

Optimizing Revenue Fluctuations and Member Acquisition Strategies for a Fitness Center

A Proposal Report for the Business Data Management Capstone Project

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Submitted By

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Declaration Statement

I am working on a Project Title “*Optimizing Revenue Fluctuations and Member Acquisition Strategies for a Fitness Center*”. I extend my appreciation to the management of the fitness center 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 through 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 information 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 agree that all the recommendations are business-specific and limited to this project exclusively, and cannot be utilized for any other purpose with an IIT Madras tag. I understand that IIT Madras does not endorse this.

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Date: 01/10/2024

Optimizing Revenue Fluctuations and Member Acquisition Strategies for a Fitness Center

Executive Summary :

The fitness center under study was established in the year 2019. The founder, with a sportsman personality since childhood and years of experience, aspired to help the local community achieve their fitness goals, and believed this aspiration could be fulfilled by establishing a fitness center in his locality.

From the beginning of the center, the management has been operating the business profitably and slowly expanding its services over the years. But recently, the organization feels like attracting new members is proving to be difficult. Despite operating profitably, they are facing difficulties regarding fluctuations in revenue flow during certain periods of the year.

To address the challenges faced by the business, a detailed analysis of the data will be performed, and various statistical and analytical approaches like trend analysis, time-series forecasting, and cost vs. expense analysis will be done to obtain a fruitful outcome. This project aims to optimize the challenges faced by the business and provide sufficient analysis from the data collected to draw some conclusions. Based on the analysis, various possible recommendations will be provided to help the management make breakthrough changes that are expected to yield sustainable growth of the fitness center in the coming years.

Organization Background :

The fitness center, situated in a commercial town area, was established in 2019. It operates in a B2C capacity from a leased space within a business complex. Remarkably, the fitness center is located amidst several banks and commercial businesses, making it easier for the center to draw attention for new potential members.

The center is efficiently managed under the leadership of its founder, who has assembled a team consisting of one manager, five trainers, and one part-time cleaner. The establishment's overall yearly revenue is approximately ₹40,00,000 whereas operational expenses are approximated to around ₹16,00,000. This economic balance of ₹24,00,000 represents 60% of annual profit.

The center offers a variety of services including strength training, cardio, and Mixed Martial Arts (MMA) classes. Four enrollment options are available to members throughout the year — monthly, quarterly, half-yearly, and annual. This brief overview highlights the center's commitment to promoting health and fitness among its members, playing a significant role in their physical well-being.

Problem Statement :

The major problems faced by the organization can be categorized into two problem statements:

1. **Revenue Fluctuations:** The fitness center currently encounters uneven fluctuations in their monthly revenue inflow as opposed to fixed as well as variable monthly expenses, making it challenging for the business to generate significant profits during certain months of the year.
2. **Customer Acquisition:** The fitness center comes across challenges in acquiring members for their half-yearly and annual membership plans. While the center attracts short-term or monthly members, converting them into longer-term commitments has proven difficult.

Background of the Problem :

Based on the discussion with the management, the fitness center is currently facing significant challenges due to inconsistent fluctuations in its monthly revenue inflows. These fluctuations create difficulties in covering the center's fixed and variable costs, such as salaries, rent, maintenance, and loan EMIs.

The income that is generated from membership fees tends to vary widely every month, with some months experiencing a noticeable drop in member engagement or renewals. This variation is likely to be influenced by factors such as seasonality and local festivals, which have been estimated to impact the revenue cycle.

Besides the revenue fluctuation, the primary concerns of the organization are regarding customer acquisition and conversion. The fitness center struggles with converting short-term or monthly members into long-term members under its half-yearly and annual membership plans. Despite the business successfully attracting short-term members, the low rate of conversion of these members to longer-term plans creates insufficiency in cash flow.

The lack of steady enrollments in the half-yearly and annual plans makes financial planning difficult, limiting the center's ability to reinvest in the business and capitalize on potential growth opportunities. Without addressing these challenges, the fitness center may find it difficult to maintain stable growth and achieve long-term sustainability.

Problem-Solving Approach :

Details about the methods used with justification

- **Exploratory Data Analysis (EDA)**
EDA techniques like descriptive statistics and data visualization will help us to understand the nature of the monthly revenue, member engagement, and enrollment data.

By summarizing important statistics and showing data visually, we can discover and identify underlying trends that are hindering growth prospects.

- **Time Series Analysis**

Time series analysis on monthly revenue collection will help us gain insights on the months which are facing a dip based on member engagement. This will help in identifying patterns and seasonality as well that can inform business decisions, and help to forecast future trends based on historical data.

- **Cost vs. Expense Analysis**

Cost vs. expense analysis using a scatter plot will be done to analyze the correlation between monthly income and expenditure, which will give us insights into the monthly profitability of the center.

- **Trend Analysis**

Trend analysis will be conducted to help us visualize membership trends over time.

- **Linear Regression**

Based on the insights collected via different statistical methods mentioned above, going forward, a simple linear regression model will be developed to predict future revenue and member enrollments. This model will help the business to plan for future growth and make informed decisions prior to increasing profitability.

Details about the intended data collection and justification

- **Monthly revenue data**

Monthly revenue data, broken down by membership plans, will be collected to understand cash flow patterns and identify fluctuations due to seasonality and local festivals, in order to conduct a time series analysis to forecast revenue.

- **Monthly expense data**

Monthly expense data covering both fixed costs like rent, salaries, and EMIs, as well as variable costs such as maintenance and electricity bills, will be collected to compare income against revenue, calculate profitability, and gain insights.

- **New enrollment and monthly engagement data**

New enrollment data, categorized by membership type (monthly, quarterly, half-yearly, and annual), will be collected. Monthly active members data will be collected as well. This information will be used to create line charts, helping to analyze members enrollment and member engagement trends.

Details about the analysis tools with Justification

- **Google Sheet**

Initially, the data would be collected, organized, and cleaned using a spreadsheet. Then various in-built features of Google Sheets will be utilised for performing Descriptive Statistics and Plotting graphs. Time-series analysis will be done using Google Sheets as well.

- **Python**

Programming language Python along with its various libraries like Numpy, Pandas, and Matplotlib will be used for visualization and Scikit-learn will be used for creating Regression Models for predicting the future estimates of monthly revenue and new enrollments. Google Colab will be used to do all Pythonic computation and model building.

Expected Timelines :

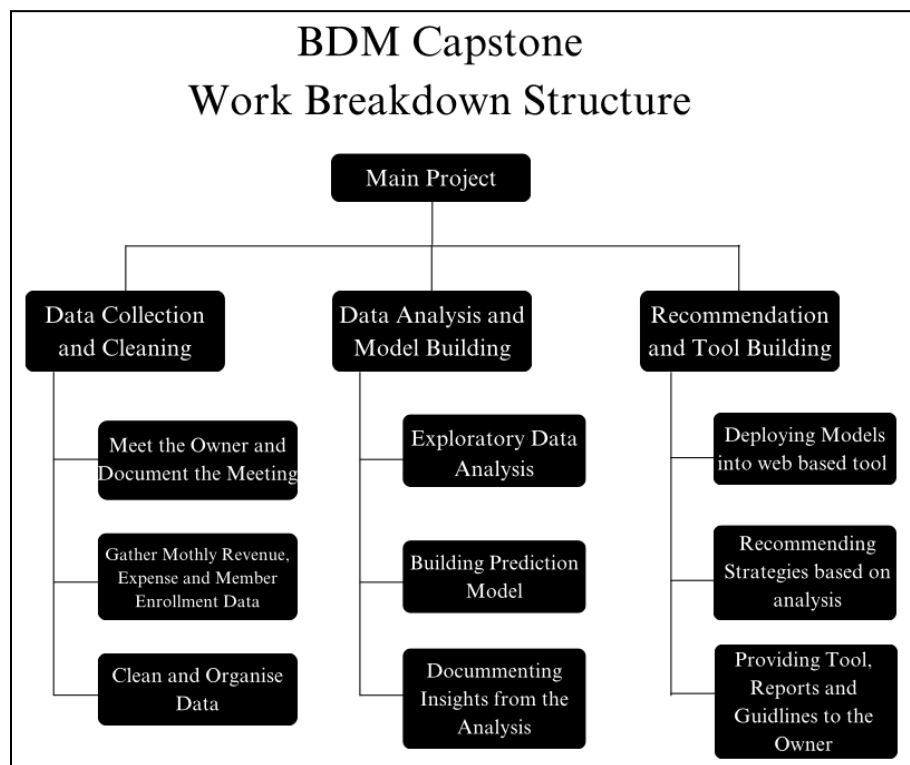


Figure 1 - Explaining Work Breakdown Structure of BDM Capstone Project

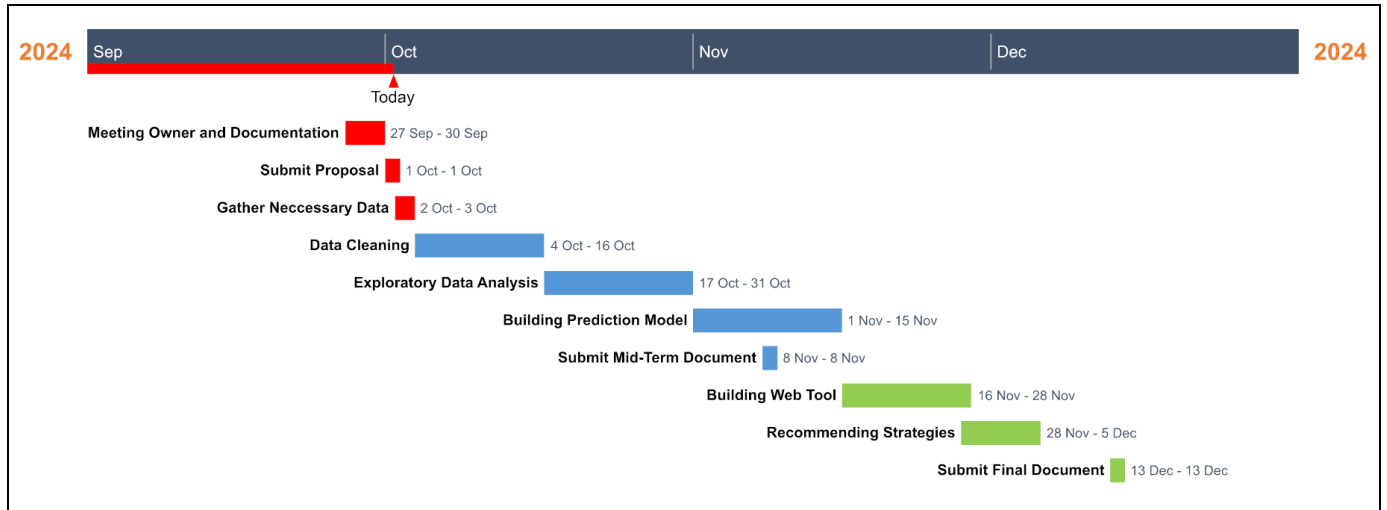


Figure 2 - Expected Timeline for Completion of Project

Expected Outcome :

- The project aims to stabilize revenue flow every month and increase income levels and conversion rate of enrollment to the annual and half-yearly membership plans as well as attracting new members.
- The revenue prediction and enrollment forecasting model used during the analysis will be deployed into a simple web-based tool.
- A report will be noted summarizing several findings concerning revenue and cost trends and membership structures. This report will also contain recommendations and suggestions meant to guide the management for sustainable growth.