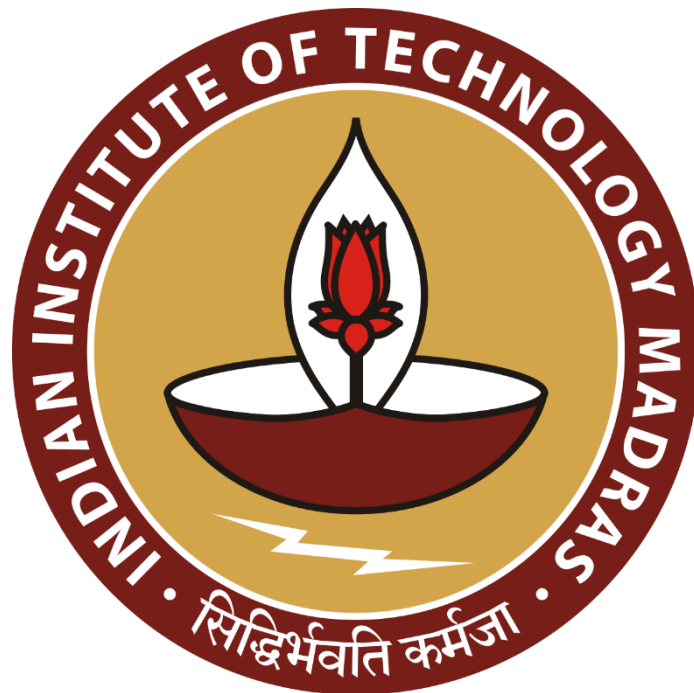**Title : Navigating Challenges: A Data-Driven Boost for 99 Market Mall**

A Proposal report for the BDM capstone Project

Submitted by

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Contents

Declaration Statement

I am working on a Project titled "**Navigating Challenges: A Data-Driven Boost for 99 Market Mall**". I extend my appreciation to **99 Market Mall**, 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: Rajeev Kumar Bhagat

Name: RAJEEV KUMAR BHAGAT

Date: 01-03-2024

1 Executive Summary and Title

Located in the heart of Maharajganj, Siwan, Bihar (Pin Code: 841238), 99 Market Mall has long been a local favorite. Despite its popularity, the mall faces challenges that are common among small businesses - limited resources and competition with larger retailers.

This capstone project is designed to empower 99 Market Mall in overcoming these hurdles through effective data management. By delving into the data, the focus will be on understanding the preferences of individual customers, market dynamics, and sales trends over time. The project aims to use these insights to implement practical solutions, including targeted marketing efforts and efficient inventory management. The objective is not just to address the impact of resource constraints and competition but also to position 99 Market Mall as the preferred choice for quality products and personalized service.

By adopting a data-driven approach, this project strives to enhance the shopping experience, foster customer loyalty, and secure 99 Market Mall's position in the local market. The strategies outlined aim to ensure sustained growth and profitability, enabling 99 Market Mall to stand out amidst competition and make a lasting impact in Maharajganj, Siwan, and its surrounding areas.

2 Organization Background

Established in 2021 by visionary commerce graduate Brajesh Kumar, 99 Market Mall swiftly became a vital part of the local retail fabric, nestled in the vibrant Maharajganj, Siwan, Bihar (Pin Code: 841238). Brajesh Kumar, with a strong commitment to delivering an enriching shopping experience, laid the foundation for 99 Market Mall.

The mall operates with a close-knit team of 5 dedicated employees, working in harmony with the owner. Brajesh Kumar, armed with his commerce background, adeptly guides the mall's operations, ensuring it remains adaptable to the ever-changing retail landscape.

At 99 Market Mall, the customer takes center stage, and the business's legacy is constructed upon principles of trust and exceptional service. This Business Data Management Capstone Project is poised to leverage the potential of data-driven insights, addressing the unique challenges faced by the mall, and reinforcing its identity as a key retail player in Maharajganj, Siwan, and the surrounding regions. Through strategic data analysis, the project aims to uphold and enhance the values and legacy that define 99 Market Mall, promising a prosperous journey in the dynamic retail market.

3   Problem Statement

1. **Limited Resources:** 99 Market Mall's constrained resources hinder innovation, expansion, and strategic investment. This limitation impedes efforts to enhance customer experience, adopt advanced technologies, and explore new growth avenues. Addressing this challenge requires a nuanced approach to optimize existing resources and identify cost-effective solutions for sustained success.

2. **Competition with Large Retailers:** In the dynamic retail landscape, 99 Market Mall faces intense competition from larger retailers, risking market position and customer loyalty. Effective navigation involves strategic differentiation, enhancing unique value propositions, and carving a niche amidst larger competitors.

4   Background of the Problem

99 Market Mall faces a critical challenge characterized by resource constraints and the formidable competition posed by large retailers. The limitation in resources restricts the mall's ability to invest in key areas crucial for growth, innovation, and customer satisfaction. Concurrently, the intense competition with larger retailers threatens the mall's market share and customer loyalty.

Internally, the mall contends with limited resources, constraining its capacity to explore innovative avenues, invest in modern technologies, and enhance the overall customer experience. This internal challenge hampers the mall's potential for growth and adaptation to changing market dynamics, necessitating a targeted strategy to optimize existing resources and identify cost-effective solutions.

Externally, the business landscape is marked by the dominance of large retailers with extensive resources and market influence. This external challenge requires a comprehensive approach to differentiate 99 Market Mall, enhance its unique value proposition, and carve out a niche in the face of intense competition.

In essence, 99 Market Mall's challenges stem from both internal limitations in resources and external pressures from larger retail competitors. Effectively addressing these challenges calls for a data-driven approach, strategic resource optimization, and innovative measures to establish a competitive edge, ensuring the mall's resilience and success in a dynamic and competitive retail market.

5 Problem Solving Approach

Mitigating the challenges faced by 99 Market Mall demands a comprehensive, data-driven strategy. Key initiatives will be undertaken to address these issues:

Our primary focus will be on implementing an advanced inventory management system. This system will track product demand, predict peak sales periods, and optimize staff allocation during busy hours, ultimately reducing wait times and enhancing the overall shopping experience.

Following this, we will develop customized demand forecasting models for the mall's products, utilizing historical sales data and advanced analytics. This approach will lead to improved inventory planning, minimizing overstocking, and reducing wastage while ensuring consistent product availability.

Efficient replenishment strategies will be introduced, incorporating reorder points and quantities based on demand patterns, lead times, and product shelf life. Building strong relationships with suppliers will ensure timely replenishment. Centralizing data from sales records, customer feedback, and supplier information will enable data-driven decision-making, identifying trends, optimizing pricing, and enhancing overall store efficiency.

To enhance customer satisfaction and loyalty, various customer engagement initiatives such as loyalty programs, targeted promotions, and personalized recommendations based on customer preferences and purchase history will be implemented.

Recognizing the crucial role of well-trained staff, comprehensive training programs covering customer service, inventory management, and data utilization will be introduced. The integration of modern technology solutions, including inventory management software, point-of-sale systems, and analytics tools, will provide real-time insights and automate various aspects of inventory and customer management.

Our chosen tech stack includes user-friendly tools like MS Excel and Google Sheets for data gathering and entry, Google Colab utilizing Python libraries like NumPy and Pandas for data cleaning and framing, and MS Excel along with Data Analysis Tools for in-depth analysis. Visual tools such as Pareto charts and histograms will also be employed to analyze stock and sales data.

Finally, a continuous monitoring and feedback loop will be established to track the effectiveness of these strategies, allowing for adjustments and refinements to ensure alignment with evolving customer needs and market conditions.

Through this holistic approach, 99 Market Mall aims to systematically address operational challenges, becoming a model of efficiency and customer satisfaction in the local retail landscape of Maharajganj, Siwan, Bihar (Pin Code: 841238). The objective is to overcome existing issues and foster sustained growth.

6   Expected Timeline

Project Breakdown Structure:

1. Project Commencement: Clearly outline the project's boundaries, objectives, and scope.

2. Data Compilation and Preparation: Assemble historical sales data, customer feedback, and supplier details using tools such as MS Excel and Google Sheets.

3. Real-Time Management of Customer Flow: Anticipate peak periods and optimize staff allocation for an improved shopping experience.

4. Sales Demand Projection: Employ historical sales data and advanced analytics tools (Google Colab) to refine inventory planning.

5. Streamlined Inventory Refill: Establish reorder points and quantities based on demand patterns while cultivating robust supplier connections.

6. Project Assessment and Conclusion: Evaluate project outcomes, validate goal achievement, and generate a comprehensive project closure report.

7. Project Record-Keeping and Communication: Chronicle all project actions, share key insights, and articulate lessons learned.
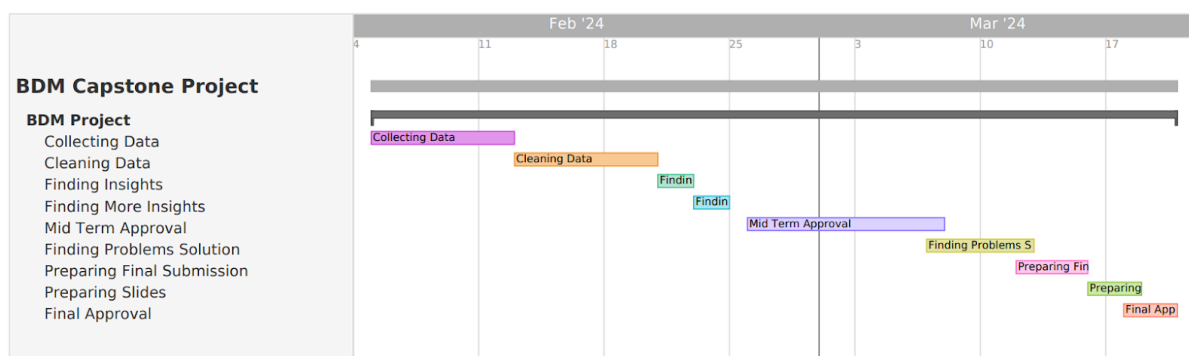
6.1   Gantt chart

Figure 1 Expected timeline for completion of project.

7 Expected Outcome

The envisioned outcomes for 99 Market Mall, subsequent to the implementation of the proposed strategies, encompass a refined inventory management system and a nuanced comprehension of product sales trends. By harnessing historical sales data and advanced analytics, the project endeavors to curtail overstocking, optimize product availability, and discern patterns in customer preferences.

Moreover, the project targets the resolution of challenges linked to limited resources and competition with larger retailers. Implementing efficient inventory replenishment strategies, fortified by setting reorder points aligned with demand patterns and fostering robust supplier connections, aims to mitigate stock-related predicaments. This approach ensures timely replenishment and adept stock management.

In tandem, the project aspires to offer insights into customer behavior, paving the way for targeted marketing initiatives and personalized engagement. By grasping customer preferences through loyalty programs and focused promotions, 99 Market Mall aims to fortify customer satisfaction and loyalty.

In essence, the anticipated outcome encompasses enhanced inventory control, minimized stock challenges, heightened customer satisfaction, and an augmented competitive standing for 99 Market Mall in the dynamic retail landscape of Maharajganj, Siwan, Bihar (Pin Code: 841238).