Churn analysis simply tells you what percentage of your customers don't return compared with the percentage who conduct repeat business. By digging deeper into these numbers, you may be able to identify trends that can avert failure or take an already successful product or service to the next level.

Customer Churn Analysis for IntuCraft

Statistical analysis

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Date: October 05, 2023

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List of Abbreviations

USD : United State Dollar

Intucraft:

1. Introduction

Background

The phenomenon of customer churn poses a significant challenge in today's competitive business landscape, especially within industries characterized by high customer turnover. Customer churn, defined as the rate at which customers leave a service or stop using a product, has far-reaching consequences, from revenue loss to increased marketing costs.

Churn analysis simply tells you what percentage of your customers don't return compared with the percentage who conduct repeat business. By digging deeper into these numbers, you may be able to identify trends that can avert failure or take an already successful product or service to the next level. In the context of [Industry, e.g., telecom, SaaS], understanding and mitigating customer churn is not just beneficial—it's essential for sustainable growth.

Objective

The primary objective of this report is to provide an in-depth analysis of customer churn for Intucraft company. By leveraging data analytics, this report aims to identify the underlying factors contributing to churn and propose strategic recommendations for retention. Specifically, the analysis focuses on customer behavior, satisfaction levels, and various other metrics to provide a comprehensive overview of the current state of customer churn within the organization.

Scope

This analysis is confined to a dataset encompassing customer information for Q1 of 2023. The dataset includes variables such as tenure, monthly charges, customer satisfaction levels, and other categorical attributes, providing a holistic view of the customer base. While the insights are invaluable, it's crucial to acknowledge the time-bound nature of this data.

2. Methodology

Data Source

The dataset employed for this analysis was sourced directly from Intucraft's internal customer management system, ensuring its reliability and relevance. Comprising 7,043 unique customer records for the first quarter of 2023, the dataset encapsulates essential metrics such as customer tenure, monthly charges, and satisfaction ratings, among others. It serves as a robust foundation upon which this analysis is built.

Tools Used

To execute this comprehensive customer churn analysis, Microsoft Excel was chosen for its unparalleled data manipulation and visualization capabilities. Subsequent to the data analysis, this report was compiled using Microsoft Word to document findings, insights, and recommendations in a coherent and accessible format.

Analysis Plan

The analysis was conducted in a structured manner, encompassing several pivotal stages:

1. Data Cleaning: Initial efforts were directed towards cleaning the dataset to eliminate any inconsistencies or missing values that could compromise the integrity of the analysis.

2. Summary Statistics: Basic statistical measures were calculated to obtain an initial understanding of the dataset's characteristics.

3. Data Visualization: Various Excel visual tools, such as pivot tables and charts, were employed to represent the data in an insightful manner.

4. Insights and Recommendations: The final stage involved synthesizing the statistical and visual data to derive actionable insights and strategic recommendations.

3. Data Cleaning

Blanks in total charge has been substituted by multiplying the Monthly charge by contract duration in months.

Blanks in Customer Satisfaction Category has been replaced by the percentage of "High", "Medium", "Low".

4. Summary Statistics

The Monthly charge amount in USD vary between 18.25 to 118.75. Its distribution shows a high peak towards the minimum range (right skewed) between 18.75 to 28 with an average value of 64.8 and mode of 20.05. The total income from the 7043 customers per month is 456116.6 USD. Meanwhile, the histogram of customers' satisfaction score shows a weak left skewness with a mode of 100, minimum score of 21.4 and an approximate average score of 70.

The churn risk score shows a nearly homogenous distribution between -2.3 to 171.5 with a mode of 64, approximately, and an approximate mean value of 87.

Table 1: Monthly charges statistics

MonthlyCharges	
Mean	64.7616925
Standard Error	0.35854529
Median	70.35
Mode	20.05
Standard Deviation	30.0900471
Sample Variance	905.410934
Kurtosis	-1.2572597
Skewness	-0.2205244
Range	100.5
Minimum	18.25
Maximum	118.75
Sum	456116.6
Count	7043

Table 2: Satisfaction Score Statistics

SatisfactionScore	
Mean	69.775259
Standard Error	0.17533552
Median	69.9021803
Mode	100
Standard Deviation	14.7146095
Sample Variance	216.519732
Kurtosis	-0.2791873
Skewness	-0.1132808
Range	78.6190101
Minimum	21.3809899
Maximum	100
Sum	491427.149
Count	7043

Table 3: Churn Risk Statistics

ChurnRiskScore	
Mean	86.7722022
Standard Error	0.39070188
Median	86.1
Mode	63.95
Standard Deviation	32.7887108
Sample Variance	1075.09955
Kurtosis	-0.75811
Skewness	0.00574572
Range	173.78
Minimum	-2.31
Maximum	171.47
Sum	611136.62
Count	7043
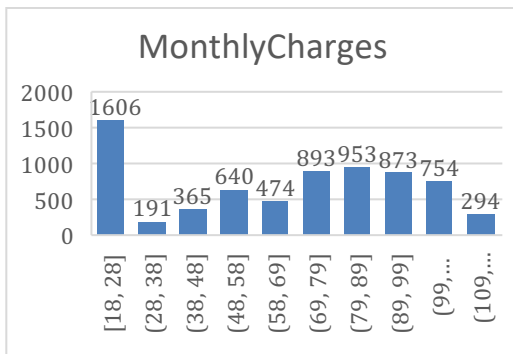
Figure 1: Monthly charges histogram
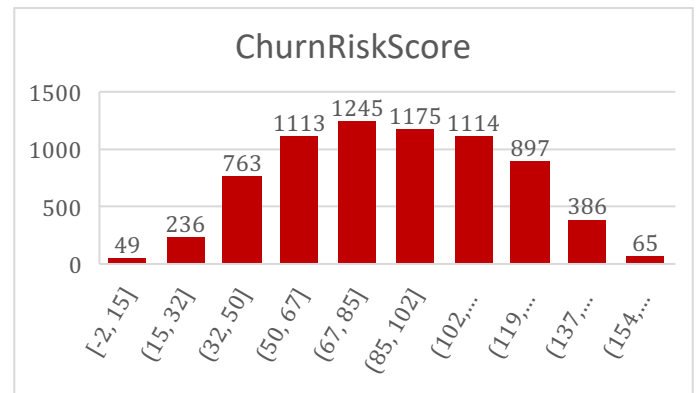
Figure 3: Churn Risk histogram
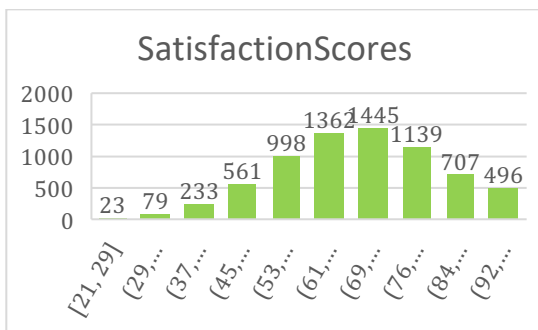
Figure 2: Satisfaction scores

5. Data Visualization

Data visualization clarified that 90% of our customers marked between medium to highly satisfied, while only 10% of our customers are with low satisfaction.

After investigating the satisfaction level of our customer with the monthly charged amount, we couldn't find a correlation that might indicate that customers are not satisfied due to the billing amount.

Senior Citizen represents only 13% (1142) of our customers with nearly equal churn percentage (476 have left the compony while 666 still with active contract).

Studying the interval of the contract with the churn percentage indicates that the probability of churn is higher for short interval contract; 1869 customers had left the company, 1655 of which were with month-to-month contract.

Offering promotions to the customers shows a great effect in minimizing the churn possibility. A number of 2393 customers had offered promotions, only 771 of them did not renewal their contract.
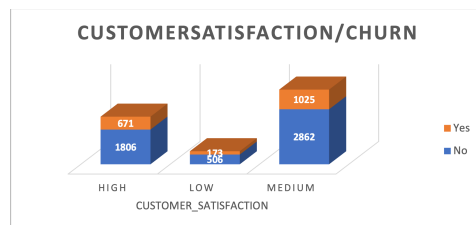

Figure 4: Churn and customer satisfactio
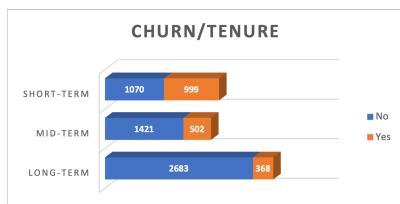

Figure 5: Percentage of customer satisfaction
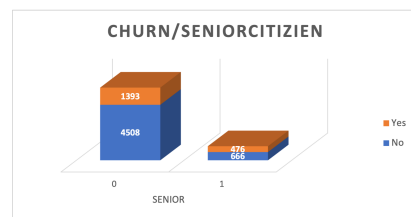

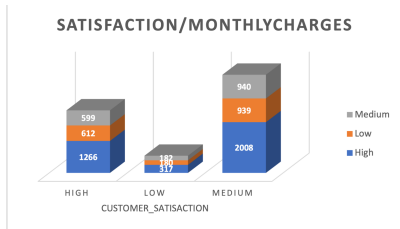Figure 6: Tenure and churn

Figure 7: Senior citizen and churn

Figure 8: Monthly charges and customer satisfaction
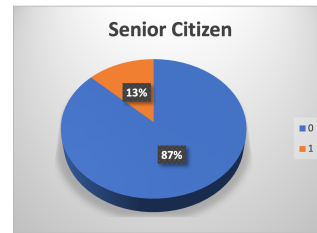

Figure 9: Percentage of Senior citizen
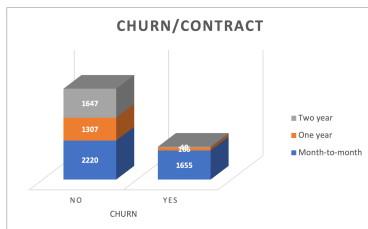

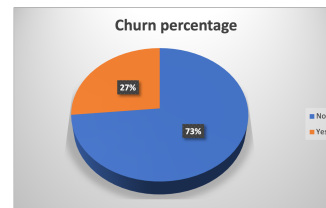**Figure 10: churn and contract interval**
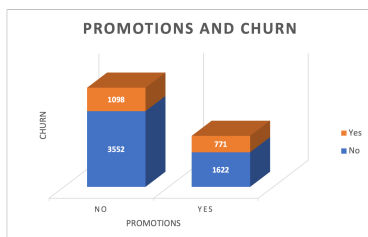

Figure 11: churn percentage
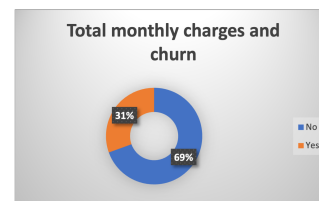

Figure 12: promotions and churn

Figure 13: Charges lost per month

6. Insights and Findings

In this section we are summarizing the main outputs of the above statistical analysis and data visualization:

- Churn doesn't depend on customer satisfaction

- Churn doesn't depend on customer satisfaction

- Probability of churn is higher for short interval contract

- We lost 27% of our customers!!!

- Customers offered promotions seems to stay more

- 31% (139131 USD) of income is lost due to churn

7. Recommendations and Conclusion

Recommendations

Based on the insights gleaned from the analysis, the following recommendations are proposed:1. Customer Onboarding: Enhance the onboarding process, especially for new customers, to improve initial satisfaction levels.2. Pricing Review: Conduct a thorough review of the pricing model, with an eye on reducing churn among high-paying customer segments.3. Customer Service Training: Given the average customer satisfaction score of 7.2, there is room for improvement. Staff training programs focused on customer service could be beneficial.

Conclusion

The comprehensive analysis of customer churn for Intucraft has unearthed several critical insights that cannot be overlooked. From the heightened churn rates among Short-term customers to the revenue implications amounting to an estimated annual loss of $1.3 million, the findings elucidate the multi-faceted challenges the organization faces in customer retention. However, challenges also represent opportunities for growth and improvement. The identified churn risk factors, specifically high monthly charges and suboptimal customer satisfaction levels, provide a focused starting point for retention strategies. Immediate actions, such as revising the pricing model and improving customer service, could yield significant benefits.In conclusion, understanding customer churn is not just about identifying why customers leave; it's about implementing actionable strategies to make them stay. By leveraging the insights from this analysis, Intucraft is well-positioned to not just mitigate customer churn but also enhance overall customer satisfaction and long-term profitability.