Customer Analytics Case Study

Telco Churn

Author: Syafiq Azman

Contact: 0478664878

Email: syafiqazmn@gmail.com

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1. Introduction:

This case study will analyse the customer data from a telecommunications company to understand the reasons why customers are churning. This case study aims to provide marketing strategies recommendations that the company can use to reduce its churn and increase revenue. The most important variables analysed regarding customer churns are CLV values, charges, tenure months, churn label, churn reasons, CLV group and the customer ID. Customer churn was also reclassified into four main business areas, namely customer service, competitors, price and product, to understand further the areas that require attention. Power BI is used to analyse the data and create visualisations of the company's position in relation to its customer churning while also understanding critical aspects of the customers' behaviours and trends. Customer segmentation based on CLV groups is created to allow the company to target specific segments with resources and capabilities to achieve the primary business objectives of revenue and churn. The High-Value customer segment is selected due to the high value in nature that this segment provides in the long term. Recommendations are given based on the marketing mix principles where the product is focused on producing innovative products and services while upgrading the features that are important to the customers. The promotion aspect is more straightforward and requires less budget as the company already has existing communication channels with the customers. For people, a significant amount of training has to be provided to the current staff while also investing in smart chatbots to automate specific tasks. Lastly, pricing has to increase to complement the investments and strategies outlined. However, as the customers are increasingly satisfied with the product and services provided, less customer churn will directly generate higher revenue for the company in the long run.
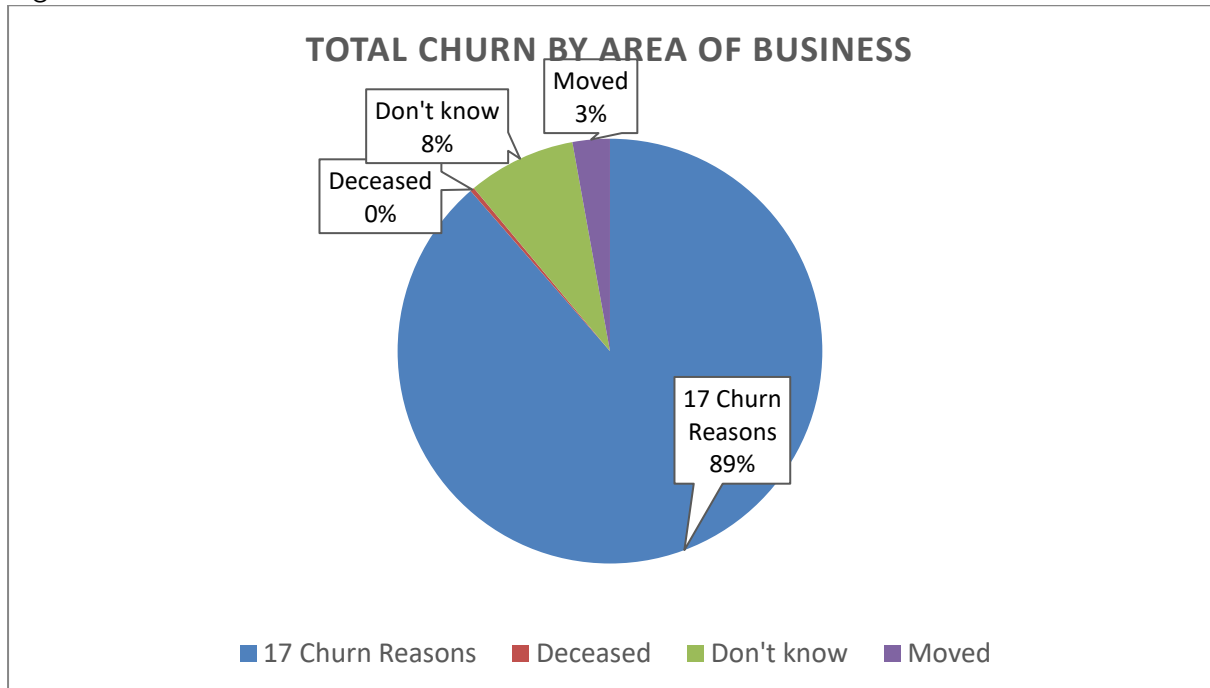
2. Data analysis:

Table 1: Total Number of Customer Churn Group by Reasons

Churn Reason	
Attitude of support person	192
Competitor offered higher download speeds	189
Competitor offered more data	162
Competitor made better offer	140
Attitude of service provider	135
Competitor had better devices	130
Network reliability	103
Product dissatisfaction	102
Price too high	98
Service dissatisfaction	89
Lack of self-service on Website	88
Extra data charges	57
Lack of affordable download/upload speed	44
Limited range of services	44
Long distance charges	44
Poor expertise of phone support	20
Poor expertise of online support	19
Total	**1656**

Table 1 shows the quantity of customer churn based on the reasons why they churn from the company. There are 17 clear reasons why customers are churning, and it is listed in descending order, with the top three being the attitude of the support person (192), competitor offered higher download speeds (189), and competitor offered more data (162).

Figure 1: Non-Relevant Data Vs Relevant Data

TOTAL CHURN BY AREA OF BUSINESS

- Moved 3%
- Don't know 8%
- Deceased 0%
- 17 Churn Reasons 89%

Legend: ■ 17 Churn Reasons ■ Deceased ■ Don't know ■ Moved

Factors such as deceased moved and don't know should be noted in the initial findings as they do not provide direct input towards churn reason. However, it is still vital to include these customers in the overall analysis as their inputs are still relevant to understanding customer patterns and behaviour. 213 customers fall under these categories, and it only accounts for less than 12%, as demonstrated in Figure 1 below.

Table 2: Reclassification of Churn Reasons to Business Areas

| Area of Business	Total Number of Customer Churn
Customer Service	
Attitude of service provider	135
Attitude of support person	192
Service dissatisfaction	89
Lack of self-service on Website	88
Poor expertise of online support	19
Poor expertise of phone support	20
Total	543
Price	
Price too high	98
Extra data charges	57
Long distance charges	44
Total	199
Product	
Lack of affordable download/upload speed	44
Limited range of services	44
Network reliability	103
Product dissatisfaction	102
Total	293
Competitor	
Competitor had better devices	130
Competitor made better offer	140
Competitor offered higher download speeds	189
Competitor offered more data	162
Total	621
Grand Total	1656

Table 2 is created to reclassify the churn reasons according to their respective area of business, namely, customer service, price, product, and competitor. The reclassification of churn reasons can be helpful to to identify which area of business is causing the customers to churn the most. Hence proper recommendations can be accurately formulated to improve selected business areas and reduce churn rate.

Figure 2: Pie Chart Distribution for Total Churn by Area of Business

TOTAL CHURN BY AREA OF BUSINESS

Customer Sevice 33%
Competitor 37%
Price 12%
Product 18%

Legend: ■ Customer Sevice ■ Price ■ Product ■ Competitor
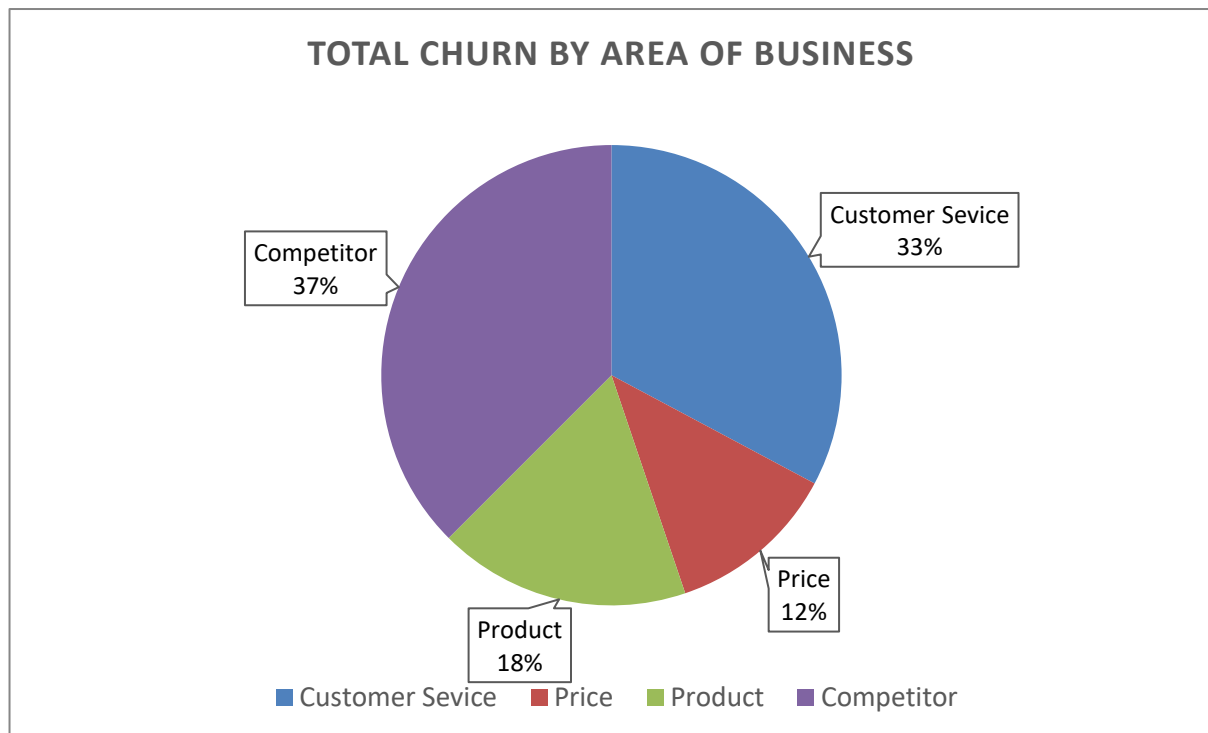
Reflecting on Table 2 above, Figure 2 visualises the proportion of churn in relation to business areas. Competitors at 37% and customer service at 33% contribute the majority of why customers are churning, followed by product and price at 18% and 12%, respectively.

Figure 3: Treemap of Customer Segment and CLTV by Type of Contract
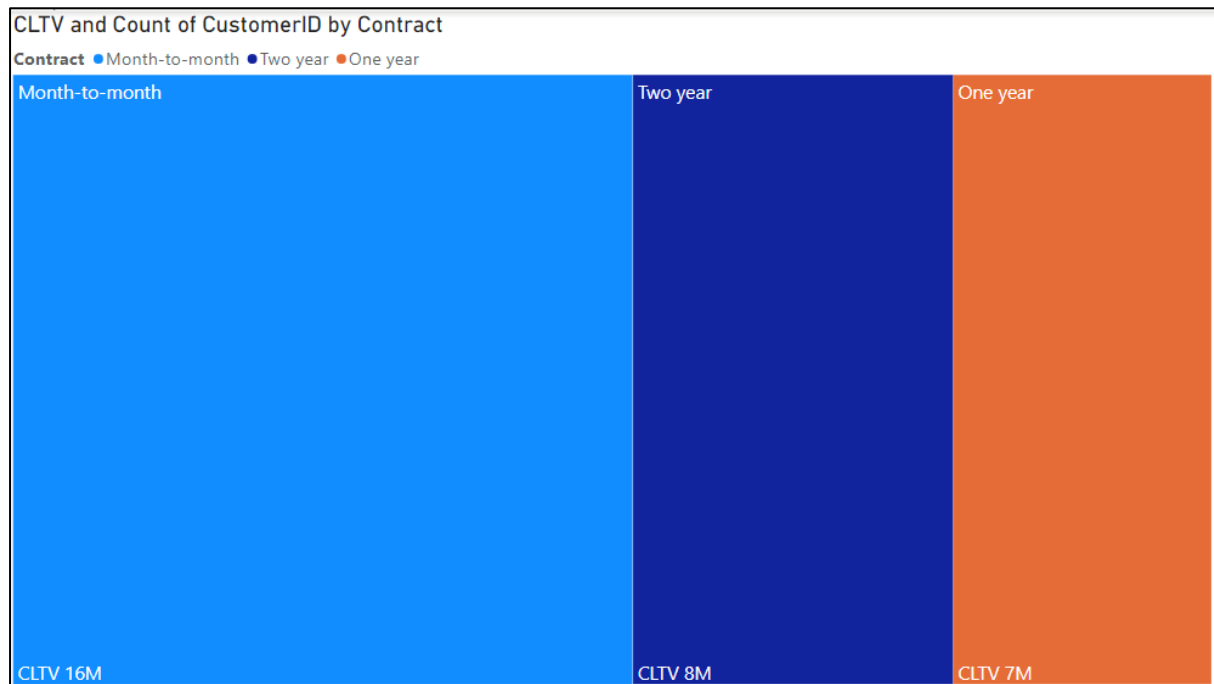
Customer lifetime value (CLV) is the current value of customers determined by key factors that relate to customer relationships and a future indication of cashflows (Dandis and Al Haj Eid 2022). Figure 2 provides insights into the value of the three offered month-to-month contracts, one year and two years, by their respective CLV. The month-to-month contract is the biggest in CLV at 16 million while the two-year and one-year contracts have a slight difference at 8 million and 7 million in CLV, respectively.

Figure 4: Creating "CLV Group" and "Churn Score Group" Columns

Columns CLV Group and Churn Score Group are created to segment the customer base for deeper analysis further. The two groups are created to distinguish between the low, medium, and high values in their respective customer groups. Below is the numerical breakdown for each group using a simple formula where the difference between the maximum and minimum values for each group are then divided by three.

CLV Group:

- Low = 2003-3502
- Medium = 3503-5001
- High = 5001-6500

Churn Score Group:

- Low = 0-33.33
- Medium = 33.34-66.66
- High = 66.67-100

The formulas used to create the column in PowerBi are as follows:

- CLV Group = IF(Telco_Churn[CLTV] <3502, "Low", IF(Telco_Churn[CLTV] <=5001, "Medium", "High"))
- Churn Score Group = IF(Telco_Churn[Churn Score] <33.33, "Low", IF(Telco_Churn[Churn Score] <=66.66, "Medium","High"))

Figure 5: Customer Count by CLV Group, Churn Label and Churn Score Group
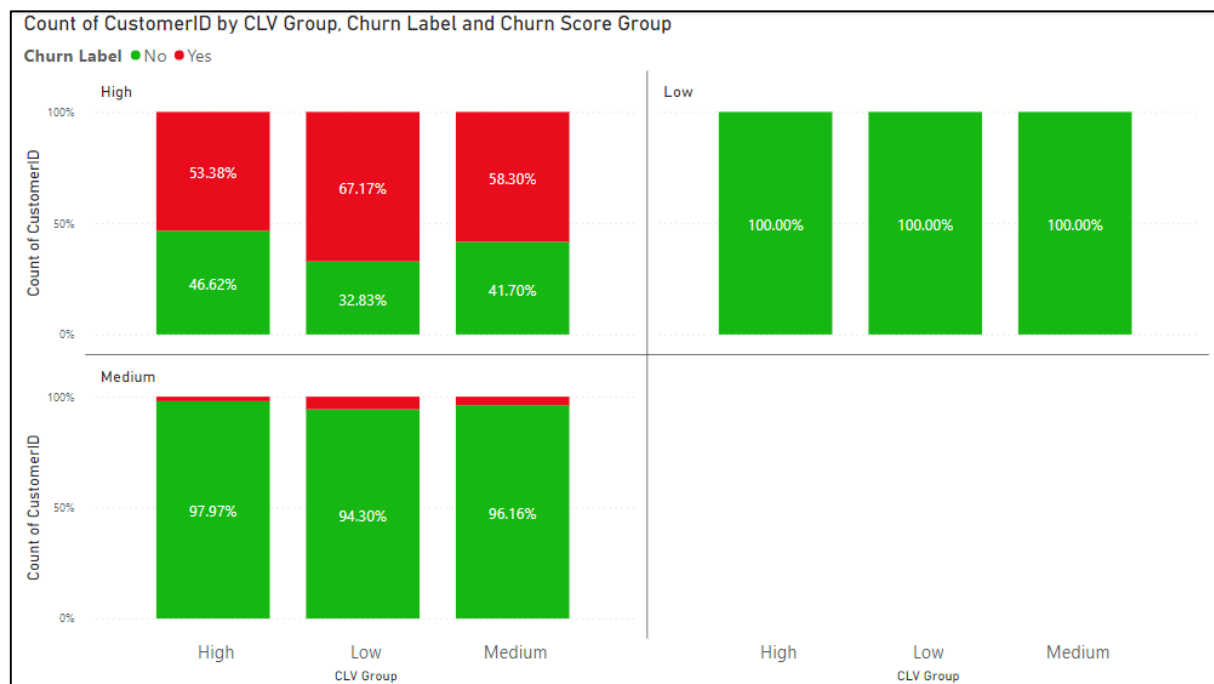
A clear view of the relationship between churn score and customer lifetime value can be seen from the two newly created groups. The highest churn score group has high customer churning across all CLV groups, while medium churn scores show very minimal customer churning across CLV groups, and none of the customers is churning in the low churn score category.

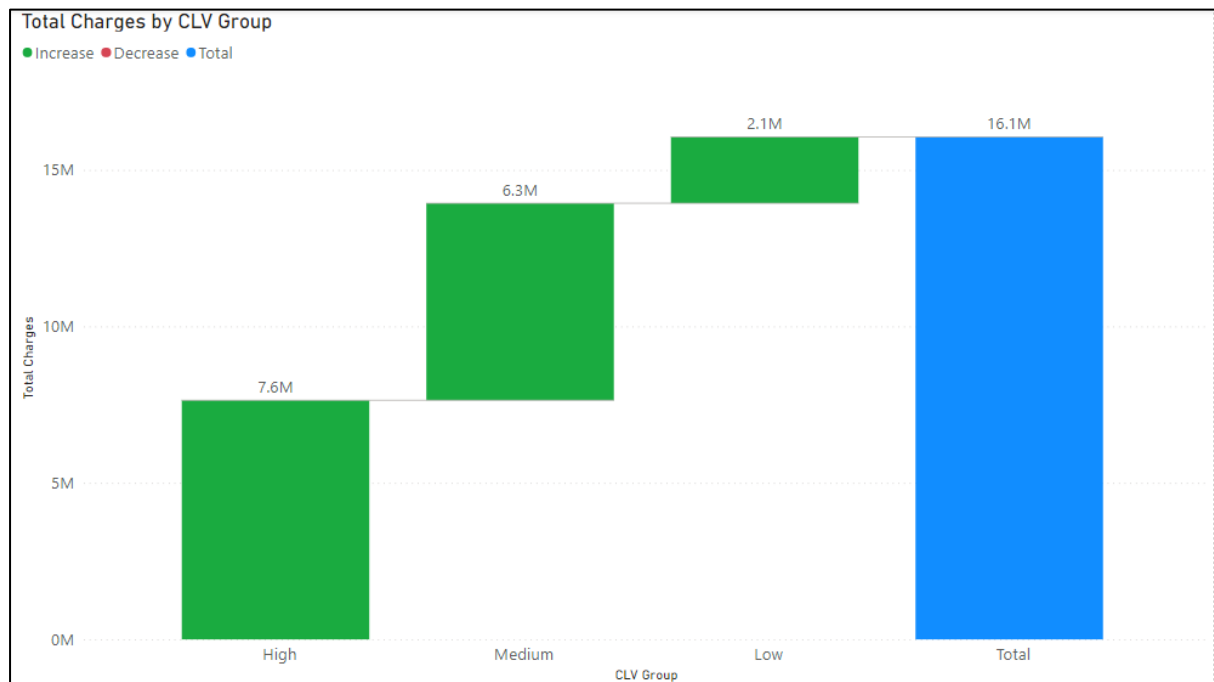Figure 6: Total Charges by CLV Group

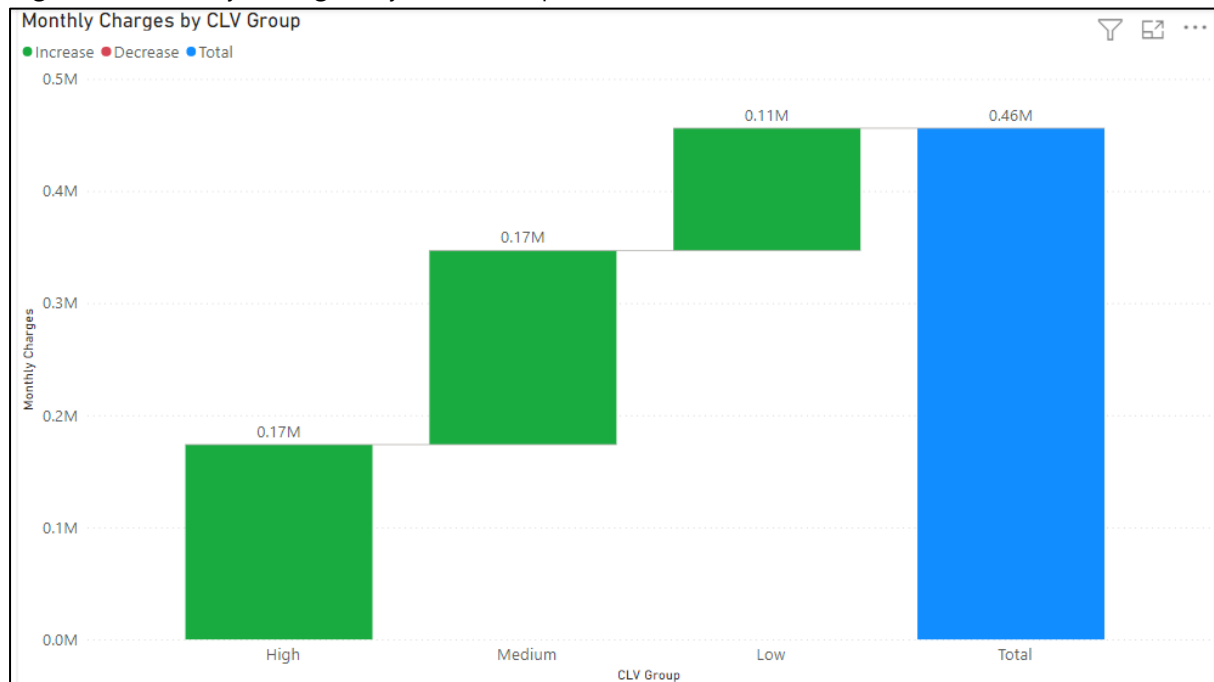Figure 7: Monthly Charges by CLV Group

Figure 6 and Figure 7 are important to visualise the monetisation each CLV group is generating for the company. Figure 6 shows that the difference between total charges for the High and Medium CLV group is not significant for both customers that churn and did not churn. Similar insights can be seen with monthly charges in Figure 7.

Figure 8: Customer Tenure Months by Churn Label and Type of Contract
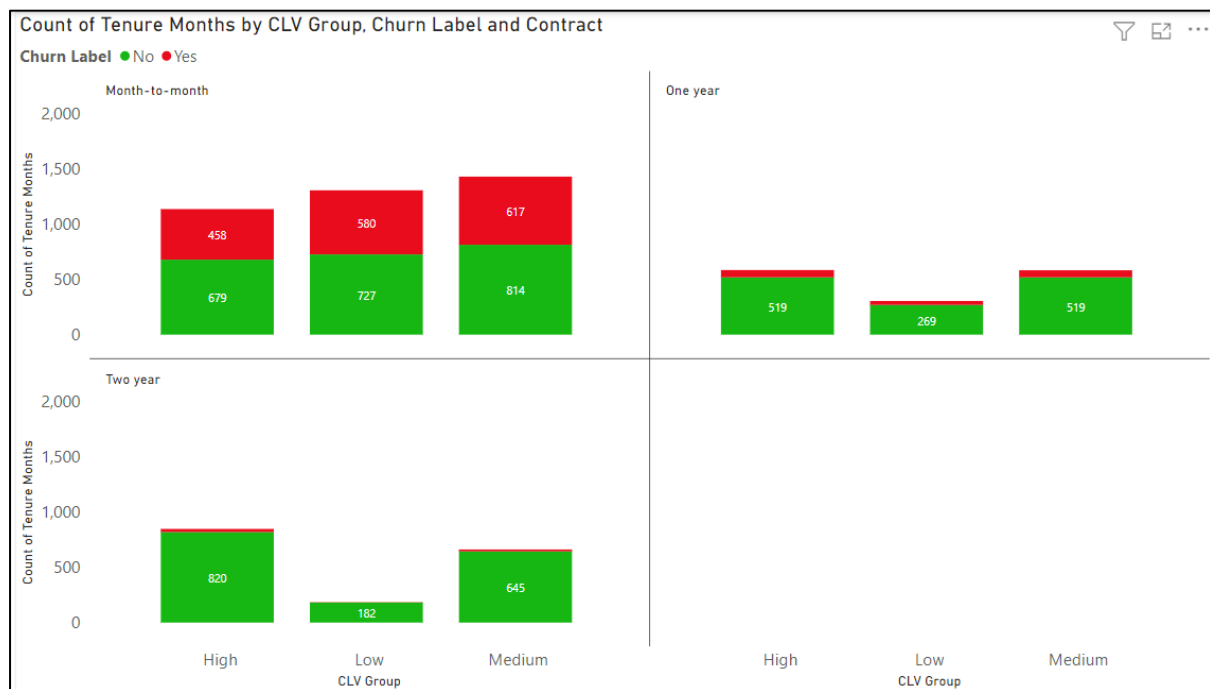
Figure 8 demonstrates the frequency of customers engaging in the services by analysing the tenure months. The customer churn is similar across the CLV group for both the one- and two-year contracts, and meanwhile, in month-to-month contracts, the customer churn is significantly higher. We can also note that there is more count of tenure months in the month to months contract compared to the others.

Figure 9: Tenure Months by CLV Group and Churn Label

Count of Tenure Months by CLV Group and Churn Label

Figure 9 shows the total count of tenure months by CLV Group. Medium and High CLV groups show little difference between tenure months, while the low CLV group has low total tenure months.

3. Customer segmentation:

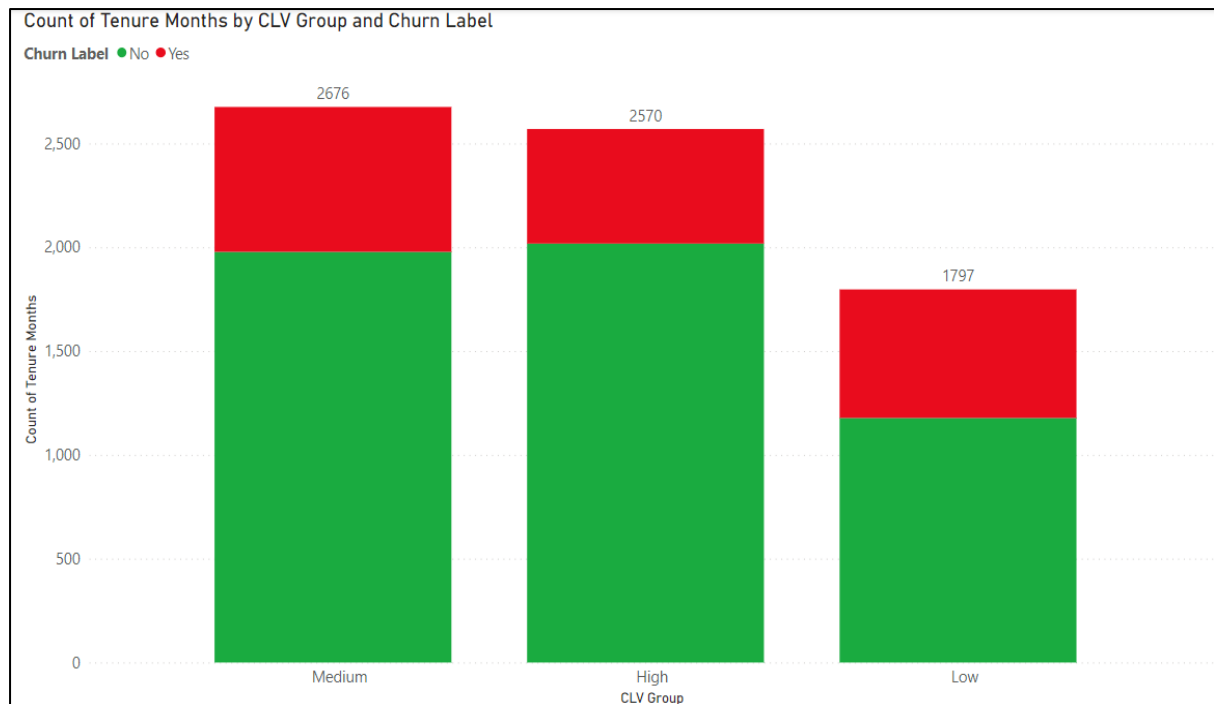Based on the analysis performed in part 2 (Data Analysis), customer segmentation based on value is an excellent strategy to solve the business question in this case study. "How do we increase revenue or reduce churn?". CLV is a good attribute to identify valuable customers for the company in the long run. Besides that, from the lens of monetisation, total charges and monthly charges are strong indicators to determine customers that are deemed highly profitable to the company. While tenure months can interpret as the frequency of customers purchasing habits with the company's services.

The first customer segment identified from the attributes is High Value, consisting of customers with high CLV scores from 5001 to 6500. Based on their CLV values, they are very valuable for the company and should be monitored for churn closely. High-Value customers also have a high frequency which means high tenure months and high monetisation, which refers to high total and monthly charges, as demonstrated in Figures 6 and 7 in Section 2. Second, Medium Value, where customers are not spending as high as shown in Figures 6 and 7, hence lower monetisation value. They also have lower tenure months and have medium value in CLV scores. In the last, Low-Value segment, customers have low CLV scores below 3502, low monetisation value for total and monthly charges, and low tenure months.

Table 3: Customer Segmentation Based on CLV (Value), Frequency and Monetisation

Customer Segment	CLV	Frequency	Monetisation
High Value	high	high	high
Medium Value	medium	medium	medium
Low Value	low	low	low

4. Target segment:

Based on the data and customer segmentation analysis, the High-Value customer segment is the most important segment to focus on to reduce churn and increase revenue simultaneously. Since CLV also translates to the future value of customers, it is crucial to recognise which customers groups are the most profitable in the long run or the ones that will be very costly to lose (EU Business School 2021). CLV From there, specific marketing strategies can be uniquely designed to retain and attract potential customers that can fall within the same group category (Katsabaris 2020). Established from earlier analysis, we can observe that the High-Value segment group has the highest total and monthly charges. It will be very costly if a significant number of customers decide to churn from the company. As seen in figure 10 below, the company is currently losing 3.1 million in CLV from the High-Value segment group. Thus, retaining this segment would not only save the company $3.1 million in face value but also increase the company's revenue by the same amount and much more in the long term.

Figure 10: CLTV Value by CLV Group and Churn Label
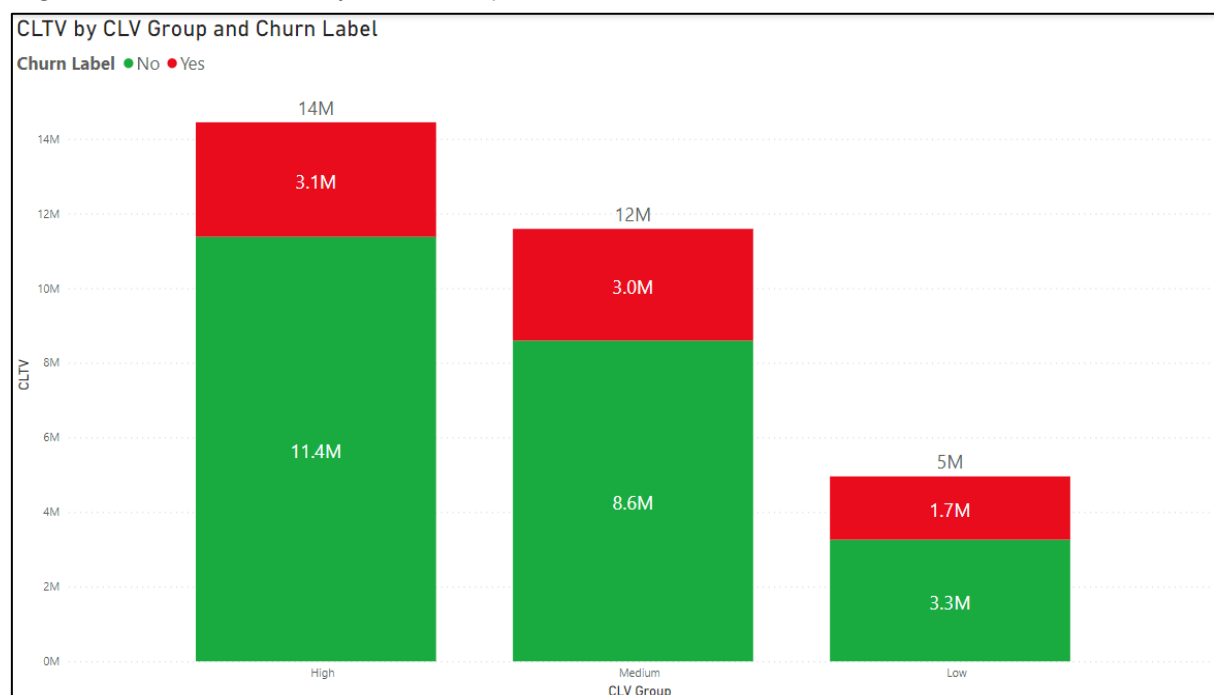
5. <u>Recommendations:</u>

Firstly, the 4P's of the marketing mix consisting of product, promotion, price and place can be applied to personalise the marketing strategies to capture and retain our target segment. The marketing mix is a set of tools that can be used to sell, promote, and incentivise the market and consumers to engage and purchase your offerings (products or services) (Pathak 2021). Product is very important in this case study, as analysed in Table 2, and some of the churn reasons also overlap with competitors' issues which ultimately reflect on the performance of the current product. The company has to increase the budget for product innovation and research, such as creating a product that can offer more data at higher download speeds and also manufacture better devices or collaborate with superior third party device providers. This strategy would benefit the company in the long run as not only the research will enable certain products and services to be offered at lower cost through technological advancement and offer competitive offerings, but companies that fail to keep up with technology will fall behind (Farouk 2021). Next, the promotion will be a much easier strategy than the others as we are focusing on existing customers. Established channels such as direct email, phone calls, and app messages can be utilised to the company's advantage without procuring heavy investments to use third-party advertising channels. For example, the company can send an email or app updates informing about future improvements in products and services based on the product strategy earlier to encourage customers to stay within the company (Wertz 2018).

Moreover, pricing was the lowest number of reasons why customer churn, which indicates that the company's current customer base is not very sensitive to price. This fits well into the product and promotion strategy as the company can increase the price slightly in the short-term but possibly be able to decrease the price in the future through innovations. The fourth strategy, instead of place, the recommendation will focus on people, which is one of the extended elements of the 7P's marketing mix (Business Queensland 2022). Since customer service was one of the biggest issues in terms of customer churn, it is crucial to include it in the marketing strategies. The company must retrain current employees across the customer service areas and other supporting staff to offer more friendly, knowledgeable, polite, professional and respectful service (Molicki 2016). Furthermore, the company needs to invest in a smart chatbot that can attend to customers 24/7. Thus, solving simple queries and problems swiftly to improve the customer satisfaction rate (Atchison 2020). In short, the company has to invest heavily at the start of the marketing strategies using the marketing mix that will increase the price of products and services. However, in the long run, the company will be able to reduce churn and

increase revenue by retaining valuable customers in the future, which will generate a stable and consistent revenue stream for the company.

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