

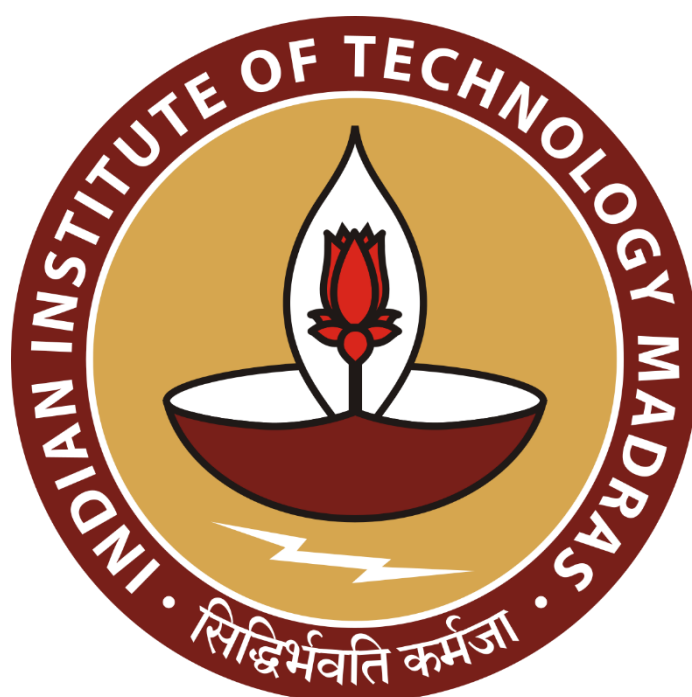
# **Data Driven Analysis of Mercurius Enterprises**

**A Proposal report for the BDM capstone Project**

Submitted by

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## **Declaration Statement**

I am working on a Project titled "Data Driven Analysis of Mercurius Enterprises". I extend my appreciation to **MERCURIUS ENTERPRISES**, 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.

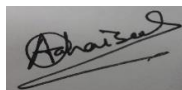
Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

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: Aaditya Uday Ghaisas

Date: 02/10/2024

# **1 Executive Summary and Title**

The organization from which I collected data from is Mercurius Enterprises, a medium-scale business located in Shimpoli, Borivali(West), Mumbai. The primary reasons for me to select this business were the following reasons

- Store is in my neighborhood
- The owner is literate and he knows me
- Owner shows active cooperation in sharing his data
- Scale of business is in my range

Data Collection:-

For data collection, the business owner personally sent the data in form of pdf. The different products that he sells includes:

1. Heart Stents
2. Nasal Prongs(adult)
3. Heat and Moisture Exchange/HME filter
4. Micro Infusion Set
5. Hale Ciser
6. Masks
7. 3 way Stop Cock

# **2 Organization Background**

- The company that I am working with is Mercurius Enterprises which is a medium-scale business based in Shimpoli, Mumbai-400092.
- It is owned by Mr. Sandeep Anant Ghaisas. It was established in the year 2022. The owner invested more than 25-30 lakhs as an initial investment in purchasing the products, etc.
- Mercurius Enterprises is a small-scale business specialty, offering high-quality, high-standard medical appliances like micro infusion sets, heart stents, and HME filters. The company demonstrates excellent commitment to exceptional service and

reliability, serving healthcare providers in the best way possible and enhancing patient outcomes.

- It has strong relationship with the healthcare professionals would be the guarantee towards fulfilling the needs of the medical sector while trying to bring about better care services for the patients involved. The company would surely grow, expand its product lines, and strengthen its position in the market; in this way, it could have its position as a valued partner to the healthcare field.

### **3 Problem Statement**

From my interaction with the owner, I found of the store had a pretty good start at the start of the business and is well managed but

- Found out most of the problem lies in delivery of products timely and within inventory management.
- The business is not performing well in according to the net profit

Hence, the problem statement can be summarized into the following problem statements

- 1 Optimizing inventory at the company and the stock present at the hospitals.
- 2 Analyzing the net profit by data driven analysis to increase it.
- 3 How to increase reach if required by comparing the store performance with average market standard.

### **4 Background of the Problem**

#### **Problem Overview**

Mercurius Enterprises also faces several challenges on its way forward to expanding and addressing the health sector. Some challenges are mainly major groups: internal factors and external factors-in both instances, which inhibit not only operational efficiencies but competencies in the marketplace.

#### **Main Causes of Problems :-**

Availability fluctuations often lead to an inconsistent stock level, and the inability to fulfill demand due to supply chain disruptions from lack of medical appliances.

**Regulatory Compliance:** Navigating the complex landscape of medical device regulations poses challenges, leading to potential delays in product approvals and market entry.

**Market Competition:** The growing competition in the medical appliance industry thus requires making a difference and creating something new.

### **Internal Problems**

**Less resources:** Since it is a medium-scale enterprise, the financial and human resources might not be there to undertake extensive research and development, marketing, and operational improvements.

**Staff Training and Development:**

Lack of proper, continuous training of employees may deprive the organization of delivering optimum service and low employee morale, impacting productivity overall.

### **External Problems**

**Fluctuations in Market Demand:** Sometimes, the demand for medical appliances is unpredictable and fluctuates when there are changes in healthcare policies or economic conditions.

**Technological Advancements:** Rapid changes in the technological field require instant adaptation, which becomes a strain on the company's resources.

**Dependence on particular suppliers for critical parts** might expose you to risk, because those suppliers are struggling with troubles themselves, such as production delays or quality issues.

### **Conclusion:-**

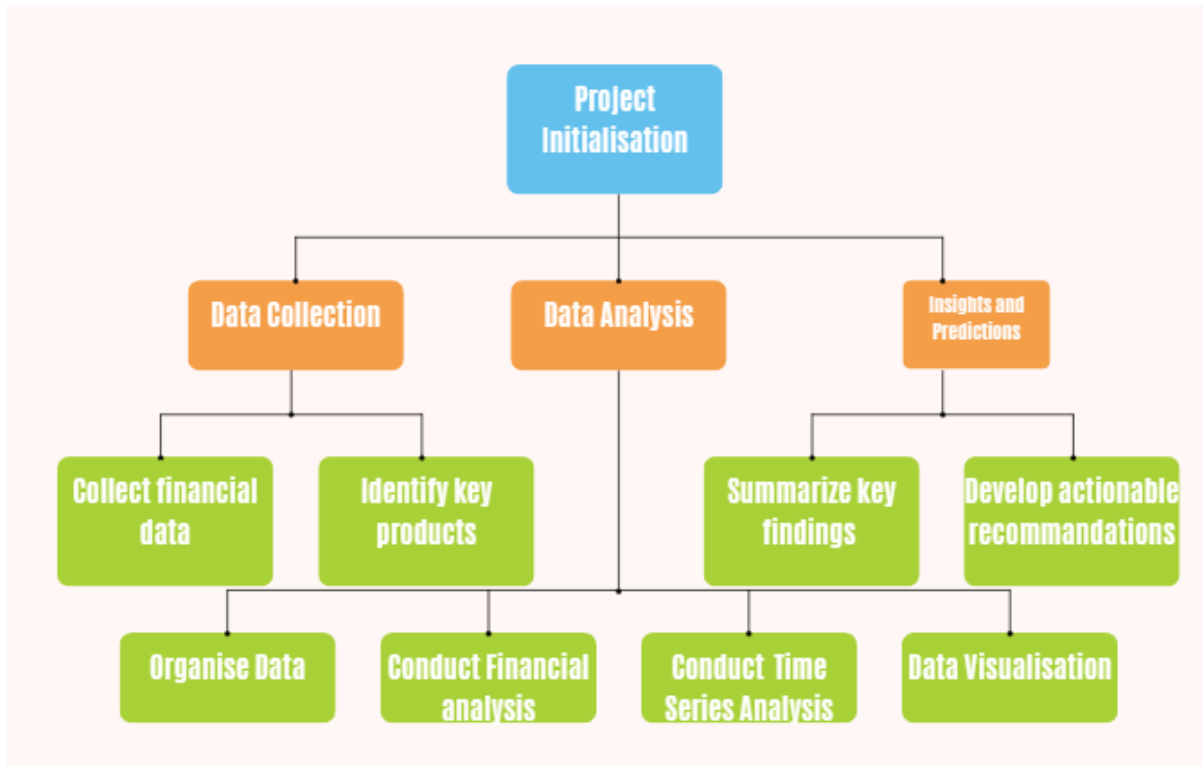
These internal and external problems have to be addressed by Mercurius Enterprises in order to improve operational efficiency and stay ahead of competitors in the medical appliance market. By strengthening the supply chain management system, improving internal processes, and investing in employee development, Mercurius can get rid of these challenges and become better positioned to grow in the future.

## 5 Problem Solving Approach

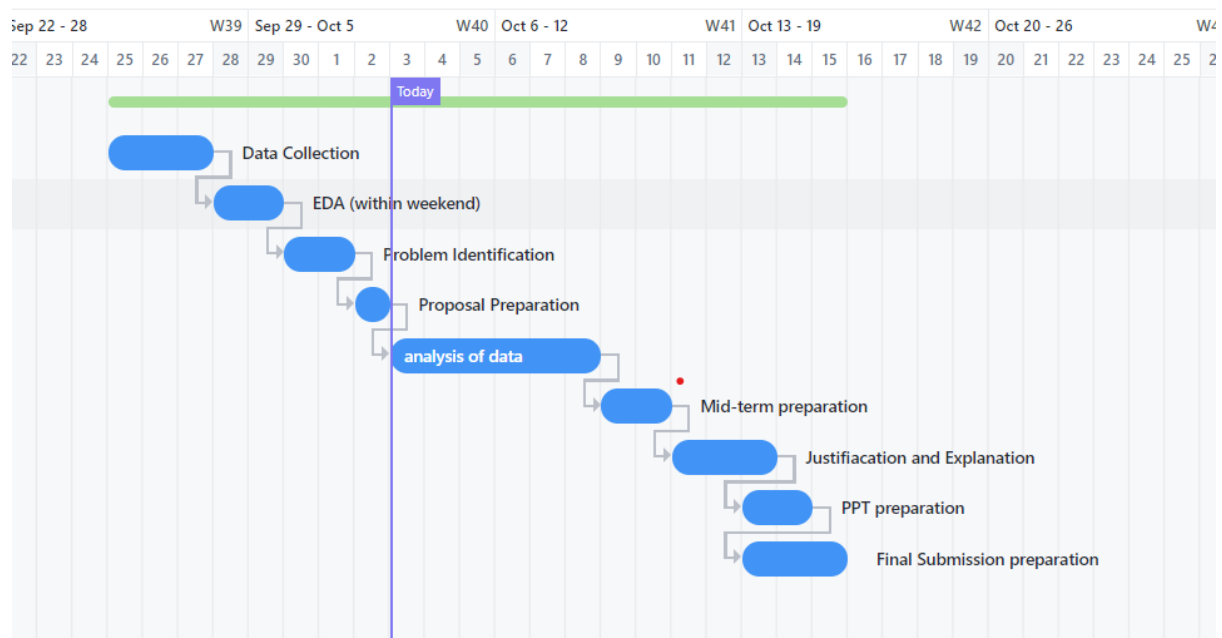
- To study Mercurius Enterprises as an entity, I relied on time series data obtained from the proprietor regarding about six standard products of the company. Information contained in the data is cost price, selling price, quantity bought, and quantity sold. Analyzing these variables would enable me to derive important financial insights like revenue, profit, and profit percent for every product. This will give a proper base for the observation of trends and potential areas of improvement.
- Because the data is time-sensitive, I used a variety of graphical representations to analyze the trend across time. Graphs prove to be particularly useful in time series analysis since they are able to unveil easy discernible patterns, seasonality, and fluctuations about product performance. In this respect, I will make stacked histograms and pie charts using pivot tables to dig deeper into the distribution and proportions of sales data.
- In solving these problems I have identified, I will thoroughly apply the analytical skills learned in the BDM. I will use pivot tables to summarize and arrange data effectively. By using pivot tables, I can easily analyze various metrics across different products. Also, I will be using other functions, such as VLOOKUP and COUNTIF, within Excel to facilitate the manipulation of data and therefore yield better results in my analysis.
- It would hence develop actionable insights that would inform the strategic decisions to be made by Mercurius Enterprises. Furthermore, the detailed financial analysis and visual data will be useful in producing effective solutions for the company's operational problems. Therefore, in the competitive medical appliance market, this approach will help optimize the products offered by the company and thus enhance the overall performance of the company.

## 6 Expected Timeline

### 6.1 Work Breakdown Structure:



### 6.2 Gantt chart





## **7 Expected Outcome**

- 1 The project's outcomes will allow Mercurius Enterprises to uncover essential findings that will help this firm solve its operational problems. As this project analyzes the time series data of the six high-value products with regards to tracking trends in sales, revenue, and profitability, this means that the company will gain leverage over optimizing its inventory management and minimize supply chain disruptions.
- 2 In addition, the financial analysis will highlight underperforming products, allowing for strategic decisions on price or complete elimination. Enhanced data visualization will allow for clearer communication of results, aiding in areas that need process improvement and employee training needs.
- 3 All these insights will help in increasing Mercurius Enterprises' share in the market by noting fluctuations in demand and reducing the influence of competition from the environment, thereby boosting operational efficiency, profits, and enabling the company to better serve healthcare providers; consequently improving results for patients.