Business Data Management Project Proposal

Improving Raj Fashion: A Data-Driven Approach to Sustainable Growth

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Declaration Statement

I am working on a Project Title "**Improving Raj Fashion: A Data-Driven Approach to Sustainable Growth** ".I extend my appreciation to RAJ FASHION, for providing the necessary resources that enabled me to conduct my project.

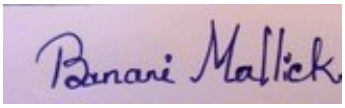
I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

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: (Digital Signature) : 

Name: Banani Mallick

Date: 1/03/2025

1.Executive Summary :

Raj Fashion, a small and medium B2C (Business-to-Consumer) apparel shop in North 24 Parganas, West Bengal, run by Mr. Tapan Adhya, is faced with increasing expenses. The shop mostly retails casual and conventional wear, but increasing overheads are complicating the issue of remaining profitable while being price competitive. A comprehensive analysis of the business would be required to identify areas of efficiency improvement and cost savings.

This project will be based on finding inefficiencies in the operations of Raj Fashion, specifically inventory control and customer service. By employing tools such as Excel and Python, we are able to get insight into the trend of sales, movement of stock, and customer choice. These elements, if we understand them, will enable the store to make better-informed decisions leading to improved financial performance.

Jason will investigate how the shop can adopt an organic approach that combines quantitative analysis with real-world decision-making. The objective is to apply data-driven techniques to maximize stock, improve customer satisfaction, and ultimately increase profitability. With the appropriate fine-tuning, Raj Fashion can evolve to meet market challenges and develop a more sustainable business model.

2.Organization Background:

Name: Raj Fashion
Owner: Mr. Tapan Adhya
Address: Fancy Market, Barasat, Kol-700124
Established: 1995
Number of Employees: Approximately 10
Annual Revenue: Estimated around 20 lakhs INR
Operating Hours: 10 AM to 9 PM daily

Raj Fashion specializes in men's apparel, including shirts, trousers, jeans, ethnic wear, formal wear, undergearments , footwear and accessories. Despite a strong start, the store has struggled with declining sales and profit margins as e-commerce gains popularity.

3.Problem Statement :

After talking with the owner of Raj Fashion and watching how the store runs over time, I found some main business problems:

3.1. Low Profit Margins: Even with a consistent number of customers and sales, the store finds it hard to get good profit margins.

3.2. Overstocking Issues: The store often has too much inventory, which can cause problems like old fashion styles and money being tied up in items that aren't sold.

3.3. Sales Growth Challenges: There is a need to look into ways to reach more customers and improve brand visibility in a tough market.

3.4. Inventory Optimization: Better stock management is necessary, based on sales trends and demand analysis, to decrease operational inefficiencies and enhance cash flow.

4.Background of the Problem:

4.1. After talking with the owner, it was decided that Raj Fashion was doing well before online shopping became popular. But now, more people are using e-commerce sites that give better discounts and home delivery, causing many regular customers to buy online instead, which is hurting in-store sales.

4.2. I have noticed as a regular customer that even though the store is in a good location with lots of people walking by and loyal customers, it has trouble growing its business and assets.

- Poor sales forecasting and bad inventory management are major reasons for these issues.
- Also, the prices for some clothing items, like branded shirts and accessories, are usually higher than what competitors charge, which might discourage possible buyers.

After giving it enough thought, it is my belief that the most appropriate way to use the knowledge,abilities, and tools taken from the subject is to conduct a complete business analysis and develop reasonable and efficient solutions.

5.Problem Solving Approach:

5.1. Data Collection and Sources

It will collect data on sales data, purchase invoices, inventories, financial reports, etc. Key variables include :

- Sales Data: Purchase price, sale price, quantity sold & income.
- Data related to Inventory: Stock quantities, Order Frequency, Wastage.
- Financial Data: Details of operational costs, profit margins and return on capital employed (ROCE).
- Test Data Run: Extract customer purchase history and preferences data for demand estimation.

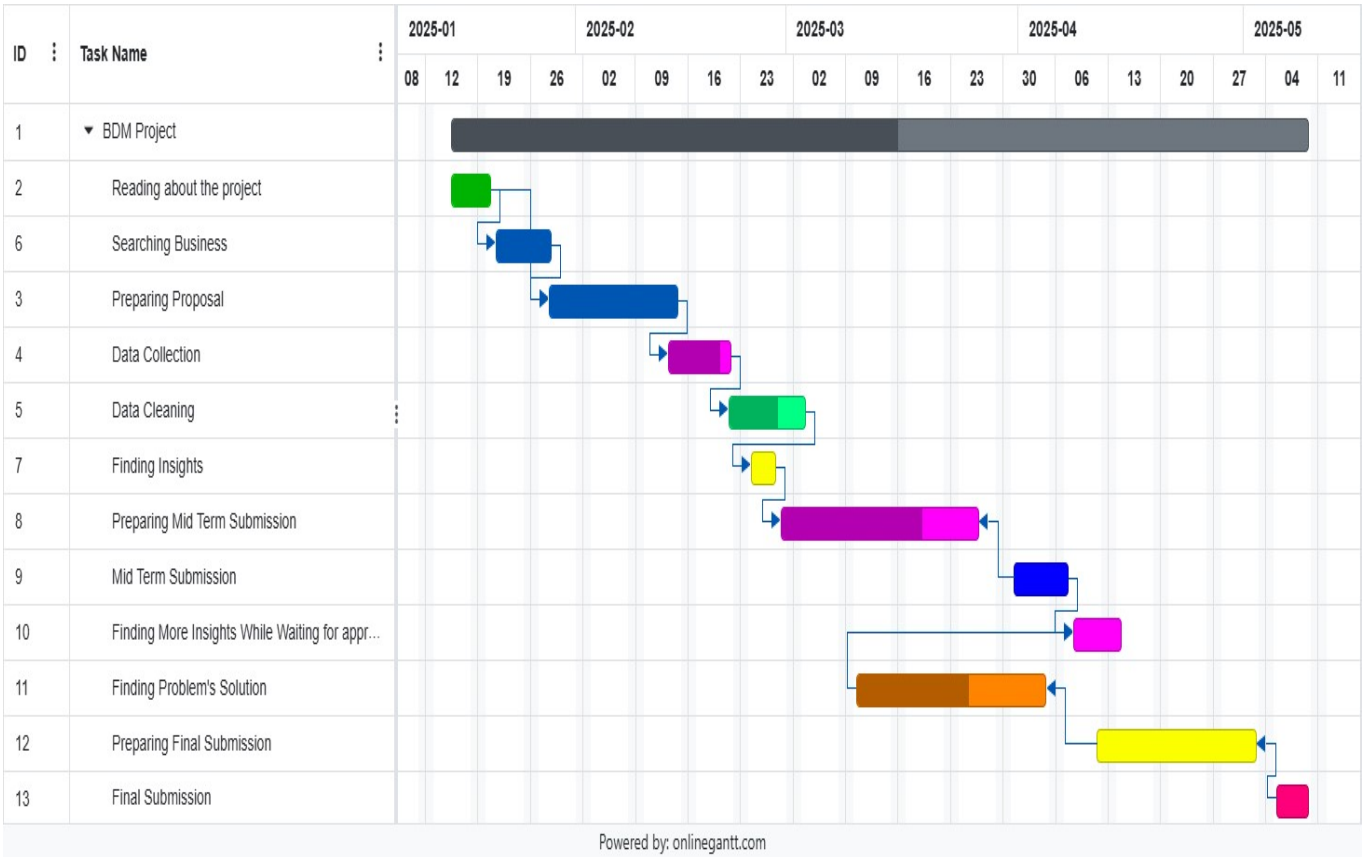
5.2. Analytical Tools and Techniques

- **Microsoft Excel:** remains handy during data processing, especially in sales and inventory tasks, because of its efficiency.
- Key tools include:
  - **Pivot Tables** – For structured data analysis and reporting.
  - **Excel Functions** – Data handling by VLOOKUP, COUNTIF, and logical functions.
  - **Data Visualization** – Using pie charts, histograms, scatter plots, and heat maps to identify trends and areas of improvement.
- **Python: Pandas** package for data manipulation, **Matplotlib** for visualization and **SK-learn** for predictive modeling.
- **Inventory Optimization: Regression analysis** will generate demand trends and avoid

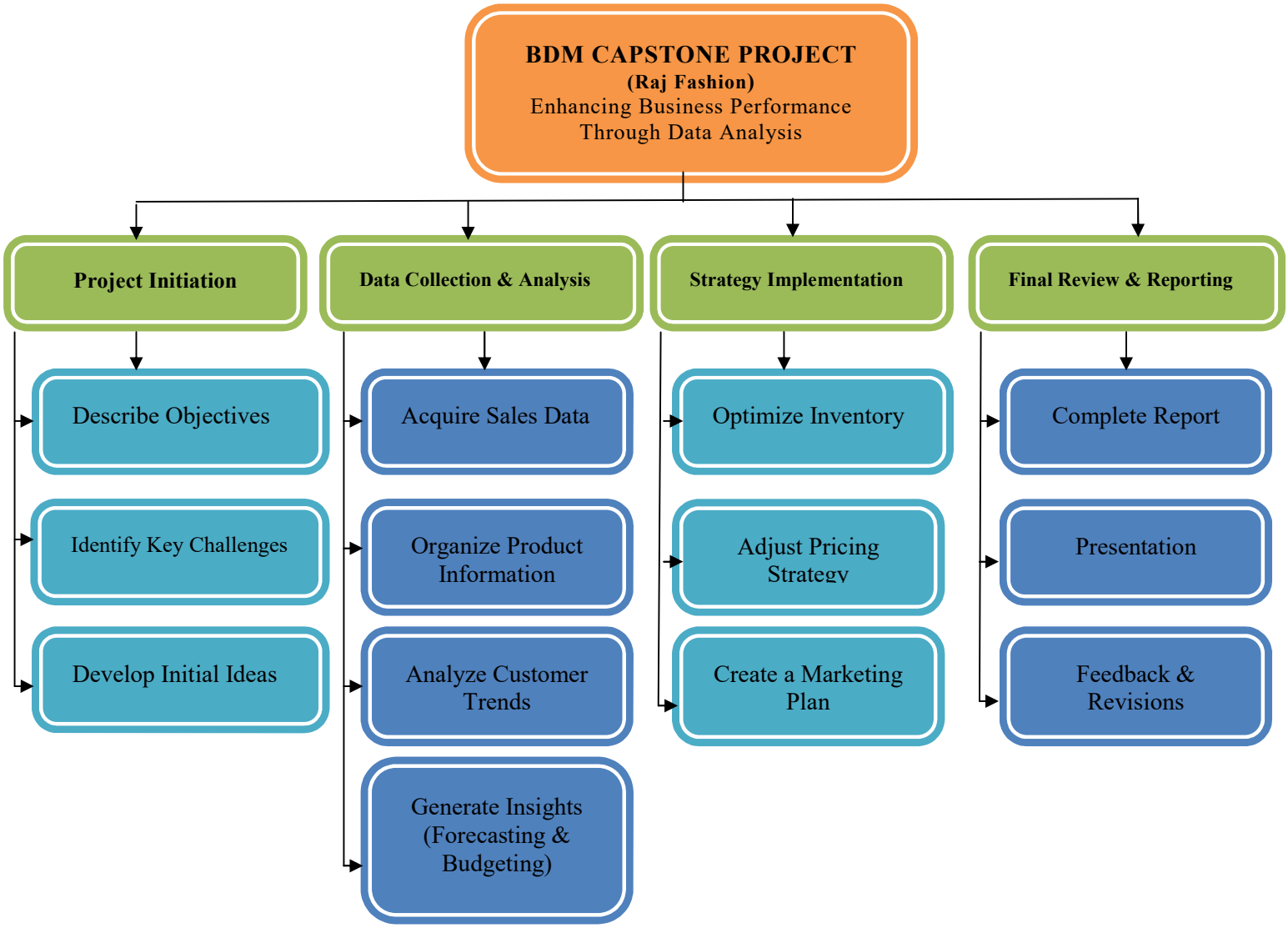
This phased planning is meant to provide useful insights for business performance and profitability for Raj Fashion.

6.Expected Timeline:

I have collected 90 days of data, which will be cleaned and analyzed. Based on the analysis additional data will be gathered if necessary.



Gantt Chart



Work Breakdown Structure

7.Expected Outcome:

7.1. Operational Efficiency Has Improved

- Data-driven insights minimize billing errors and improve stock management.
- Order tracking and inventory replenishment processes are streamlined, thereby reducing manual work.
- Sales are increasingly matched to stock so as not to accumulate excess or run out.

7.2. Customer Experience Improvement

- An optimized product assortment and pricing make for a convenient shopping experience.
- Offers personalized according to purchase patterns will enhance customer satisfaction.
- An expedited checkout process along with greater service quality will make customers stay longer.

7.3. Optimal Staff Utilization

- Staff with greater efficiency is allocated according to peak hours and customer demand trends.
- Increased employee satisfaction was achieved with work schedules geared toward store needs.
- Clear role definition enhances productivity and minimizes idling.

7.4. Improved Profits and Bigger Businesses

- Bigger customer retention due to better service and competitive pricing.
- Increase in revenue through better pricing measures and cutting down the operational wastages.
- Strengthening the market position further with good business analyses through data.
- This will help Raj Fashion in the overall improvement and building a sustainable growth strategy.