Power BI Report: Churn Analysis

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Abstract

In this project, I utilized Power BI to examine and unravel the complexities of customer churn at Databel, a hypothetical telecom company. The focus was not just on identifying the churn rate but digging deeper to unearth the causes and provide actionable insights to counteract it. I have copied report pages to showcase the visualizations done in Power BI. This is followed up by a write-up on the complete process of how those report pages were created.
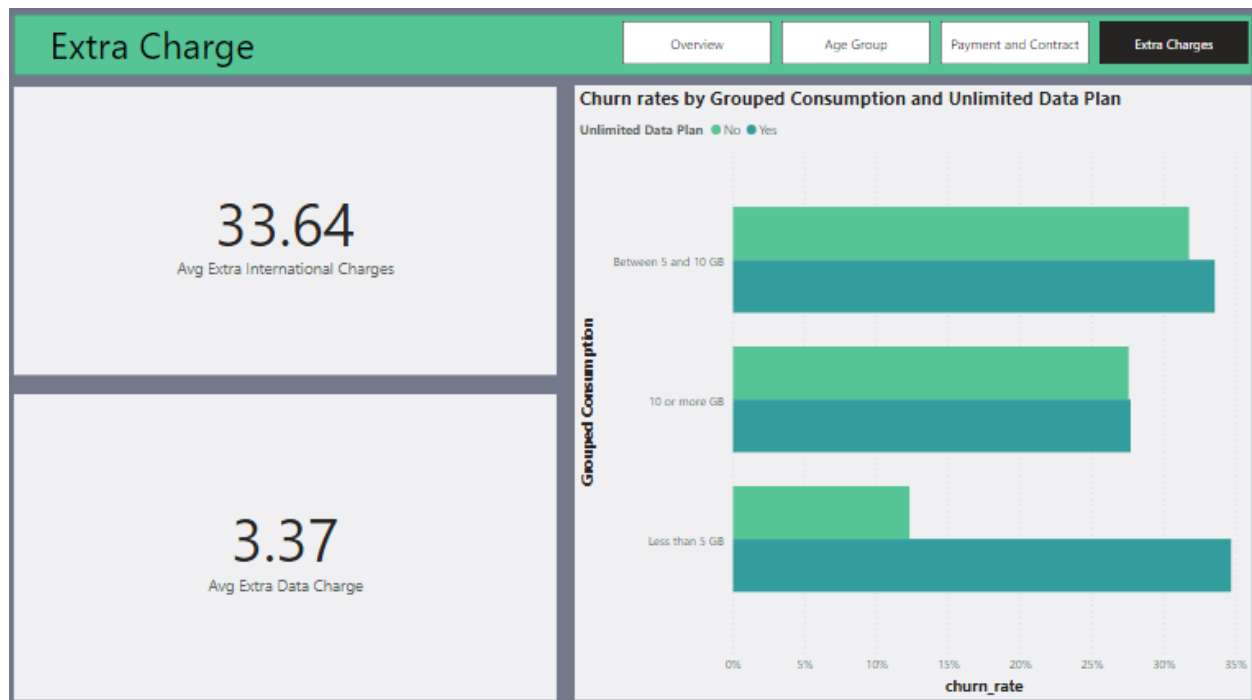
Power BI Report

Report Page 1

Report Page 2

Report Page 3

Report Page 4

Procedural Write-up

Dataset Deep-dive & Measure Creation

I embarked on this journey by immersing myself into Databel's dataset. Using Power Query, I expertly cleaned and transformed the data, ensuring its readiness for in-depth analysis. Leveraging my acumen in DAX, I constructed custom measures capturing churn-relevant metrics, thus setting a robust analytical foundation.

Advanced Analysis & Insight Generation

Next, I further employed my Power BI prowess to investigate why Databel's customers were leaving. Through a combination of advanced DAX measures and calculated columns, I was able to pinpoint trends and identify potential churn triggers. Here, my proficiency with Power BI's wide array of visualization tools, including scatter plots, tree maps, and heat maps, was instrumental in identifying and illustrating critical patterns in the data.

Dashboard Creation & Storytelling

Through expert use of DAX, I constructed a comprehensive date dimension table, allowing for accurate temporal analysis. My strategic decision to utilize a snowflake schema underlines my ability to choose the appropriate model based on the data's structure.

I also expertly managed the relationships between tables, ensuring appropriate cardinality and cross-filtering. Though Power BI can only manage one active relationship between tables, I skillfully maintained a few inactive relationships to preserve the integrity of the data.

As this report was specifically designed for a single department with full data access, I didn't implement Row-level security or sensitivity labels. This bespoke tailoring of the report to the user's requirements reflects my client-focused approach.

Exploratory Data Analysis

This phase allowed me to showcase my creativity and deep analytical skills.

The Overview page I designed presents a quick snapshot of the company, using multiple measures and varied visualizations. I showcased key metrics such as the number of active and inactive employees, attrition rates, and department-wise distribution - highlighting my ability to present complex data in a digestible manner.

In the Demographics section, I applied my comprehensive understanding of diverse visualization tools to present details on the employees' marital status, age, gender, and ethnicity-based salary distributions.

The Performance Tracking page shows my ability to turn raw data into actionable insights. With this page, I ensured that all important performance-related aspects were covered.

In the Attrition section, I delved deep into the data, exploring potential causes of attrition and presenting these insights in an accessible way.

Report Customization

Finally, I polished the report by customizing its layout and theme. This crucial step, often overlooked, demonstrates my attention to detail and understanding of the importance of aesthetics in data presentation. The report was neatly organized, with each page titled appropriately, and a navigation bar added for smooth transitions.

This comprehensive report underlines my proficiency in Power BI, showcasing my ability to handle large datasets, manipulate and model data effectively, and provide meaningful insights through expert data visualization. It is my firm belief that these skills would be a valuable asset in any data-driven role. In the final phase, I combined my findings into an intuitive, impactful dashboard, applying Power BI's extensive layout and design capabilities. By arranging the dashboards into a cohesive story, I ensured the insights were easily interpretable and actionable for stakeholders, demonstrating my commitment to making data insights accessible and comprehensible.

The project also highlights my adeptness in managing relationships between tables in Power BI, my understanding of various data schemas, and my ability to perform complex transformations. This Power BI project is a testament to my ability to transform dense, real-world datasets into meaningful narratives and actionable insights. It underscores my data analysis acumen, technical skillset, and ability to communicate data-driven findings effectively, making me a strong candidate for any data-oriented role.