# Tech Saksham

Case Study Report

## Data Analytics with Power BI

# “Real-Time Analysis of Bank Customers”

**“GOVERNMENT ARTS COLLEGE -DHARMAPURI”**

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# ABSTRACT

An abstract provides an overview of Microsoft Power BI, a business intelligence tool that converts data into reports and representations. The article includes Power BI's definition, features, benefits, drawbacks, and business advantages. Power BI is a technology-driven tool that combines data visualization, business analytics, and best practices to help businesses make data-driven decisions. It provides an abstract layer on top of raw data, helping users gain valuable insights and make informed decisions.

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# CHAPTER 1

# INTRODUCTION

## 1.1 Problem Statement

In today's competitive banking landscape, understanding customer behavior and preferences is crucial for customer retention and revenue generation. However, banks often face challenges in analyzing customer data due to the sheer volume and velocity of data generated. Traditional data analysis methods are time-consuming and often fail to provide real-time insights. This lack of real-time analysis can lead to missed opportunities for customer engagement, cross-selling, and up-selling, impacting the bank's revenue generation and customer satisfaction. Furthermore, the complexity and diversity of customer data, which includes transaction history, customer feedback, and demographic data, pose additional challenges for data analysis.

## 1.2 Proposed Solution

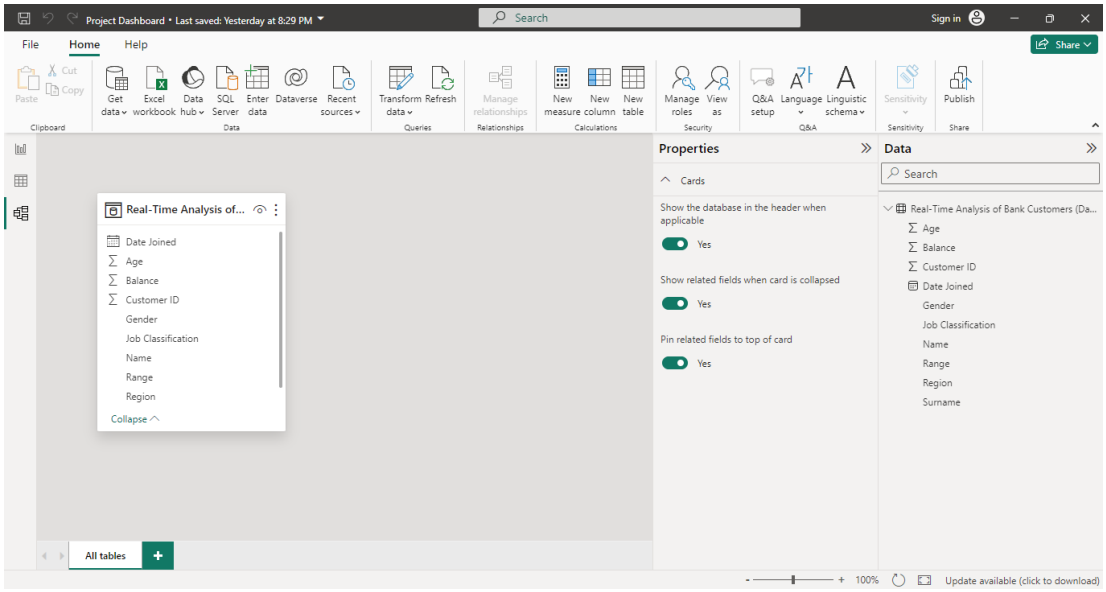
The proposed solution is to develop a PowerBI dashboard that can analyze and visualize real-time customer data. The dashboard will integrate data from various sources such as transaction history, customer feedback, and demographic data. It will provide a comprehensive view of customer behavior, preferences, and trends, enabling banks to make informed decisions. The dashboard will be interactive, user-friendly, and customizable, allowing banks to tailor it to their specific needs. The real-time analysis capability of the dashboard will enable banks to respond promptly to changes in customer behavior or preferences, identify opportunities for cross-selling and up-selling, and tailor their products and services to meet customer needs.

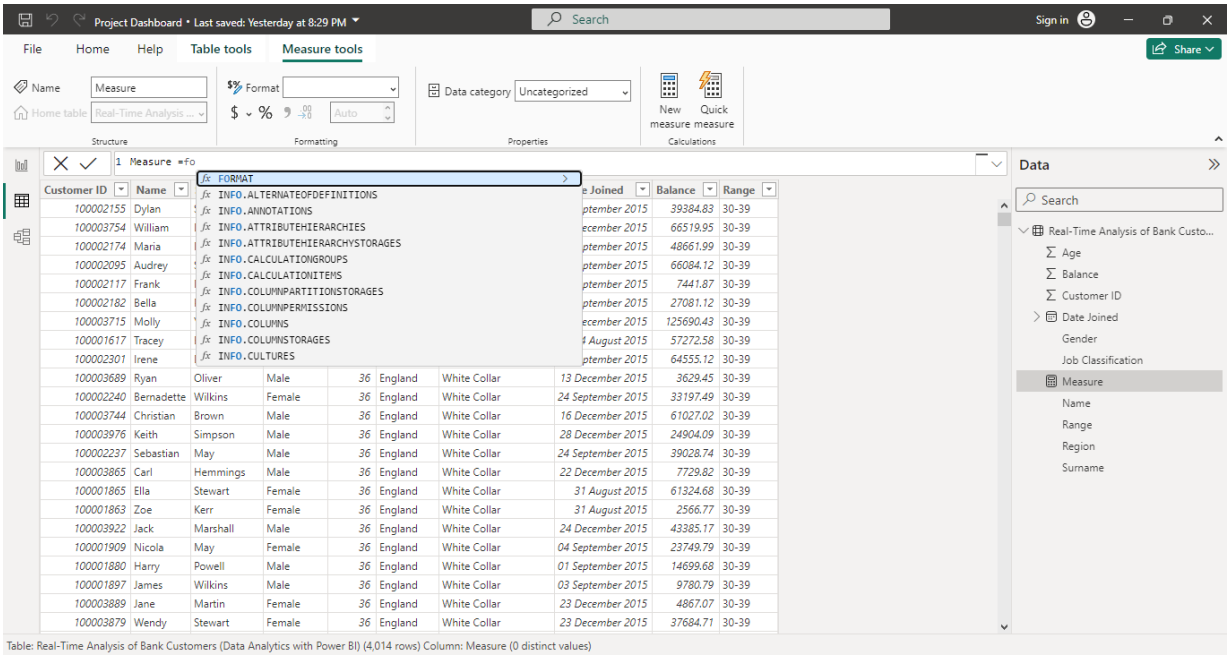
# CHAPTER 2

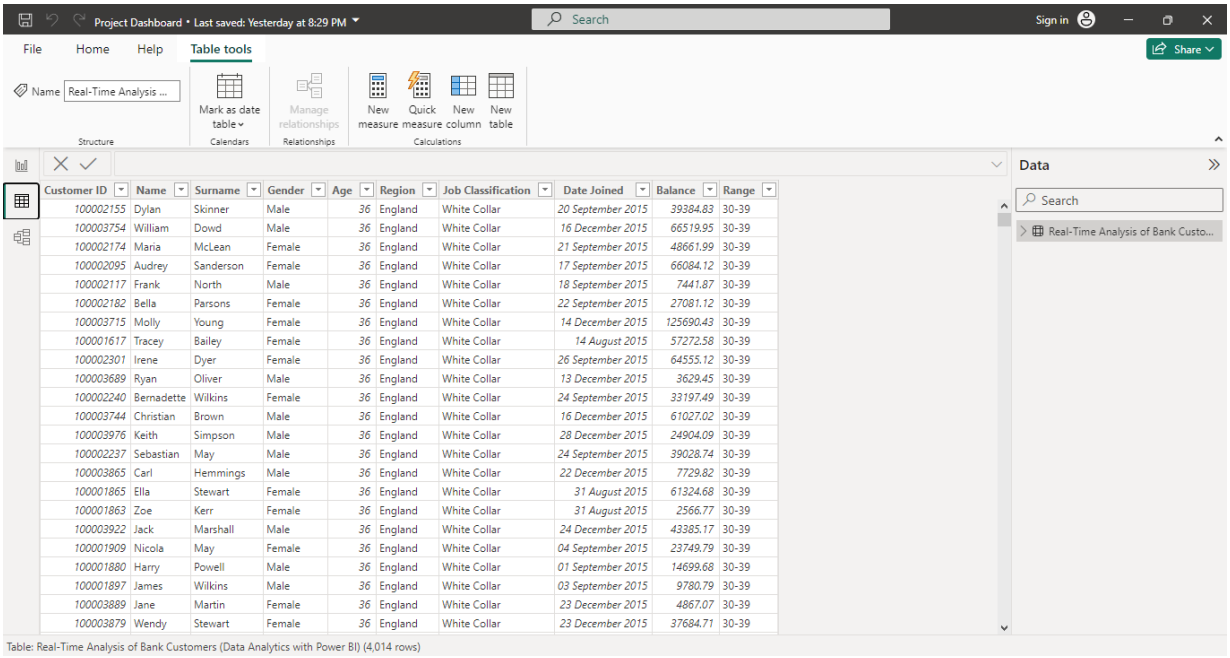
# MODELING AND RESULT

## Manage relationship

The “disp” file will be used as the main connector as it contains most key identifier (account id, client id and disp id) which can be use to relates the 8 data files together. The “district” file is use to link the client profile geographically with “district id”.

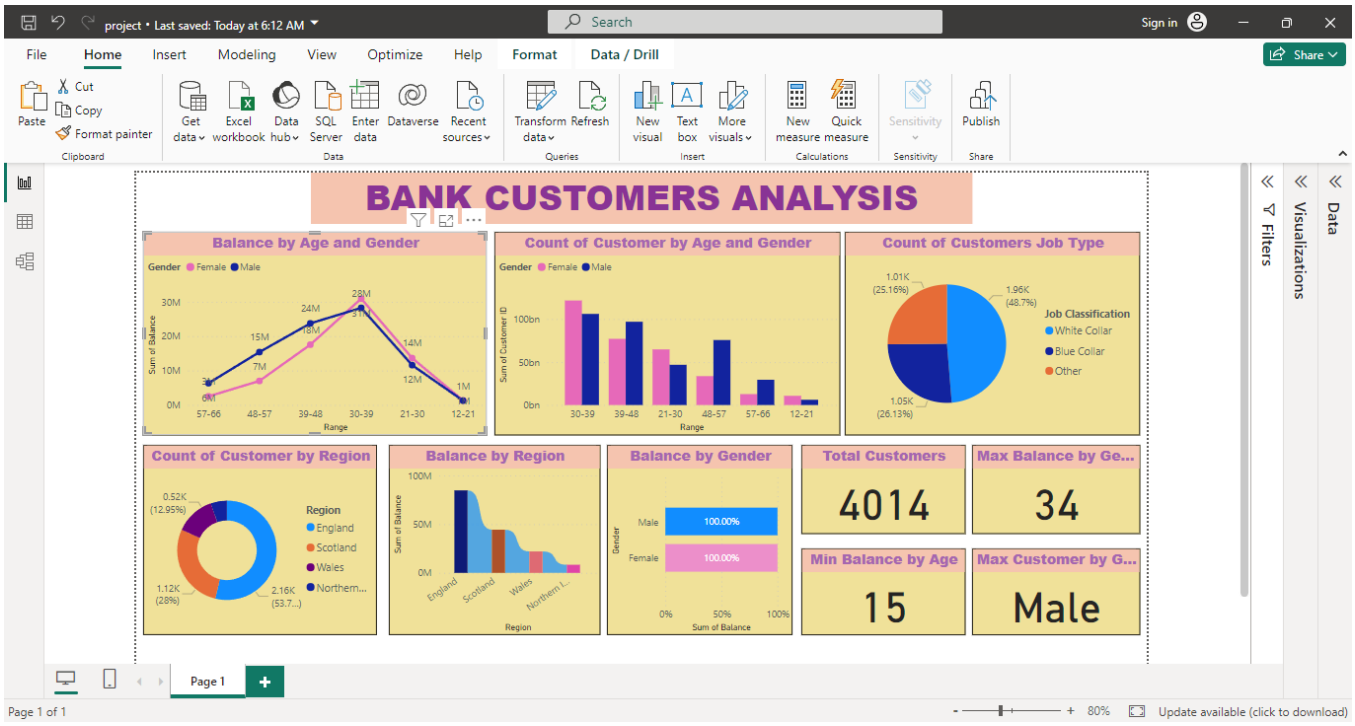





| Customer ID | Name | Surname | Gender | Age | Region | Job Classification | Date Joined | Balance | Range |
|---|---|---|---|---|---|---|---|---|---|
| 100002155 | Dylan | Skinner | Male | 36 | England | White Collar | 20 September 2015 | 39384.83 | 30-39 |
| 100003754 | William | Dowd | Male | 36 | England | White Collar | 16 December 2015 | 66519.95 | 30-39 |
| 100002174 | Maria | McLean | Female | 36 | England | White Collar | 21 September 2015 | 48661.99 | 30-39 |
| 100002095 | Audrey | Sanderson | Female | 36 | England | White Collar | 17 September 2015 | 66084.12 | 30-39 |
| 100002117 | Frank | North | Male | 36 | England | White Collar | 18 September 2015 | 7441.87 | 30-39 |
| 100002182 | Bella | Parsons | Female | 36 | England | White Collar | 22 September 2015 | 27081.12 | 30-39 |
| 100003715 | Molly | Young | Female | 36 | England | White Collar | 14 December 2015 | 125690.43 | 30-39 |
| 100001617 | Tracey | Bailey | Female | 36 | England | White Collar | 14 August 2015 | 57272.58 | 30-39 |
| 100002301 | Irene | Dyer | Female | 36 | England | White Collar | 26 September 2015 | 64555.12 | 30-39 |
| 100003689 | Ryan | Oliver | Male | 36 | England | White Collar | 13 December 2015 | 3629.45 | 30-39 |
| 100002240 | Bernadette | Wilkins | Female | 36 | England | White Collar | 24 September 2015 | 33197.49 | 30-39 |
| 100003744 | Christian | Brown | Male | 36 | England | White Collar | 16 December 2015 | 61027.02 | 30-39 |
| 100003976 | Keith | Simpson | Male | 36 | England | White Collar | 28 December 2015 | 24904.09 | 30-39 |
| 100002237 | Sebastian | May | Male | 36 | England | White Collar | 24 September 2015 | 39028.74 | 30-39 |
| 100003865 | Carl | Hemmings | Male | 36 | England | White Collar | 22 December 2015 | 7729.82 | 30-39 |
| 100001865 | Ella | Stewart | Female | 36 | England | White Collar | 31 August 2015 | 61324.68 | 30-39 |
| 100001863 | Zoe | Kerr | Female | 36 | England | White Collar | 31 August 2015 | 2566.77 | 30-39 |
| 100003922 | Jack | Marshall | Male | 36 | England | White Collar | 24 December 2015 | 43385.17 | 30-39 |
| 100001909 | Nicola | May | Female | 36 | England | White Collar | 04 September 2015 | 23749.79 | 30-39 |
| 100001880 | Harry | Powell | Male | 36 | England | White Collar | 01 September 2015 | 14699.68 | 30-39 |
| 100001897 | James | Wilkins | Male | 36 | England | White Collar | 03 September 2015 | 9780.79 | 30-39 |
| 100003889 | Jane | Martin | Female | 36 | England | White Collar | 23 December 2015 | 4867.07 | 30-39 |
| 100003879 | Wendy | Stewart | Female | 36 | England | White Collar | 23 December 2015 | 37684.71 | 30-39 |

# Dashboard


BANK CUSTOMERS ANALYSIS
Balance by Age and Gender
Count of Customer by Age and Gender
Count of Customers Job Type
Job Classification
White Collar
Blue Collar
Other
Count of Customer by Region
Region
England
Scotland
Wales
Balance by Region
Balance by Gender
Total Customers
4014
Max Balance by Ge...
34
Min Balance by Age
15
Max Customer by G...
Male
Page 1

## CONCLUSION

Power BI is a cloud-based business analytics service that helps users connect, visualize, and share data with other users or stakeholders. It can help connect disparate data sets, transform and clean the data into a data model, and create charts or graphs to provide visuals of the data.

## FUTURE SCOPE

Advanced AI and Machine Learning Integration: Power BI is likely to continue integrating more advanced AI and machine learning capabilities. This could include improved natural language processing for querying data, more advanced predictive analytics, and automated insights generation.

# THANK YOU!