

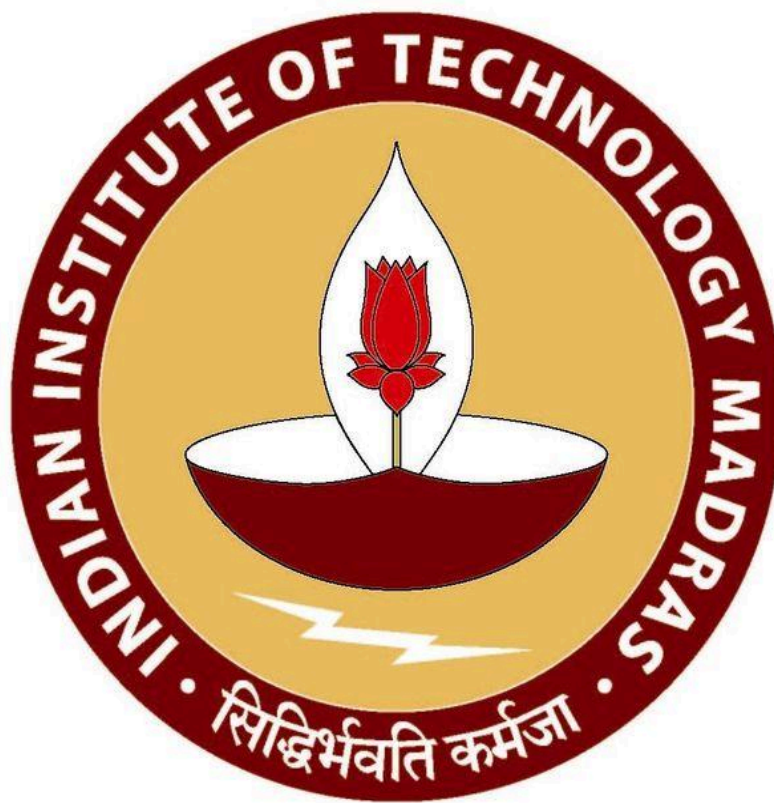
Refining the inventory Management for Effective functioning in Agrochemical.

A Proposal report for the BDM capstone Project

Submitted by:

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Declaration Statement

I am working on a Project titled "Refining the Inventory Management for Effective Functioning in Agrochemical". I extend my appreciation to "Shri Ganesh Fertilizer" 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 agree that all the recommendations are business-specific and are 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.

Signature of Candidate:

A handwritten signature in blue ink, appearing to read 'Priyanka', is shown on a light-colored background.

Name: PRIYANKA

Date: 31-03-2024

Contents:

1.	Executive Summary and Title:	2-3
2.	Organization Background:	3
3.	Problem Statement (Listed as objectives)	
3.1.	Problem statement 1:	3
3.2.	Problem statement 2:	3
4.	Background of the Problem:	4
5.	Problem Solving Approach:	4-5
6.	Expected Timeline:	5-6
7.	Expected Outcome:	7

1. Executive Summary and Title:

The project focuses on **Shri Ganesh Fertilizer, an Agro** chemicals store located at **Jind, Haryana**. This business is B2C and deals with agro chemical products like (insecticides, fungicides, herbicides and plant nutrients). The goal of the project is to analyze the inventory and sales management of agrochemical stores to identify the potential and the area where the improvement is required. I will try to provide the solution for that. The major issue in the required business is facing inefficient inventory management, weak operational process and future prediction, due to this they suffered loss. Through this project I will try to analyze the weekly pattern of revenue which also helps us to identify which product is doing well in profit margin. Likewise we can recognize the slow moving stock and take initiative to diminish the impact on our inventory level, this can also help to forecast future demand and adjust the inventory level accordingly. It would help in avoiding residual stock, ensuring a smooth operation, by ensuring consistent supply of medicine for crop disease can enhance customer satisfaction and loyalty , by providing timely solutions for emerging crop health issues the shop

can become a trusted partner for local farmers will help to ensure long term sustainability. This project will provide the detailed information of objective , organization background , tools to be used for analysis, and approaches to be used for solving the problem and finally the expected outcomes . By tackling the issues and implementing the solution can lead to positive effect.

2. Organization Background:

I am working with "**Shri Ganesh Fertilizer**" located in old Anaj Mandi Jind, Haryana. This business is B2C and unstructured enterprises. The fertilizer store was established in the year 2011, this is a solo enterprise business and is owned by **Mr. Krishan Kumar**, A local resident with intense knowledge of farming technique, they serve farmers across the Jind city and nearby villages and offer a wide range of fertilizer including nitrogen, phosphorus and potassium based fertilizers some of them are (insecticides, fungicides, herbicides, plant nutrients) from the beginning they prioritize development of eco friendly fertilizer that enhance soil fertility they also devote to promoting the strong relationship with their customers and distributors and contributing to long term well-being. Earlier the store ran very well because competition was very less but over the period of time the market grew rapidly . The store is open 6 days a week. In the future they will bring new and improved fertilization solutions to the market that will boost soil nutrition. In later times they try to maintain strategic partnership with multiple suppliers and distributors allowing us to attain a varied collection of products and reduce interruption in supply.

3. Problem Statement:

Problem 1: Inventory management: The fertilizer store is currently facing many challenges that are impacting the efficiency and profitability of the business due to the excess inventory in stock that leads to capital restrictions and also trigger the expiration of goods,as a result they experienced significant loss.

Problem 2: Weak operational process and future prediction: sometimes shopkeepers are not able to fulfill the customer demand due to the unavailability of the products which leads to weak process of ordering and customer service. This study helps us to smooth the operational process, enhance customer experience and maximize store effectiveness.

4. Background of the Problem:

The organization is encountering a key challenge in generating the profits efficiently, as our goal is to solve the problem, therefore one of the major problems is demand and supply. Sometimes demand is too high in the market but the availability of the product in stock is very less, accordingly they face financial setbacks.

Another significant observation relates to rapidly increasing the fertilizer business within the vicinity. This scenario presents a case of monopolistic competition. Consequently, consumer demand is fragmented among various rivals, this circulation of demand results in profit being circulated as well.

- **Major causes of problem:** The main cause of the problem is absence of demand prediction that leads to a surplus of stock, after the demand decreases and products not sold result in out of date products.
- **Internal barrier:** The store encounters numerous problems in a streamlined process. Lack of training among store staff regarding product and facing difficulty in accurately tracking stock level leading to overstocking and fails to effectively promote the fertilizer product.
- **External barrier:** Some time due to the weather condition or delay in fertilizer delivery, shortage of raw material can affect the inventory of the store, and sometimes this often leads to waiting queue among customers. Furthermore, intense competition from other fertilizer stores or agricultural suppliers can pose a barrier to growth and profitability. The fusion of these problems has resulted in a dreadful situation where capital is tied up in surplus inventory.

5. Problem solving approach:

The project focuses on determining the specific issue and challenge faced by **Shri Ganesh Fertilizer** stores. The issue will be addressed by analyzing the data to obtain a positive outcome. A mixed problem solving approach will have to adopt the use of data driven, advanced analytics and planned intervention to refine inventory, smooth operation and enhanced customer involvement.

- **Analytical Approach and Tools:** To address the problem of the store, excel data analysis provides a range of statistical analysis tools involving descriptive statistics by these we can analyze the different variable sales and volume and also identify the factors affecting fertilizer sale. Integrated problem solving approach will be used.

1. Market demand analysis: Improve demand estimation to avoid excessive ordering, keep eye on market fluctuation, former sales data and customer feedback by this method help us to reduce excess inventory storage.

2. Adaptive pricing strategies: Changing the prices of products according to the demand, market driven pricing, location based pricing. When demand is high, prices can be increased to maximize the revenue. And during low demand, prices can be lowered to balance sales and clear excess inventory, they can also offer subscription based pricing and loyalty programs where customers pay recurring fee or earn points for purchases; it will encourage repeatedness of business and customer loyalty.

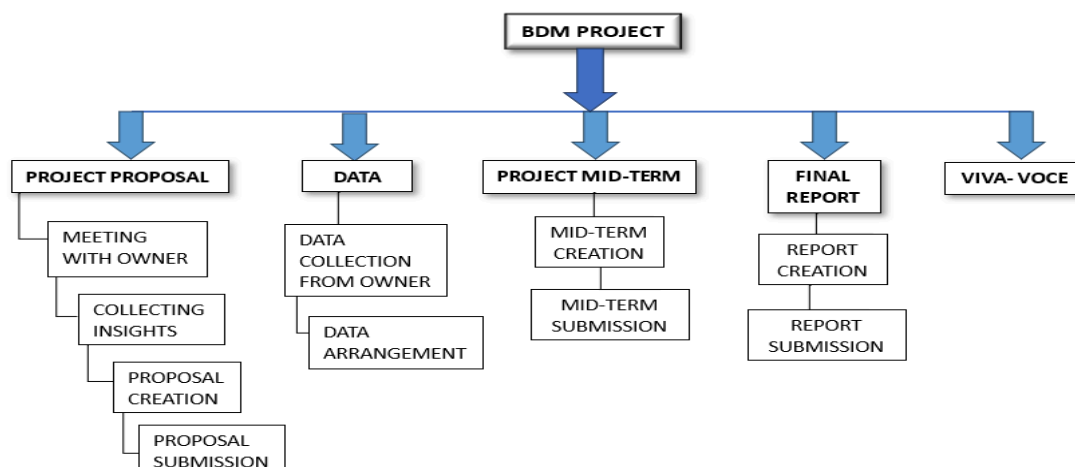
3. Offer instructional content: By adding a valuable service for a pesticide store, helping farmer to make knowledgeable choice about crop protection, creating informational brochures, pamphlets that they are easy to understand with clear illustration and diagrams by covering such topics pesticides safety, pesticides application method and storage procedure

4. Expend supplier network: By conducting market research for alternative suppliers and distributors to lower the risk of shortage, look for those companies that offer a range of products and have good reputation for product quality and are willing to work with small retailers.

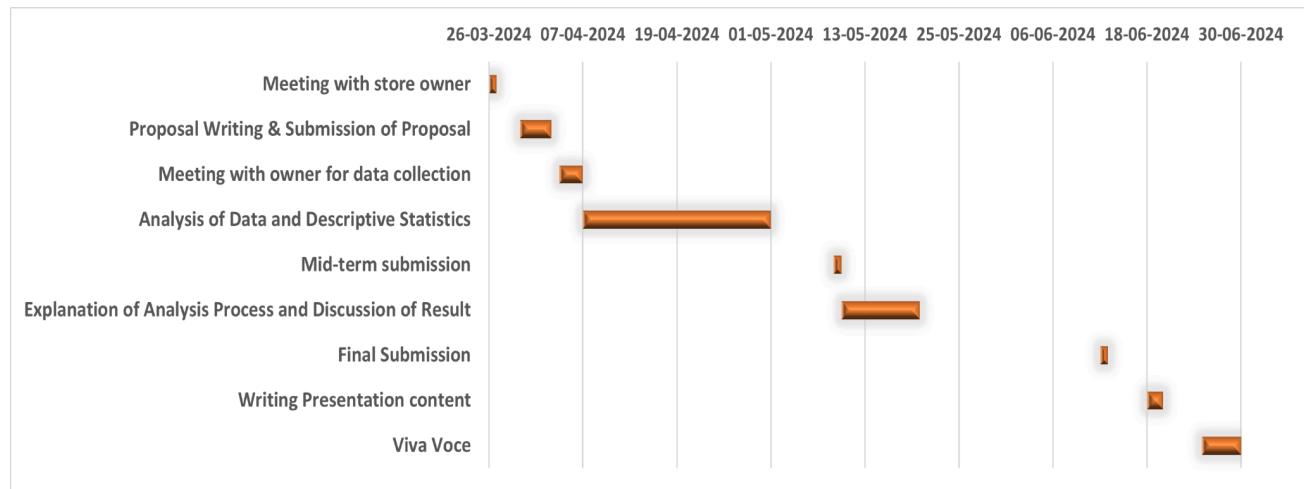
5. Revenue assessment: By analyzing profitability of different fertilizer products to identify those that are generating losses below average margin, by stopping selling those products they are able to minimize the loss making expense.

6. Expected timeline:

a. Work breakdown structure:



b. Gantt Chart



Serial number	Activity	Start date	End date
1	Meeting with the owner	26/03/2024	26/03/2024
2	Proposal writting and submission	30/03/2024	02/04/2024
3	Meeting with owner for data collection	04/04/2024	06/04/2024
4	Analysis of data descriptive and statistics	07/04/2024	30/04/2024
5	Mid term submission	09/05/2024	09/05/2024
6	Explanation of analysis process and Discussion of result	10/05/2024	20/05/2024
7	Final submission	12/06/2024	12/06/2024
8	writing presentation content	18/06/2024	19/06/2025
9	Viva Voce	25/06/2024	30/06/2024

7. Expected Outcomes:

- **Good stock optimization:** By analyzing the data we can say that if the stock management is improved that would help in developing better stock planning which would further help in avoiding excessive inventory, by good management of stores in all aspects would help in enhancing the efficiency and improve operational process that will lead a well established business.
- **Meaningful perspectives:** The project uncoverings would help in providing meaningful perspectives. This contributes to making more strategic decisions, includes better prediction about future products, avoids unnecessary expense, deals with alternative suppliers and dealers and also enhances operational efficiency. There should be accurate equilibrium between demand and supply that would help in minimizing the loss.

- **Enhance fiscal health and sustainability:** By increasing sales through various means such as expanding market reach , launching new products, optimizing the cost, focus on improving profit margin by adjusting pricing, by focusing on these areas and implementing the solution business can strengthen their financial performance and long term sustainability.
- **Reinforced business continuity:** By managing supply chain challenges and implementing effective inventory management the store can recover quickly against future disruption such as unexpected change in demand and overstocking this will help the store adapt to evolving market condition and maintain its market competitiveness over the long term
- **Minimize the loss from out of date products:** By implementing a policy for returning an expired or unsold product to the suppliers can help minimize loss due to expired inventory and improve overall profitability.
- **Increased customer satisfaction:** Assuring consistent supply of medicine for crop disease can enhance customer satisfaction and loyalty , by providing timely solution for emerging crop health issues the shop can become a trusted partner for local farmers. This will help to ensure the long term sustainability.