Power BI Project: Customer Churn Analysis

Project Overview

The Power BI Customer Churn Analysis project aims to help businesses understand customer behavior, identify churn patterns, and make data-driven decisions to improve customer retention. This project focuses on building an interactive dashboard that provides insights into key metrics such as customer demographics, subscription trends, and churn rates across different segments.

Objective

The primary objective is to analyze the customer churn rate and identify the major factors influencing customer attrition. By leveraging Power BI's visualization capabilities, the dashboard provides actionable insights for marketing and customer success teams to design better retention strategies.

Dataset Details

The dataset used in this project contains customer information including demographics, account details, service usage, and churn status. It consists of around 7,000 records with features such as Customer ID, Gender, Age, Tenure, Contract Type, Payment Method, Monthly Charges, Total Charges, and Churn (Yes/No).

Project Workflow

1. Data Collection and Cleaning using Power Query.
2. Data Transformation: removing duplicates, handling missing values, and changing data types.
3. Data Modeling: establishing relationships between tables (Customers, Contracts, Payments).
4. Creating DAX Measures for KPIs such as Total Customers, Churn Rate, and Average Monthly Charges.
5. Dashboard Development with slicers, cards, and interactive visuals.
6. Report Publishing to Power BI Service for real-time insights.

Dashboard Features

1. Overall Churn Percentage visualization.
2. Customer retention trends by contract and payment method.
3. Churn analysis by demographics (Age, Gender).
4. Monthly revenue vs churn comparison.

5 Interactive filters for region, service type, and tenure.

Tools and Technologies Used

• Power BI Desktop – for building and visualizing dashboards. • Power Query – for data transformation. • DAX (Data Analysis Expressions) – for creating calculated measures. • Excel/CSV – for dataset input. • Power BI Service – for publishing and sharing reports.

Insights and Conclusion

The Power BI Churn Analysis Dashboard successfully identifies key churn drivers, such as short-term contracts and high monthly charges. It enables businesses to proactively engage at-risk customers and improve loyalty programs. The project demonstrates proficiency in data visualization, storytelling, and analytical thinking using Power BI.