Fabrico 360: A Data-Driven Approach to Laundry Excellence

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled **Fabrico 360: A Data-Driven Approach to Laundry Excellence**. I extend my appreciation to ***Fabrico Thrissur***, 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: R Rahul Varma

Date: 01-02-25

1 EXECUTIVE SUMMARY:

The primary reason I chose a laundry service business is to explore the impact of such services in a semi-urban area like Ayyanthole, Thrissur, compared to a metropolitan city. This project focuses on **Fabrico The Laundry Expert**, a well-known laundry franchise with multiple locations across India. Fabrico offers a wide range of services including laundry, dry cleaning, steam ironing, washing and folding, and live laundry services.

To gain a deeper understanding of the business, I am planning to conduct a Customer Analysis to categorize customers based on their behavior, a Pricing Analysis to evaluate pricing strategies and revenue optimization. Additionally, I will carry out a Cost-Benefit Analysis to identify potential cost reductions without compromising quality. I will use Data Visualization techniques to better interpret insights and improve decision-making.

By merging these analytical insights, the study aims to enhance service efficiency, improve customer retention, and identify strategic cost-saving opportunities for **Fabrico The Laundry Expert**. The findings will not only strengthen decision-making at this outlet but also serve as a scalable framework for similar businesses looking to expand in semi-urban regions. With a data-driven approach, the goal is to ensure better resource utilization, maximize profitability, and sustain long-term growth.

2 ORGANIZATION BACKGROUND

Fabrico: The Laundry Expert is a one-stop service provider for all garment care requirements. The business operates under a structured tech-driven laundry and dry cleaning setup**,** catering to consumers with premium garment care solutions. Fabrico was established in 2019 with the mission to lead the Laundry & Dry Cleaning sector through high-quality, technology-integrated services.

Fabrico offers a variety of services, including:

- **Laundry Services**
- **Dry Cleaning**
- **Steam Ironing**
- **Shoe & Backpack Cleaning, etc.**

The company sources its products from **SEITZ,** Germany's leading textile care manufacturer, ensuring top-tier garment care solutions. **Fabrico** continuously adapts to evolving consumer demands by integrating innovative cleaning methods, dynamic processes, and superior product solutions**.**

Mission: To lead the Laundry & Dry Cleaning sector with best-in-class, tech-driven home-curated services and become the industry trendsetter.

Vision: To be India's best Laundry & Dry Cleaning service provider with a widespread, technology-driven approach.

Fabrico Ayyanthole Unit:

The Ayyanthole unit of Fabrico, located in Devi Complex, Thrissur, Kerala, is a franchise of **Fabrico Ltd**. This micro-unit caters to a recurring customer base throughout the year and was established in **2022**.

On average, the business processes 800–1,000 orders per month, with an average ticket size of ₹200–₹300 per order, generating a monthly revenue of ₹1,60,000–₹3,00,000. This unit operates with a dedicated team of 4 employees, including a supervisor, staffs, and a manager, who ensure smooth day-to-day operations.

This project focuses on identifying ways to optimize operations, enhance customer retention, and maximize profitability for this specific unit.

3 PROBLEM STATEMENT

Through my discussions with the manager of the business, I have identified several critical challenges faced by the franchise that can stagger its growth. The primary issues are as follows:

i. **Seasonal Demand Fluctuations:** To address seasonal demand fluctuations to ensure consistent revenue and optimize resources to its fullest.
ii. **Customer Retention Challenges:** Enhance customer retention by developing new strategies to convert new customers into loyal clients.

4 BACKGROUND OF THE PROBLEM

From my interaction with the manager, I have categorized it into internal and external challenges. Below is a detailed breakdown.

Internal Challenges:

1. **Operational Inefficiencies**:
    - Processes like Wash & Iron (WI) and Steam Press (SP) handle the highest volumes of high-item orders. These bottlenecks can cause delays, resulting customer dissatisfaction.

2. **High Costs During Certain Periods**:
    - Expenses such as electricity bills and raw material costs disproportionately affect profitability during certain months.

External Challenges:

1. **Customer Retention**:
    - There is limited success in converting new customers into loyal, repeat clients.

5 PROBLEM SOLVING APPROACH

To address the identified challenges at *Fabrico*, the following structured problem-solving approach will be implemented, drawing upon industry best practices:

1. Data Collection

Relevant data will be gathered from the laundry business from 2023 to 2024 for a period of 24 months, including:

- **Order Details**: Volume, type of process and high-item orders.
- **Delivery Schedules**: Assigned and missed delivery dates to analyze delays and scheduling inefficiencies.
- **Monthly Financials**: Total sales, received amounts, pending amounts, and expenses.
- **Customer Data**: Loyalty trends, new vs. existing customers, and order frequency.
- **Attendance Data**: Staff attendance patterns to identify their impact on operational performance.

2. Analysis Techniques

After data collection, a structured analysis will be performed:

- **Trend Analysis**: Monthly and seasonal order trends will be examined using time-series analysis to optimize resource allocation during peak periods.
- **Bottleneck Analysis**: High-item orders will be analyzed by process to identify resource-intensive operations and delays.
- **Customer Segmentation**: Loyal customers will be identified based on order frequency, with insights into retention patterns for new customers.
- **Profitability Analysis**: Monthly expense and profit trends will be evaluated to highlight periods of financial strain.

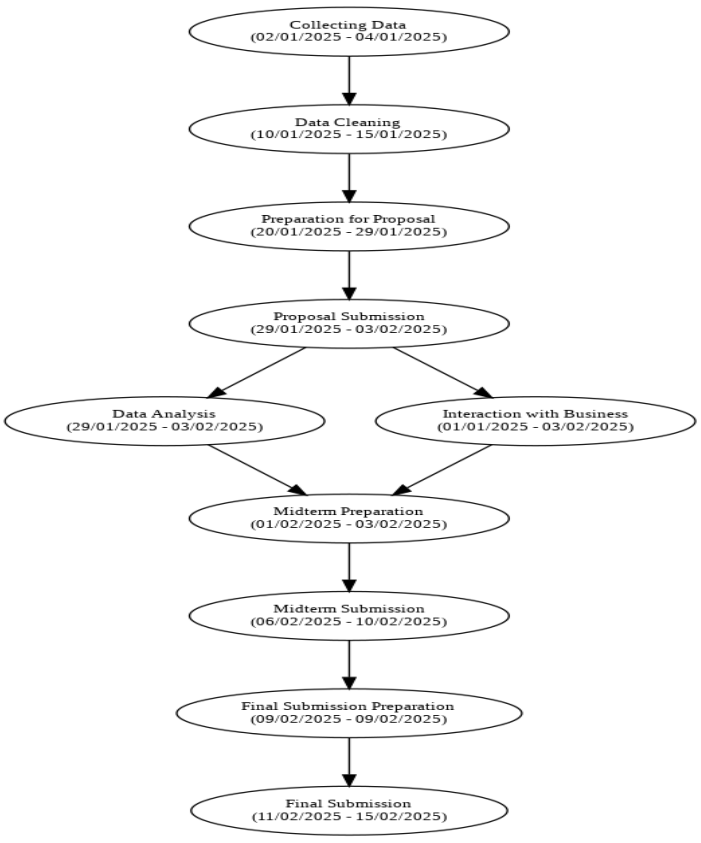
3. Tools and Visualizations

- **Microsoft Excel**: Data cleaning and initial summaries.
- **Python & Libraries**: Advanced analysis, including trend analysis, customer retention patterns, and visualizations.
- **Visualization Techniques**:
    1. Bar charts and histograms for high-item order distribution.
    2. Line graphs for monthly financial trends.
    3. Heatmaps for resource usage during peak demand periods.
    4. Pie charts for customer segmentation (new vs. existing)

6 EXPECTED TIMELINE

The project is expected to be completed within three months, with the following work breakdown:

1. **Project Overview (5 days): Initial data review and problem identification.**
2. **Data Collection (10 days): Gathering order, financial, and customer data for 2023 and 2024.**
3. **Data Cleaning (7 days): Organizing and preparing data for analysis.**
4. **Analysis and Visualization (20 days): Conducting trend and bottleneck analysis, customer segmentation, and profitability evaluation.**
5. **Proposal Preparation (8 days): Compiling insights and actionable recommendations into a final report.**



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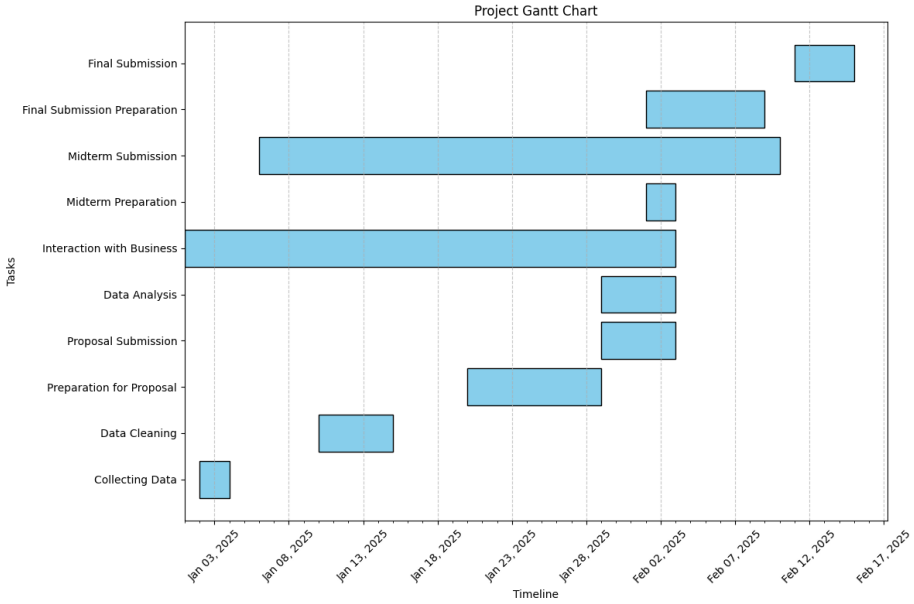

7 EXPECTED OUTCOME

Operational Insights:

- Identification of bottlenecks in high-volume processes and to implement strategies to optimize throughput and resource allocation during peak periods.

Financial Trends:

- Detailed breakdown of profitability trends for 2023 and 2024 and to have recommendations to minimize costs during high-expense months.

Customer Retention:

- Comprehensive profiles of loyal customers with insights into retention patterns and strategies for converting new customers to repeat clients.

Seasonal Planning:

- Time-series analysis for peak and off-peak demand periods and Heatmaps to visualize resource usage and optimize staff allocation.