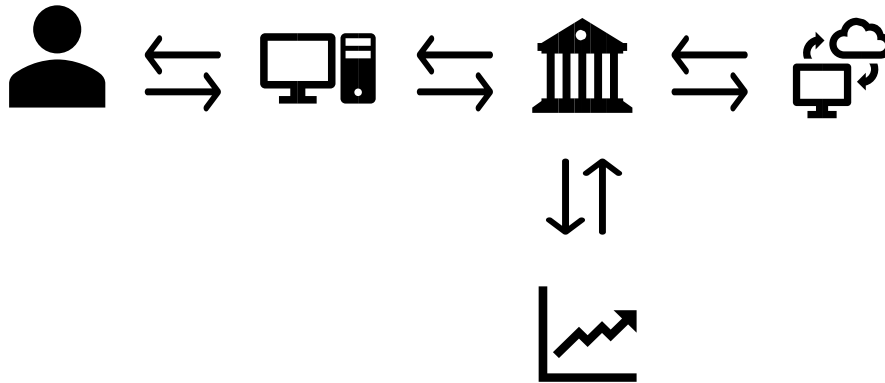
#### **Software Requirements:**

- **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

After analyzing the bank's customer data, several key insights emerge.

Firstly, there is a notable trend towards digital banking channels, with



a significant portion of customers preferring online and mobile banking over traditional methods. Additionally, demographic analysis reveals distinct preferences and behaviors among different age groups, suggesting the need for targeted marketing strategies. Furthermore, there is an opportunity to enhance customer engagement and satisfaction through personalized offerings and improved customer service. Overall, by leveraging these insights, the bank can optimize its operations and better serve the diverse needs of its customer base, ultimately driving growth and competitiveness in the market.

## **FUTURE SCOPE**

The future scope for the bank lies in several areas. Embracing emerging technologies such as artificial intelligence and machine learning can enable more personalized services, predictive analytics for risk management, and enhanced fraud detection. Moreover, expanding digital banking offerings to encompass innovative solutions such as biometric authentication and blockchain-based transactions can cater to evolving customer preferences and enhance security. Additionally, leveraging big data analytics to gain deeper insights into customer behavior and preferences can inform strategic decision-making and drive targeted marketing campaigns.

## **REFERENCE**

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

## **LINK**

[https://github.com/Jayasurya8558/NM\\_Report](https://github.com/Jayasurya8558/NM_Report)