

Optimizing Operations and Enhancing Profitability: A Comprehensive Analysis of Inaya Cakezz

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled **Optimizing Operations and Enhancing Profitability: A Comprehensive Analysis of Inaya Cakezz**. I extend my appreciation to **Inaya Cakezz** 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.

Ali Jawad

Signature of Candidate: **(Digital Signature)**

Name: Ali Jawad

Date: 06/02/2024

Executive Summary :

The primary objective of this capstone project is to assist the Business in overcoming the challenges it currently faces. **Inaya Cakezz**, a B2C medium-sized retail store with bakery products, is located at Sahu Market, Shivsagar, Sasaram.

The business is facing issues such as nominal profit, inconsistent sales, stockout issues, and difficulties in order fulfillment, food wastage, and product damage.

I will address these challenges by engaging with the business, analyzing their data using Microsoft Excel and Python Libraries through various analytical approaches, and exploring strategies employed by successful businesses in this category.

I have personally spoken with the business owner and collected data using store record books. I have gathered data for one month so far and will continue until meaningful insights can be gained from the business model. They offer a variety of bakery products, including different categories of cakes (Chocolate, Vanilla, Butterscotch, Orange, Pineapple, Strawberry, Truffle, Red Velvet, Black Forest, etc.), various pastries, as well as basic items such as cookies, chocolates, bread, Namkeen, decoration items, and gift packs, among others.

The expected outcomes aim to improve sales, address inventory issues, and increase overall profitability.

Organization Background :

Inaya Cakezz is a retail store located at Sahu Market, Shivsagar, Sasaram. The business sells different types of cakes, including printed and themed cakes, as well as pastries. They also offer various other items such as Haldiram Namkeen, Dairy Milk Chocolates, Britannia cookies, quality bread, pies, cupcakes, chips, decoration items, gift packs, and more. The store was established in early 2021 with an investment of around 5 lakhs.

I talked to the owner, **Mr. Shabihul Hasan**, and found out that their bakery products are FSSAI registered, and they focus on making high-quality cakes. This includes custom cakes, printed cakes, and various themed cakes. Customers can order their bakery products through WhatsApp, Instagram, or by visiting their shop. They promote their products on Instagram and YouTube, where they have a good number of followers. The business is run by Mr. Shabihul Hasan and Neda Kazmi, an experienced baker with over five years of experience. They also have one more employee who takes care of basic products, handles orders in the shop, and manages customer orders.

The main goal of the business is to provide top-quality products and excellent service to customers.

Problem Statement (Listed as objectives) :

From my initial interaction with the business owner and after a general observation of their shop for an extended period, I understand that the Business is not performing up to expectations.

- The business is encountering problems due to different categories of numerous products, resulting in inventory issues, sales inconsistency, and lower profits.
- The variety of bakery items, including different cakes and pastries, makes order management challenging, leading to issues like food wastage and product damage.
- Local competitors offering lower prices pose a challenge, despite the business having higher-quality products.

Therefore, the problem statement can be summarized as follows:-

- ❖ **Enhancing inventory efficiency by examining sales and intake data for optimization.**
- ❖ **Addressing challenges related to order fulfillment, food wastage and product damage, arising from the diverse range of bakery products, especially cakes and pastries.**
- ❖ **Expanding market reach through a comparative analysis of store performance against its competitors to identify opportunities for improvement and growth**

Background of the Problem:

After extensive discussions with the business owner, I conclude that when the store initially opened, they did not encounter many inventory problems. At that time, the store had a limited product range, with the majority of earnings coming from cakes and pastries. But as they added more types of products, managing inventory became challenging, and the expected increase in profit didn't happen.

Initially, printed cakes were not offered, but now they have a variety, including printed cakes, different themes, and custom cakes. During festive seasons, the store struggles with a surge in orders for pastries and cakes, mainly due to limited staff – just one baker. This leads to difficulties in managing orders and occasional delays, impacting customer loyalty. The addition of different cake categories has made operations more complicated. The short shelf life of bakery products sometimes results in wastage. Inconsistent orders contribute to delayed deliveries, affecting customer satisfaction.

Despite selling high-quality products, they sometimes face challenges in outperforming local competitors who sell products at lower prices. Customers are occasionally attracted to lower prices without considering the quality.

Problem Solving Approach:

In addressing the challenges faced by Inaya Cakezz, the problem-solving approach will be structured and focused on three key areas identified in the problem statement: inventory efficiency, order management, and market reach.

Inventory Efficiency: To tackle inventory issues, I've collected data from the store's record books to analyze sales trends, inventory turnover, and customer preferences over the past 30 days. The data includes details on various store products, covering variables such as Cost Price, Selling Price, Quantity Sold, and Quantity Bought.

Analysis Techniques: I will apply statistical methods to understand the relationship between sales and inventory turnover. Key quantities such as Revenue, Expenditure, Gross Profit, Net Profit, Profit Margin, and Average Inventory will be calculated. Additionally, I'll compute financial ratios like Gross Profit Ratio, and Net Profit Ratio to gain insights into the performance of various products. This analysis aims to identify which products are contributing values to the business and which ones are not. It will help in managing inventory according to demand, minimizing issues faced by the business. Utilizing Excel functions, including COUNTIF, COUNTIFS, and VLOOKUP, for detailed data analysis. I will use Excel features such as Pivot Tables to identify patterns in inventory management. Visualizing the data by creating charts will make it easier to showcase important trends and pinpoint issues. I'll use various chart types, including pie charts, stacked histograms, scatter plots, and heat maps, to provide a comprehensive visual representation of the inventory data I'll implement inventory optimization techniques based on data-driven insights and propose strategies to improve profitability.

Order Management: I will collect data on raw materials needed to make bakery products, utilizing the data I have already collected. With this information, I will understand the demand for the products and the amount of perishable materials required for a certain period to make cakes and pastries, fulfilling customer demand and reducing food wastage. I will propose solutions for refining the order processing system and implementing effective packaging measures to address product damage issues. By applying these solutions, they can improve customer satisfaction and increase loyal customers.

Analysis Techniques: I will employ Pareto analysis to identify and prioritize major causes of order fulfillment challenges. Utilizing Excel functions and charts, I will analyze order patterns and assess customer satisfaction. Additionally, I will implement root cause analysis to identify the source of delays and issues.

Market Reach: I will conduct a comparative analysis of Inaya Cakezz Shop's performance against its competitors, exploring how successful business models in the same category manage similar challenges and identifying opportunities for growth. This will help the business gain ideas to get ahead of the competition. I will also develop strategies to highlight the quality aspect and attract customers despite local competitors offering lower prices.

Analysis Technique: I will perform a comparative analysis using SWOT analysis to identify strengths, weaknesses, opportunities, and threats. Additionally, I will utilize Excel for financial ratio analysis, including ROCE and net profit margin, to assess the financial performance against competitors. To identify factors influencing market reach, I will implement customer satisfaction surveys.

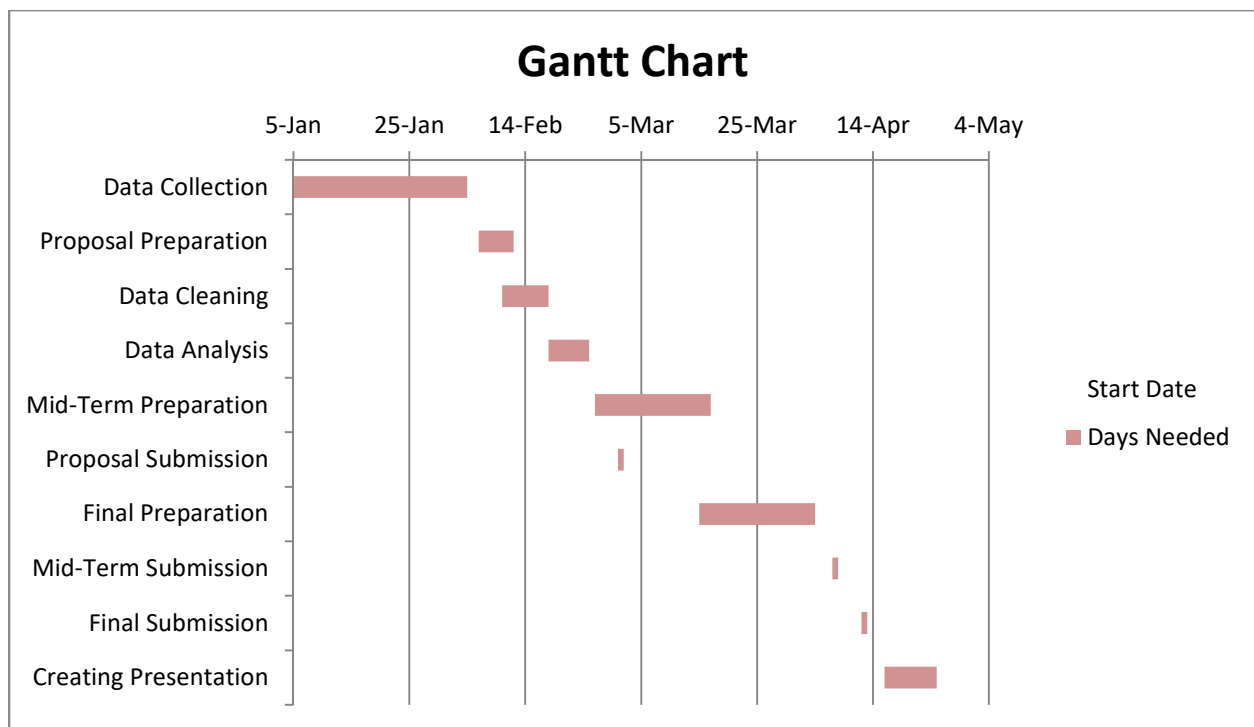
Tools for Analysis

Microsoft Excel: Microsoft Excel is a spreadsheet software widely utilized for data analysis and visualization. It offers a range of functions and features to perform statistical calculations, create charts, and organize and analyze data.

Python: Python is a programming language that is increasingly popular for data analysis tasks. With libraries such as Pandas, NumPy, and Matplotlib, Python allows for efficient data manipulation, analysis, and visualization.

Expected Timelines:

I have collected data for 30 days and will begin by cleaning and analyzing it. If necessary, I will collect more data based on the analysis.



Expected Outcome

- ❖ Share a practical way to better handle the products in the store. Use the insights from sales and intake data to make sure there's always enough stock without wasting products.
- ❖ Create a plan to increase earnings and solve issues. Offer a variety of profitable products, attract more customers with marketing and deals, and manage prices and costs for better business profit.
- ❖ Analyzing sales and intake data will improve inventory efficiency, minimizing stockouts and optimizing the inventory system for better planning, focusing on top-selling products and reducing wastage.
- ❖ The project aims to solve issues like late deliveries and damaged products. By improving order processing, packaging, and delivery logistics, this will help them to make customers happier and more loyal.