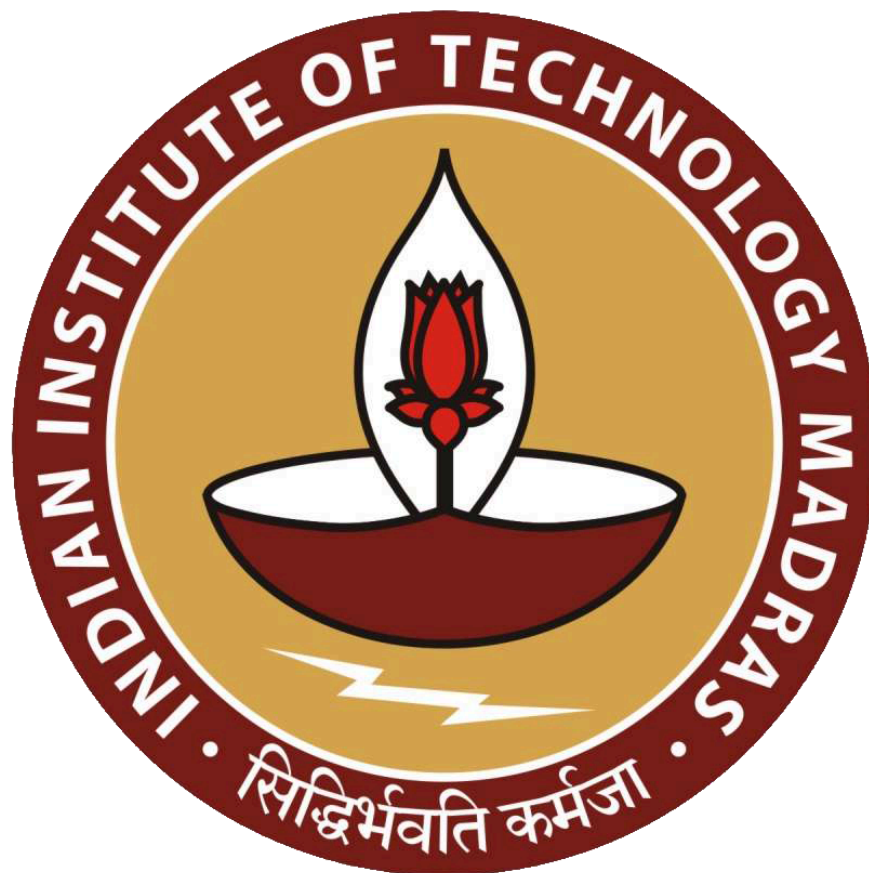# Optimising Operations: Strategies to Overcome Insufficient Workforce, Superfluous Inventory and Inadequate Clientele of a Wholesale Company.

A Proposal Report for BDM Capstone Project

Submitted By:
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Declaration Statement

I am working on a Project Title "Optimising Operations: Strategies to Overcome Insufficient Workforce, Superfluous Inventory and Inadequate Clientele of a Wholesale Company.". I extend my appreciation to Nalanda Dresses, 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.

Name : Ikshwaku Tiwari
Date: 27/01/2024

Contents

Executive Summary and Title

Nalanda Dresses established in 1970, is a wholesale business company(B2B) that manufactures and distributes girl's dresses, frocks and other apparel. The company is headed by Mr. Subodh D. Shah and Mr. Mehul Shah.

After a series of interactive meetings with the business owners, I deduced that the establishment faces the following problems. First, the major problem that the owner expressed was the need for more workforce. Second, the company was facing frequent cases of surplus inventory and lastly, expanding the local customer base and exploring marketing.

The approach to solving the first issue involves examining the company's demographics. Analyzing through surveys about the expectations and requirements that the company owners have for the recruitment of new employees. Similarly designing surveys for the workers for better retention of existing employees.

Sales data, inventory management data, etc. will be used to understand the sales trends and the bestselling items. Techniques to penetrate the local market will help build a better client base. After the analysis of the data points, the outcomes will benefit the organisation in recruiting more workers, liquidating piled-up stocks and establishing a secure client base

Organisation Background

For the BDM Capstone Project 2024, I am collaborating with a wholesale clothing company named Nalanda Dresses, which specializes in manufacturing various girls' apparel such as dresses, frocks, etc. Nalanda Dresses was established in 1970 by Mr. Subodh D. Shah near Daruwaala Pul, Kasba Peth, Pune. Around 20 years later, Nalanda Dresses faced a setback when an unfortunate fire caused the company to collapse. As a result, it had to relocate to Somwar Peth, Pune.

Currently, the company is governed by Mr. Subodh D. Shah and his son Mr. Mehul Shah. Nalanda Dresses has a wide range of attires with a classic distinctive design, which is rare in today's sense of style. The company distributes designed clothes, primarily to the states of Tamil Nadu and Kerala. The total number of employees working in the establishment is 6 including the owners.

Many years after its inception, Nalanda Dresses has stuck to the simplicity and the authenticity with which it designs clothes, which says a lot about its commitment to preserving craftsmanship.

Problem Statement

1. ***Shortage of Manpower:*** Insufficient labour is leading to increased workloads amongst the existing employees, which results in a decrease in the overall quality of production.

2. ***Surplus Inventory:*** Unable to halt production, the inventory is always superfluous, increasing storage costs and reducing profitability.

3. ***Limited Demand Locally:*** The company's distribution strategy caters to the southern states of India. Not aligning with the home market has resulted in poor market presence locally.

Background of the Problem

Addressing the shortage of manpower, this problem has two root causes. The first arises with the kinds of apparel that the company manufactures and distributes. This kind of style may not appeal to today's kids and hence there are only a few craftsmen who want to penetrate this market. The second root cause is that the company mostly hires migratory labourers, who are willing to accept lesser wages compared to the local artisans. Now, according to a study published in 2011 by the Bihar Institute of Economic Studies, there has been about a 25 to 30 per cent drop in migration in the garment manufacturing industry in the years of 2009 to 2011. In recent years, low-skilled and semi-skilled labour outflows to Gulf countries from states such as UP, Bihar and West Bengal. All these factors contribute to the primary problem.

Speaking about excess inventory. Less demand leads to less production. Due to the fear of halting production and losing the current workers, the company can't stop manufacturing. This leads to piled-up stock which can harm the company's finances. In a way, the lack of workers affects inventory pile-up as well.

Lastly, the establishment's main supply markets are the states of Tamil Nadu and Kerela, which may cater to their product but result in travel costs. The company lacks local clientele and relies on fixed clients with safe returns.

Problem-Solving Approach

1. ***Workforce Insufficiency:***
   Conducting employee engagement surveys and performance evaluations of the current employees will help me understand the impact of workload on the company's operations. Analyzing and understanding the segregation of the workload among the workers will highlight the tasks that require more attention and the areas where efforts can be reduced. This also can help build automation in the organisation's production processes.
   Predictive Analysis, using historic staffing data provided by the owners will be beneficial in predicting the turnover rate of employees, peak production times and seasonal fluctuations, which will help in maintaining a productive workforce.
   Conducting a recruitment analysis among the managers and the owners will give me an insight into the skill set required by the employees.

2. ***Excess Inventory:***
   Reducing stock pile-up will require analyzing different data points such as historical sales data, inventory management data, customer feedback etc.
   Demand forecasting, building machine learning models to predict demand more accurately. If present, analyzing customer satisfaction reports and returns reports will help me understand what products have satisfactory and good returns, which in turn helps me understand the percentage value of the goods in the inventory.
   Incorporating distributing techniques like kitting, SKU rationalization, replenishment cycle and removing dead stock will accelerate the process. Lastly, introducing dynamic pricing strategies will help understand the market demand better.

3. ***Expanding Local Clientele:***
   The marketing by the organisation is very poor. The owner himself goes to various clients to showcase the company's products. Since they distribute the clothes mostly in southern states, the time and efficiency of the company both are at stake. Expanding local clients would result in cost-cutting in terms of travel costs and stock maintenance costs.
   Conducting market research and analyzing consumer preferences to identify niche markets or segments within the local market of Maharashtra will help build more clients. Further research, and exploring new markets by analyzing the geospatial data, and the sales performance by region for the products will increase the demand.
   Lastly, incorporate better marketing techniques to target the local client base.
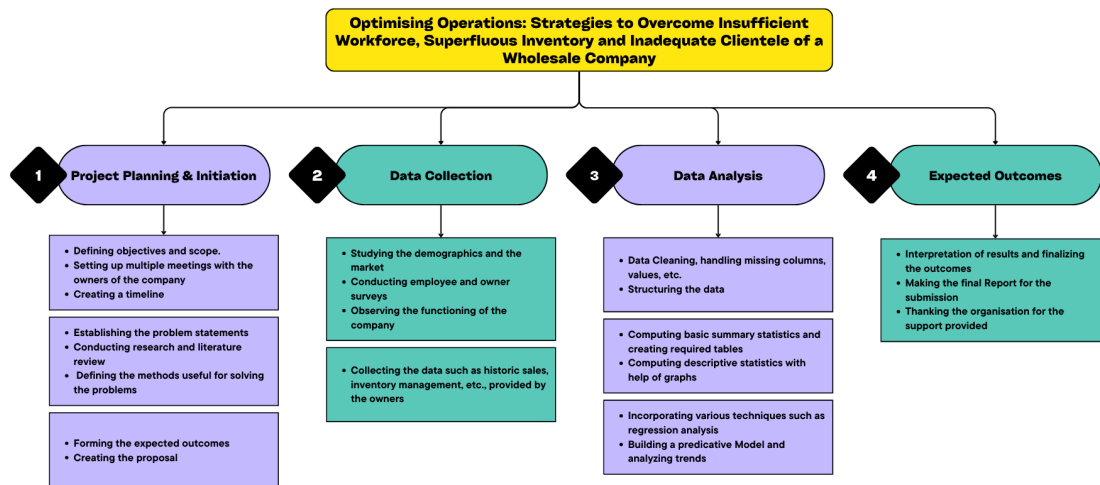
All the data analysis will be done sequentially considering descriptive statistics, regression analysis, building a predictive model and creating various trends to get justified inferences from the data. I will be using statistical tools like Excel, and Python and incorporate machine learning techniques to enhance the models.

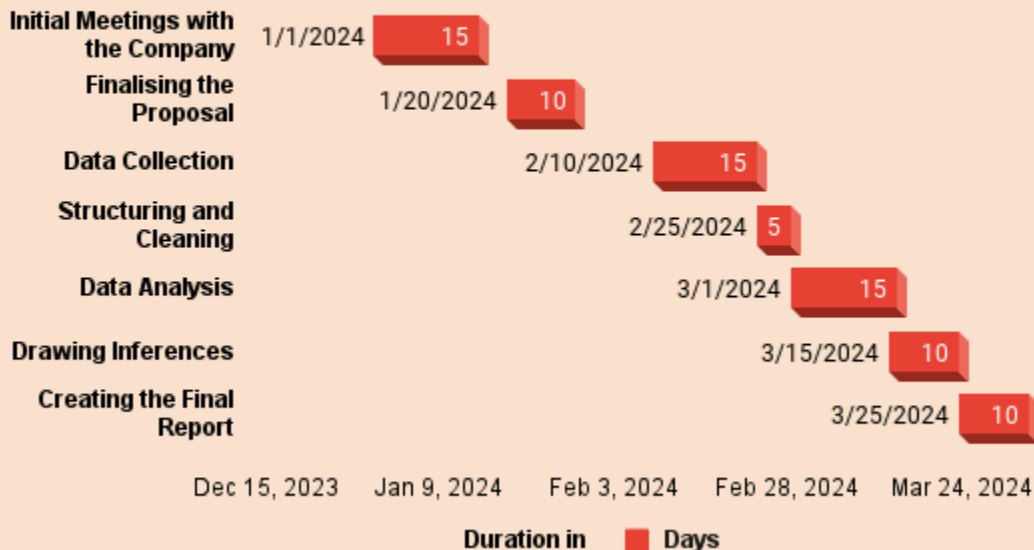The expected timeline is expressed in terms of WBS Structure and Gantt Chart

BDM Capstone Project WBS

By: Ikshwaku Tiwari

Optimising Operations: Strategies to Overcome Insufficient Workforce, Superfluous Inventory and Inadequate Clientele of a Wholesale Company

1 Project Planning & Initiation

- Defining objectives and scope.
- Setting up multiple meetings with the owners of the company
- Creating a timeline

- Establishing the problem statements
- Conducting research and literature review
- Defining the methods useful for solving the problems

- Forming the expected outcomes
- Creating the proposal

2 Data Collection

- Studying the demographics and the market
- Conducting employee and owner surveys
- Observing the functioning of the company

- Collecting the data such as historic sales, inventory management, etc., provided by the owners

3 Data Analysis

- Data Cleaning, handling missing columns, values, etc.
- Structuring the data

- Computing basic summary statistics and creating required tables
- Computing descriptive statistics with help of graphs

- Incorporating various techniques such as regression analysis
- Building a predicative Model and analyzing trends

4 Expected Outcomes

- Interpretation of results and finalizing the outcomes
- Making the final Report for the submission
- Thanking the organisation for the support provided

Gantt Chart for BDM Capstone Project
1st January 2024 to 5th April 2024

Task	Start	Duration (Days)
Initial Meetings with the Company	1/1/2024	15
Finalising the Proposal	1/20/2024	10
Data Collection	2/10/2024	15
Structuring and Cleaning	2/25/2024	5
Data Analysis	3/1/2024	15
Drawing Inferences	3/15/2024	10
Creating the Final Report	3/25/2024	10

Dec 15, 2023   Jan 9, 2024   Feb 3, 2024   Feb 28, 2024   Mar 24, 2024

Duration in ■ **Days**

Expected Outcomes

- Reduced workload amongst the existing employees and an effective way to increase the number of labourers for the company. Overall improve the operational efficiency of the company.
- Data-driven decisions using the predictive model will help in hiring new employees.
- Growth in customer base and sales revenue through effective customer segmentation
- Reduction in excess inventory levels and carrying costs through improved demand forecasting, inventory replenishment strategies, and supply chain optimization.
- Building strategies to expand the client base in Maharashtra and other suitable markets.
- Overall increase the profitability of the company by streamlining the operational issues currently present.