# Customer Retention Project

## 1. Here is the background information on your task

A few weeks after presenting your dashboard to the management, the Retention Manager from the telecom reaches out to you directly. He was impressed by your work and asked if you can put together a dashboard about customer retention.

In addition, to better understand the data, the telecom Retention Manager has scheduled a meeting with the engagement partner at PwC to cover these points:

- Customers in the telecom industry are hard-earned: we don't want to lose them

- The retention department is here to get customers back in case of termination

- Currently, we get in touch after they have terminated the contract, but this is reactionary: it would be better to know in advance who is at risk

- We have done customer analysis with Excel: it has always ended in a dead-end

- We would like to know more about our customers: visualised clearly so that it's self-explanatory for our management

The Retentions Manager has provided some information in the resources.

## 2. Here is your task

Your colleague, the engagement partner, asks you to do the following tasks:

1. Define proper KPIs

2. Create a dashboard for the retention manager reflecting the KPIs

## 3. Approach

**Understanding the task:**

- Delved into the information to frame the analysis.

**Data Collection and Preparation**

- Data provided by the Retention Manager (e.g., services each customer signed up for, demographic info, and account details) was reviewed and organized.

- The data was cleansed to ensure no inconsistencies or errors that could affect

**Data Modelling**

- The data was imported into **Power BI** and DAX (Data Analysis Expressions) calculations were created to measure key metrics such as churn rates, service usage percentages, and customer segmentation by tenure.

**Analysis and KPI Development**

Using the model in Power BI, a series of visualizations were created to analyze:

- Churn rates by service and contract type.

- Customer segmentation based on payment methods and account tenure.

- Service usage patterns to understand which offerings are more prone to churn.

KPIs were designed around improving customer retention, such as:

- Reducing churn rates for Fiber Optic users.

- Increasing 1-year and 2-year contracts by 5%.

- Boosting automatic payments by 5% annually.

**Dashboard Creation**

- Developed two key dashboards:

  1. **Churn Dashboard**: Displays insights on customers at risk, tech/admin ticket counts, and service sign-ups, as well as demographic and payment information.

  2. **Customer Risk Analysis**: Focuses on churn risk by internet service, contract type, and payment method, enabling detailed risk profiling.

- The dashboards allowed for real-time filtering and interaction with the data, providing the Retention Manager with the ability to dive into specific customer segments and behaviours.

**Recommendations and Reporting**

- Provide actionable recommendations based on insights and present findings to the Retention Manager and management team.

## 4. Tools Used

**Power BI**

- **Purpose**:

  o Data visualization, analysis, and reporting.

  o Key for dashboard creation, interactive data exploration, and delivering real-time insights to the Retention Manager.

- **Features Used**:

  o **DAX calculations** for KPIs and custom metrics.

  o **Interactive visuals** (bar charts, pie charts, tables) to highlight trends in customer behaviour and churn.

- Slicers and filters for dynamic exploration of customer risk factors and churn.

**Microsoft Excel**

- **Purpose**:

    - Data preparation, initial cleansing, and simple analysis.

- **Features Used**:

    - **Formulas** for categorizing tenure, calculating percentages, and preparing the dataset for import into Power BI.

    - **Data cleaning** and transformation for use in the dashboards.

# 5. Dashboard View
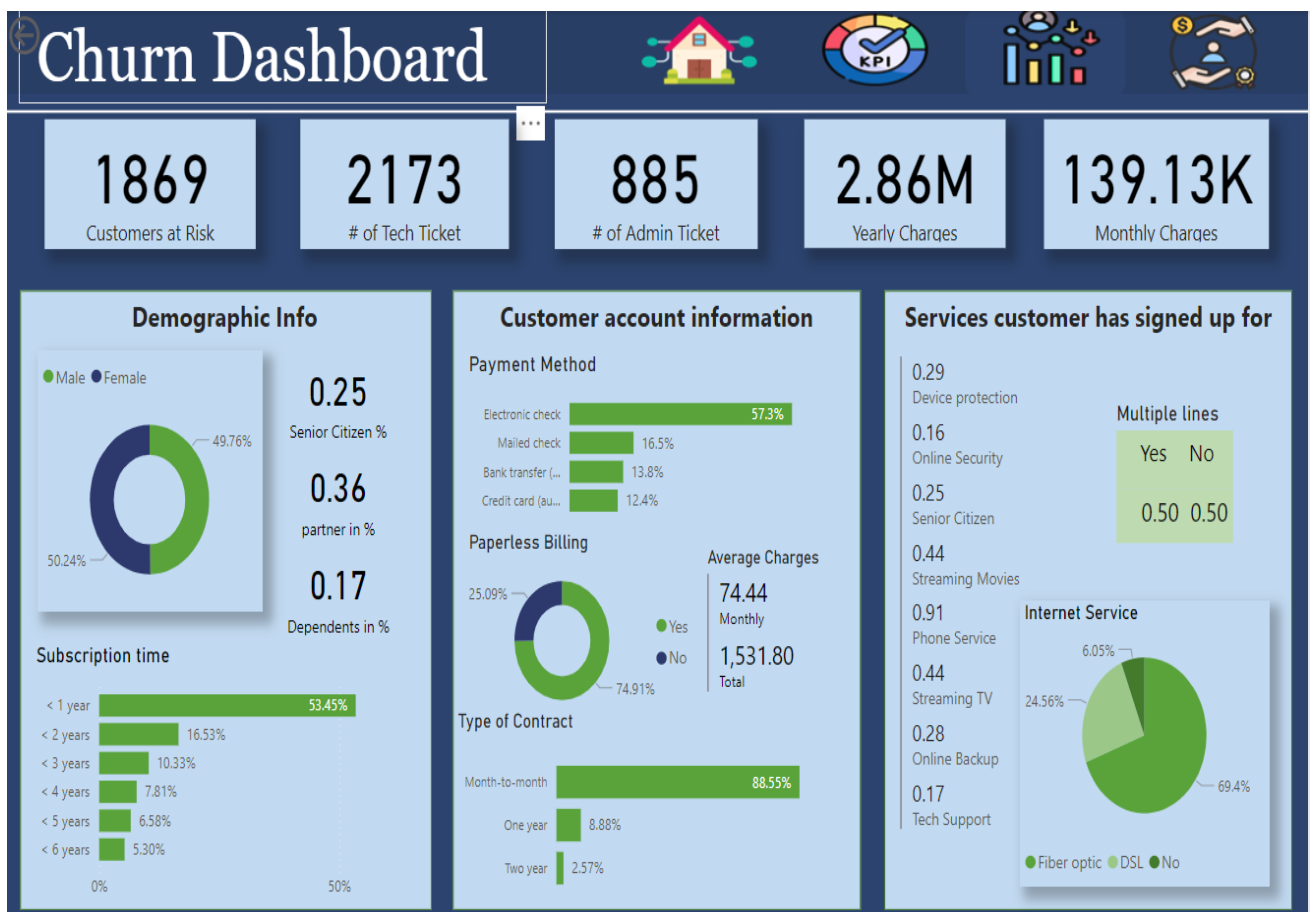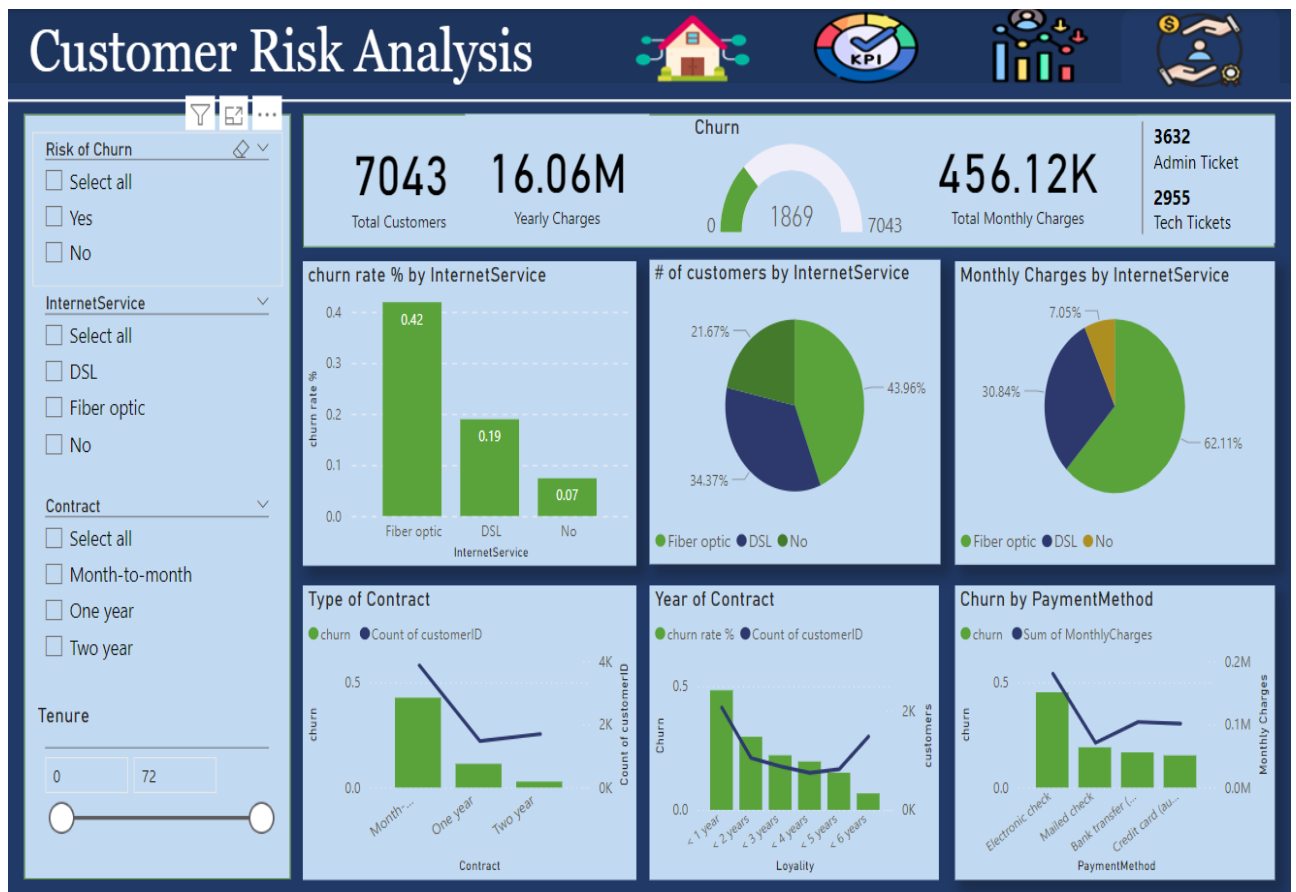
## 6. Key Findings

**Churn Dashboard Findings:**

- Customers at Risk: There are 1,869 customers at risk based on their behavior and interactions.

- Demographics: The distribution of gender is fairly balanced, with a slight lean towards 50.24% male. Other notable metrics include 25% of customers being senior citizens and 36% having a partner.

- Customer Accounts: The majority of customers (57.3%) prefer Electronic Check as a payment method, and 88.55% are on month-to-month contracts, which might be contributing to the higher churn.

- Service Signups: For services, about 50% of customers have multiple lines, while 69.4% use Fiber Optic internet, which also shows a higher churn rate.

**Customer Risk Analysis Findings:**

- Churn Rate by Internet Service: Customers using Fiber Optic are churning at a higher rate (42%) compared to other services like DSL (19%).

- Contract Types: Customers on month-to-month contracts have the highest churn, while 1-year and 2-year contracts have a significantly lower churn rate.

- Churn by Payment Method: Customers using Electronic Check also have the highest churn rates, suggesting that encouraging other payment methods (like automatic payments or credit cards) could reduce churn.

- Tenure Impact: Customers in their first year are at the highest risk of churn, especially those using Fiber Optic services.

## 7. Recommendations

1. Increase Sale of Longer Contracts: Based on the findings, focusing on increasing the sales of 1-year and 2-year contracts by 5% each can help improve customer retention and reduce churn.

2. Reduce Churn in Fiber Optic Services: Since Fiber Optic customers show a higher churn rate, I suggest focusing on customer satisfaction efforts, especially by increasing tech support capacity and lowering tech tickets per customer to 0.5.

3. Encourage Automatic Payments: As customers using Electronic Check face the highest churn, an initiative to increase automatic payments by 5% yearly could positively impact retention.

## 8. Conclusion

The combination of **Power BI**, **DAX**, **Excel**, and **Power Query** allowed for detailed data analysis, interactive visualization, and actionable insights. These tools provided a comprehensive overview of customer churn and risk, allowing the Retention Manager to take targeted actions to improve customer retention and reduce churn.