

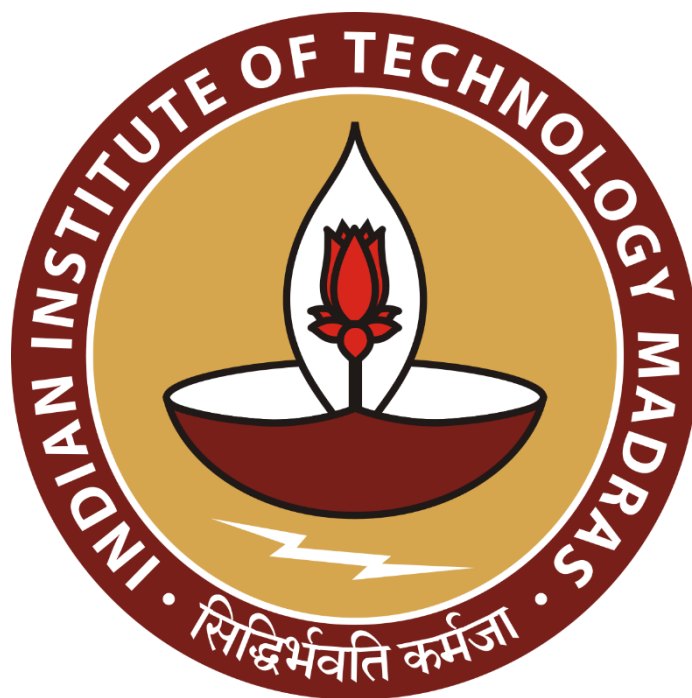
A Data-Driven Approach to Minimize Churn at JB Link Telco

A Proposal report for the BDM capstone Project

Submitted by

Name: Milan Kumar Chandra

Roll number: 21F2000882



IITM Online BS Degree Program,
Indian Institute of Technology, Madras, Chennai
Tamil Nadu, India, 600036

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Declaration Statement

I am working on a Project titled “A Data-Driven Approach to Minimize Churn at JB Link Telco”. I extend my appreciation to **JB Link Telco**, for providing the necessary resources that enabled me to conduct my project.

I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the principles of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I understand that all recommendations made in this project report are within the context of the academic project taken up towards course fulfillment in the BS Degree Program offered by IIT Madras. The institution does not endorse any of the claims or comments.

Signature of Candidate: 

Name: Milan Kumar Chandra

Date: 04-02-2024

1 Title and Executive Summary

A Data-Driven Approach to Minimize Churn at JB Link Telco

The small California-based B2C telecom company JB Link Telco is the focus of the project. This business provides phone and internet services.

JB Link Telco has a significant obstacle even if the sales staff regularly increased new client acquisition by 15% over the previous quarter. Only 43% of these new clients chose to stay with the company at the conclusion of the quarter, choosing not to have their contracts renewed after just a few months. An overall quarterly churn rate of 27% indicates that there is a serious problem with customer retention, which is shown by this concerning pattern. Due to the significant decrease of almost 12% in the overall customer base caused by this high churn rate, JB Link must immediately address and develop retention strategies for its existing customer base.

By doing a comprehensive data analysis, I'm attempting to identify the primary causes of declining retention rates and customer churn. My goal is to identify the underlying factors that lead to client attrition by means of insight extraction. This data-driven strategy will offer a thorough comprehension of the problems.

2 Organization Background

JB Link Telco is a small telecom provider serving over 1,000 regions and 1,600 zip codes in California. It offers phone and internet services to its customers. After investing in infrastructure to provide phone and internet networks to areas with insufficient or non-existent service, the company, which has only been in the market for six years, has expanded rapidly. Additionally, the business boasts a highly competent sales force that consistently does a great job of drawing in new clients. The quantity of new clients signed up throughout the most recent quarter accounts for 15% of the total. The executive leadership of JB Link is aware that certain rivals are spending money on expanding their network coverage and acquiring cutting-edge technology.

Proof of Originality : <https://www.kaggle.com/datasets/johnflag/jb-link-telco-customer-churn>

Problem Statement (Listed as objectives)

- 2.1 **Problem statement 1:** The high customer churn rate is a critical challenge, with only 43% of newly acquired customers renewing contracts. This gap in retention threatens the company's growth and sustainability.
- 2.2 **Problem statement 2:** Regaining customers lost to competitors, former customers who switched to competitors and understanding the reasons behind customer defection.

3 Background of the Problem

JB Link is seeing a concerning decrease in client retention despite its impressive new customer acquisition. The primary problem is that the business finds it difficult to convert new customers' interest into long-term loyalty. Contract non-renewals upon acquisition point to possible internal issues, which might be anything from issues with general client satisfaction to worries about the quality of the services provided.

Internal Problems:

The primary internal issue is the seeming disparity in customer retention tactics. Even when a competent sales force brings in a significant amount of new clients, internal elements like customer happiness or service quality might not be able to keep them as long-term supporters. To build a more resilient and long-lasting customer connection structure, JB Link must thoroughly evaluate and address these internal problems.

External Problems:

The telecom market is active and competitive from the outside, with rivals making significant investments in cutting-edge technology and broadening their network coverage. JB Link faces a struggle in keeping up with industry innovations and changing client expectations due to this external pressure. To effectively compete and keep clients in the face of external market forces, it becomes imperative for businesses to align their services with these external dynamics.

4 Problem Solving Approach

Leveraging statistical and analytical methods, a complete data-driven approach will be used to address JB Link's customer churn problem.

Descriptive Statistics

Customer Demographics Analysis: Look for trends among customers that have greater churn rates by looking at important demographic factors such as gender, marital status, age, and the number of kids.

Geographical Analysis: Use city, zip code, and geographic coordinates to analyze customer data and find patterns in specific areas as well as possible causes of customer churn.

Correlation Analysis:

To find important correlations, perform a detailed correlation study between the churn value and distinct characteristics. This involves looking at how churn is affected by factors such as monthly fees, problems with services, and customer happiness.

Categorical Variable Analysis:

Look for trends among consumers who are more likely to leave by analyzing categorical variables such as internet service type, contract type, and billing preferences. The study will shed light on how particular services or agreements with vendors affect retention.

Analysis of Customer Service Requests:

Examine the overall volume of service requests and see how they relate to customer attrition. Enhancements in service quality can be guided by an understanding of the connection between consumer satisfaction and service-related concerns.

Analysis of Product/Service Issues:

Examine issues with reported products or services to determine what needs to be fixed. A thorough analysis of issues raised can identify certain pain points that are causing customers to become dissatisfied and possibly leave.

Analysis of customer satisfaction:

Examine what influences consumer happiness, including the availability of tech assistance, device protection, and internet security. Examine how these services affect overall customer satisfaction and whether a lack of them is associated with higher customer attrition.

Analysis of Tenure:

Examine the length of time a customer has been a customer in connection with churn. Determine trends among clients with shorter tenure who may be more vulnerable to leaving the service.

Referral Analysis:

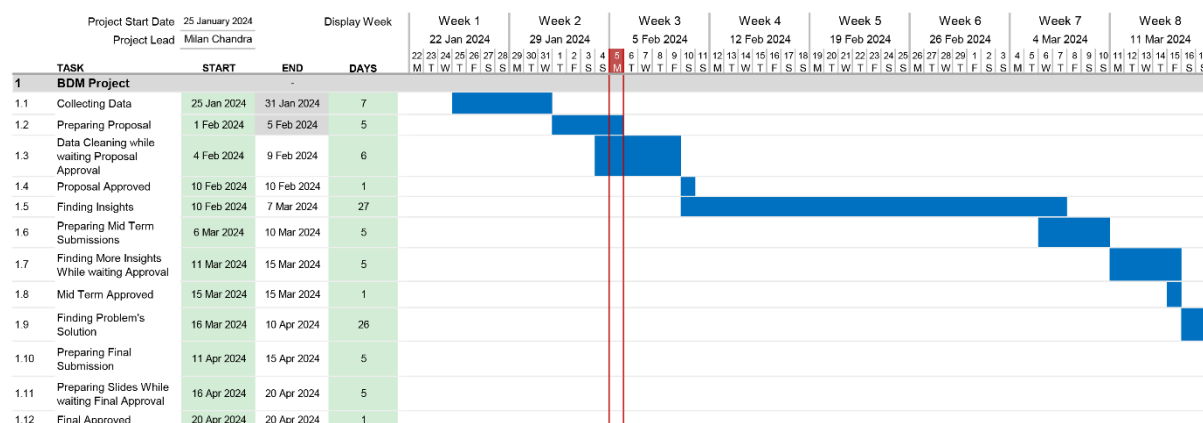
Explore the relationship between referrals and churn. Assess whether customers who referred friends exhibit different retention patterns compared to those who did not.

5 Expected Timeline

5.1 Work Breakdown Structure:

- 5.2 Collecting Data
- 5.3 Preparing Proposal
- 5.4 Data Cleaning while waiting Proposal Approval
- 5.5 Proposal Approved
- 5.6 Finding Insights
- 5.7 Preparing Mid Term Submissions
- 5.8 Finding More Insights While waiting Approval
- 5.9 Mid Term Approved
- 5.10 Finding Problem's Solution
- 5.11 Preparing Final Submission
- 5.12 Preparing Slides While waiting Final Approval
- 5.13 Final Approved

5.14 Gantt chart



Project Start Date		25 January 2024	Display Week		Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Project Lead		Milan Chandra			18 Mar 2024	25 Mar 2024	1 Apr 2024	8 Apr 2024	15 Apr 2024	22 Apr 2024	29 Apr 2024	6 May 2024
TASK	START	END	DAYS		M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S
1	BDM Project				M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S	M T W T F S S
1.1	Collecting Data	25 Jan 2024	31 Jan 2024	7								
1.2	Preparing Proposal	1 Feb 2024	5 Feb 2024	5								
1.3	Data Cleaning while waiting Proposal Approval	4 Feb 2024	9 Feb 2024	6								
1.4	Proposal Approved	10 Feb 2024	10 Feb 2024	1								
1.5	Finding Insights	10 Feb 2024	7 Mar 2024	27								
1.6	Preparing Mid Term Submissions	6 Mar 2024	10 Mar 2024	5								
1.7	Finding More Insights While waiting Approval	11 Mar 2024	15 Mar 2024	5								
1.8	Mid Term Approved	15 Mar 2024	15 Mar 2024	1								
1.9	Finding Problem's Solution	16 Mar 2024	10 Apr 2024	26								
1.10	Preparing Final Submission	11 Apr 2024	15 Apr 2024	5								
1.11	Preparing Slides While waiting Final Approval	16 Apr 2024	20 Apr 2024	5								
1.12	Final Approved	20 Apr 2024	20 Apr 2024	1								

6 Expected Outcome