

Problems and background

Problem Statement:

The telecommunications company, serving 7,043 customers in California, faces challenges in understanding and addressing customer churn. The dataset for one quarter of 2022 provides detailed information on customer demographics, location, services, and current status. The company needs insights into customer acquisition, profiles of churned, joined, and stayed customers, key drivers of churn, and the retention of high-value customers.

Background:

With a focus on the second quarter of 2022, the dataset encompasses customer details such as gender, age group, city, internet service, average revenue, data consumption, unlimited data usage, specific streaming service preferences, and more. The company seeks to analyse the customer profiles, identify differences among churned, joined, and stayed customers, determine the primary reasons for churn, assess the loss of high-value customers, and understand preferences in payment methods, top churned cities, and preferred churn offers. This analysis aims to equip the company with actionable insights for effective customer retention strategies.

Solution

1. Data Analysis:

- Conduct a comprehensive analysis of the churn data, focusing on customer demographics, service usage, and location details.
- Explore trends and patterns related to customer churn, acquisition, and retention.

2. Data-Driven Insights:

- Extract valuable insights on customer profiles based on gender, age group, cities, internet service, and more.
- Identify key drivers of churn through data-driven analysis.

3. Stakeholder Engagement:

- Engage with stakeholders to share insights, discuss findings, and collaboratively strategize on effective retention measures.
- Foster a data-driven decision-making culture within the organisation for sustainable improvements.

This solution aims to provide actionable insights derived from a thorough analysis of the churn data, enabling the telecommunications company to enhance customer retention strategies and optimise its services.

Project scope

The project aims to analyse churn data for a fictional Telecommunications company operating in California. The primary goals include understanding customer dynamics, identifying key drivers of churn, and proposing strategies to retain high-value customers. The analysis will cover customer demographics, service details, and current status, providing insights into the flow of the marketing domains: Product, Price, Promotion, Place, and People.

Domains Analysis:

1. **Product:** Evaluate the attractiveness of telecom services and offers by assessing customer preferences and churn patterns.
2. **Price:** Analyse the impact of pricing structures on customer churn and identify optimal pricing strategies.
3. **Promotion:** Investigate the effectiveness of promotional offers and identify the most preferable churn offers among customers.
4. **Place:** Examine the geographical distribution of churn, focusing on the top 12 cities, to understand regional variations.
5. **People:** Explore customer profiles for churned, joined, and stayed categories, identifying any demographic differences and preferences.

By delving into these marketing domains, the project aims to provide actionable insights to enhance customer retention strategies and ensure a smooth flow across different aspects of the business.

Methodology

Data sources: Dataset is acquired from local data sources.

Data wrangling: Initially, data collection was performed through local data sources. Subsequently, a meticulous data cleaning process was executed to address inconsistencies, missing values, or outliers within the dataset, ensuring data accuracy. Finally, the organised data, emphasising pertinent variables related to customer behaviour and churn, was prepared for analysis.

Data analysis: The data analysis is done on the basis of following parameters:

- **Customer Acquisition:** Determine the number of customers who joined the company during Q2 2022.
- **Demographic Analysis:** Evaluate gender and age group distribution among new customers, considering both percentages and actual numbers.
- **Geographical Insights:** Identify the top 12 cities with the highest churn rates.
- **Service Preferences:** Analyse preferences for internet services, streaming services, and other offerings among joined, churned, and stayed customers.
- **Key Drivers of Churn:** Investigate factors influencing customer churn and identify potential strategies for retention.
- **Payment Method Preferences:** Examine the preferred payment methods among churned users.

Data visualisation: The data has been systematically visualised, focusing on customer demographics. This includes the presentation of gender and age group distribution through charts and graphs. Utilising Pivot table Analysis, the study identifies the top 12 cities characterised by the highest churn rates. Visualisations are employed to compare service preferences across various customer statuses. Furthermore, preferred churn offers are presented through visual representations, complemented by insights into trends in customer acquisition and churn over the specified quarter.

Goals and KPIs (3 - 4 Max)

- Increase customer retention by 20%
- Improve customer satisfaction by improving customer support
- Achieve a 75% retention rate for high-value customers.
- Reduce churn rate by 15% by identifying key churn drivers
- Increase preferred methods by 20%
- Address challenges in top 12 churn cities to reduce churn by 10%

Technical Processes

Formula used: Vlookup, Count, Max, Min, Pivot table.

Tool used: Excel

Business Concepts Used

Market Understanding:

Analyse customer demographics, including gender, age groups, cities, and internet service preferences, to gain insights into the market's composition and preferences.

Customer Demographic:

Explore detailed customer profiles for churned, joined, and stayed customers, examining gender distribution, age groups, city preferences, and internet service usage.

Customer Behaviour:

Identify key drivers of customer churn and assess customer behaviour by analysing factors like average revenue, GB consumption, and preferences for unlimited and specific streaming services.

Customer Retention:

Evaluate whether the company is losing high-value customers and strategize to retain them, focusing on satisfaction, loyalty, and tailored services.

New Customer Acquisition:

Understand the number and characteristics of customers who joined the company, considering gender, age groups, cities, internet service preferences, and more.

Recommended Analysis:

Q.1. How many customers joined the company? How many customers joined?

- Gender distribution among customers shows 46.48% female and 53.52% male.
- The highest age groups among joined customers are 19-28 (19.82%), 29-38 (23.35%), and 39-48 (20.46%).
- Joined customers contribute revenue amounting to 199.5589, with a significant presence in top cities including Los Angeles, San Diego, San Francisco, Sacramento, and Glendale.
- The majority of joined customers prefer Internet Services and opt for unlimited data plans.
- A significant portion of joined customers (majority) subscribes to all streaming services, including Streaming TV, Music, and Movies.

Q.2. What is the customer profile for a customer that churned, joined, and stayed? Are they different?

- The categorisation of data distributed has been conducted based on the following categories:
 - Female customers constitute 49.52% of the total, with 13.33% in the churned status, 3.00% joined, and 33.20% stayed.
 - Male customers make up 50.48% of the total, with 13.20% in the churned status, 3.45% joined, and 33.82% stayed.
 - Churned customers account for 26.54% of the total, with 1.60% indicating "No" and 24.93% indicating "Yes."
 - Joined customers make up 6.45%, with 2.58% responding "No" and 3.86% responding "Yes."
 - Stayed customers constitute the majority at 67.02%, with 17.48% responding "No" and 49.54% responding "Yes."
 - Churned customers have an average total revenue of 1971.35.
 - Joined customers have a significantly lower average total revenue of 119.56.
 - Stayed customers show the highest average total revenue at 3735.68.
 - Churned customers have an average monthly GB download of 41,446.
 - Joined customers have an average monthly GB download of 6,935.
 - Stayed customers have an average monthly GB download of 96,109.
 - - For customers with "Unlimited data," 21.67% have NA values, 1.60% are in the churned status, 2.58% joined, and 17.48% stayed.
 - - For customers with "No" unlimited data, 10.96% are in the churned status, 3.61% joined, and 6.67% stayed.
 - - For customers with "Yes" for unlimited data, 67.37% are in the churned status, 21.33% joined, and 42.87% stayed.
 - - Churned customers represent 26.54% of the total, with the highest count in the 19-28 age group.
 - - Joined customers make up 6.45% of the total, with the highest count in the 29-38 age group.
 - - Stayed customers constitute 67.02% of the total, with the highest count in the 19-28 age group.
 - The table summarises customer streaming preferences across various categories. In the "Churned" group, 1869 customers opted for streaming TV, movies, and music. The

"Joined" category had 454 customers with streaming preferences, and the majority, 4720, in the "Stayed" group also had diverse streaming choices.

For detailed analysis feel free to check the excel file provided in this project file.

Q.3. What seems to be the key drivers of customer churn?

- According to the data, a majority of the churned customers express the belief that the company's competitor offers superior devices and more attractive deals. Additionally, these customers indicate dissatisfaction with the company's support personnel, citing perceived inadequacy in problem resolution and attitude. Furthermore, they contend that the company's competitor outperforms in terms of providing more data with higher download speeds.

Q.4. Is the company losing high-value customers? If so, how can they retain them?

- As depicted in the illustration, the revenue generated by churned customers ranked as the second-highest, totaling 3,684,460. Consequently, these customers are identified as high-value clients that the company has lost. Previous analyses have already discerned the reasons for this, primarily attributing churn to the superior services and attractive offers provided by our competitors.

The company can retain customers as per the points given below:.

1. Provide more appealing deals to increase competitiveness.
2. Improve customer support services, addressing reported dissatisfaction with problem resolution and perceived attitude.
3. Introduce promotional incentives, such as one month of free data for new customers.
4. Proactively engage customers to build stronger relationships.
5. Focus on continuous improvement in service quality to address and mitigate churn factors.

Q.5. Out of the 3 customer statuses, stayed, churned, and joined, which has the highest %?

- The customer status with the highest percentage is "Stayed" at 67.02%, followed by "Churned" at 26.54% and "Joined" at 6.45%.

Q.6. What payment method was preferred by churned users?

- According to the figure below, the majority of churned consumers selected bank withdrawal with the greatest percentage of 71.11, credit card with 21.29%, and mailed check with 7.60%.

Q.7. What are the top 12 cities that are churned?

- The following are the top 12 cities with the highest recorded instances of churn, with "San Diego" ranking first as the location associated with the highest number of churned customers.

Q.8. What churn offers were preferable by the customers?

- Customers demonstrated a preference for Churn Offer E, which accounted for 22.79% of the choices, as indicated below.

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