

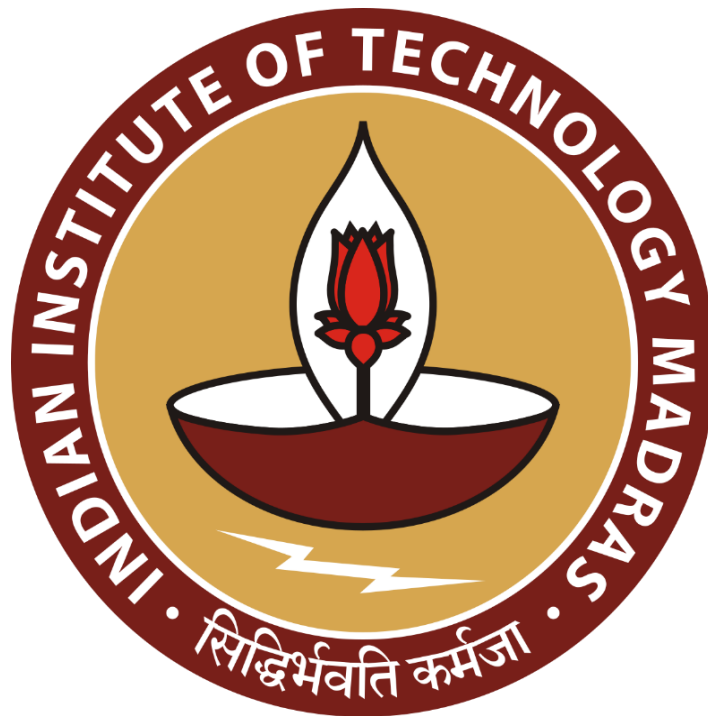
# **Title: Enhancing Operational Efficiency and Revenue Analysis: A Data-Driven Study for DTDC Courier Franchise Services**

**A Proposal report for the BDM capstone Project**

Submitted by

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## **Declaration Statement**

I am working on a Project Title “**Enhancing Operational Efficiency and Revenue Analysis: A Data-Driven Study for DTDC Courier Franchise Services**”. I extend my appreciation to **DTDC Courier Franchise Services**, 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 analysed to assure its reliability.

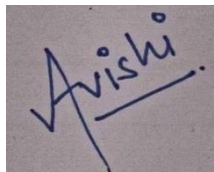
Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

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.

Signature of the Candidate:

A handwritten signature in blue ink that reads "Avishi". The signature is written in a cursive style with a horizontal line underneath the name.

Name: **Avishi Prasad**

Date: **1<sup>st</sup> March, 2025**

# **1 Executive Summary**

DTDC Courier Franchise Services is a logistics business located in Sharda Nagar, Kanpur. The franchise, operating since 1997, follows both B2B and B2C models

Despite its long-standing presence, the franchise faces key operational challenges. These include inefficient route planning leading to delayed deliveries and a lack of visibility into regional revenue trends. These issues directly impact customer satisfaction and profitability.

This project aims to conduct a data-driven analysis of the franchise's operational and financial performance. The study will involve examining delivery times, revenue trends, and customer feedback to identify inefficiencies. The approach will include data collection, cleaning, and analysis using Excel tools like pivot tables, charts, and statistical functions. The expected outcomes include improved inventory planning, better customer satisfaction, and increased profitability for the franchise.

# **2 Organization Background**

DTDC Courier Franchise Services is part of DTDC Express Limited, one of India's largest logistics networks. The franchise serves both individual customers and businesses and provides parcel and document delivery services across local, regional, and national levels. It offers a variety of delivery services, including standard and express shipping, ensuring nationwide connectivity. The franchise is operated by a single person and functions on a 12 hours schedule from 8 AM to 8 PM on each day of the week, ensuring smooth logistics management. The business handles deliveries across multiple regions, leveraging DTDC's broader infrastructure while maintaining autonomy in operations.

### **3 Problem Statements**

- 3.1 Problem statement 1: The franchise lacks clear insights into revenue trends across different delivery regions, leading to inefficiencies in resource allocation and operational planning.

Objective: Identify revenue trends across delivery regions to optimize resource allocation and improve operational planning.

- 3.2 Problem statement 2: High parcel return rates are negatively impacting operational efficiency and revenue. The reasons behind these returns and the most affected product categories need to be analysed.

Objective: Analyse return rates and reasons to minimize parcel returns and enhance product/service quality.

- 3.3 Problem statement 3: Inefficient delivery routes contribute to delayed shipments, reducing customer satisfaction and increasing operational costs.

Objective: Optimize delivery routes to reduce delays, lower operational costs, and improve customer satisfaction.

### **4 Background of the Problem**

The DTDC franchise in Kanpur has been facing several operational challenges that hinder its profitability and service efficiency. One of the major issues is the inability to analyse revenue trends across different regions. Without clear insights, it becomes difficult to optimize resources and focus on high-performing areas.

Another key problem is the increasing rate of parcel returns. Customers return parcels for various reasons, including incorrect addresses, product dissatisfaction, and delayed deliveries. Identifying the primary reasons behind these returns is essential for minimizing financial losses and improving operational efficiency.

Additionally, inefficient route planning leads to frequent delivery delays. Many deliveries take longer than expected due to suboptimal routing and poor traffic predictions. This results in increased fuel costs, lower customer satisfaction, and a decline in repeat business.

Through data collection and analysis, this project aims to provide strategic insights into these challenges. Identifying inefficiencies and implementing optimized solutions will help the franchise improve service quality, reduce operational costs, and enhance overall profitability.

## 5 Problem Solving Approach

This project will follow a structured problem-solving approach consisting of three main components: methods, data, and tools, each mapped to the identified problems.

### 5.1 Methods with Justification

- **Revenue Trend Analysis by Region:** Pivot tables and statistical functions will be used in Excel to evaluate revenue distribution across different regions. Conditional formatting will highlight low-performing regions.
- **Return Rate Analysis:** Excel's COUNTIF function will be used to identify high-return product categories. A pivot table will summarize return rates by category, and bar charts will visualize the trends.
- **Route Optimization:** Delivery time analysis and traffic pattern evaluation will be performed using Excel functions like AVERAGEIF to determine delay-prone regions. Conditional formatting will highlight delayed deliveries.

### 5.2 Data with Justification

- **Revenue Data:** Monthly revenue reports categorized by region and service type will be used to analyse performance trends.
- **Return Data:** Data on returned parcels, including reasons for return and frequency, will be collected to identify patterns.

- **Delivery Data:** Delivery logs containing distances, estimated vs. actual delivery times, and regional routes will be examined to optimize logistics.

### 5.3 Tools with Justification

- **Microsoft Excel:** Used for data cleaning, pivot tables, charts, and statistical analysis.
- **Power BI:** If applicable, Power BI dashboards may be created for real-time visualization of revenue and operational trends.
- **Google Maps API:** For traffic analysis and optimal route planning recommendations.

By integrating these methods, data sources, and tools, the project aims to provide actionable insights that will enhance operational efficiency and increase profitability.

## 6 Expected Timeline

### 6.1 Work Breakdown structure

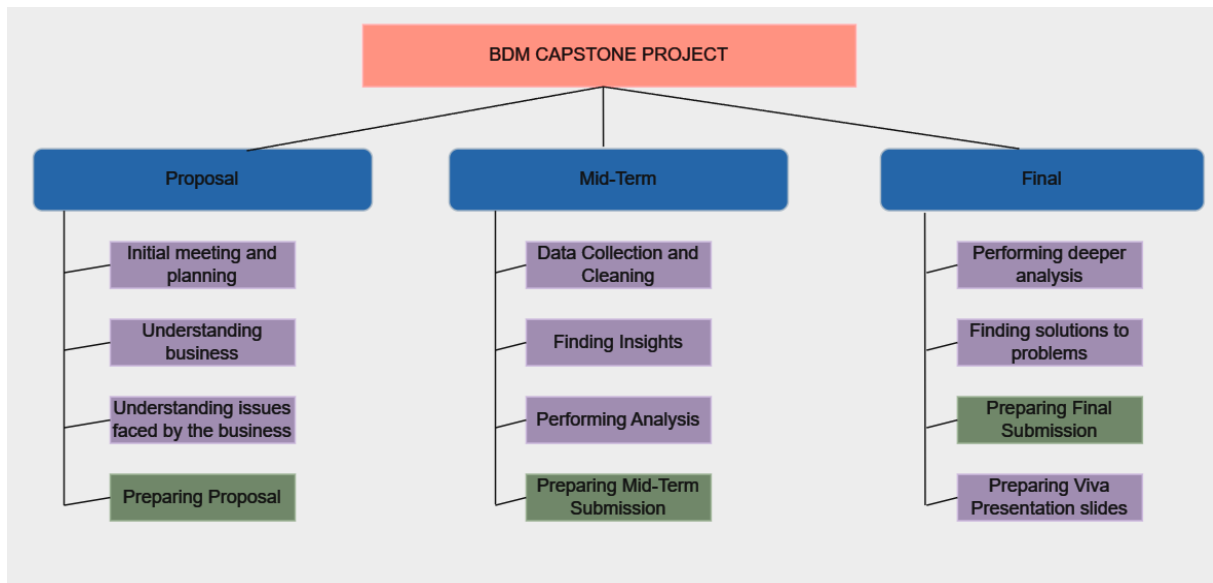


Figure 1: Work breakdown structure

## 6.2 Gantt Chart

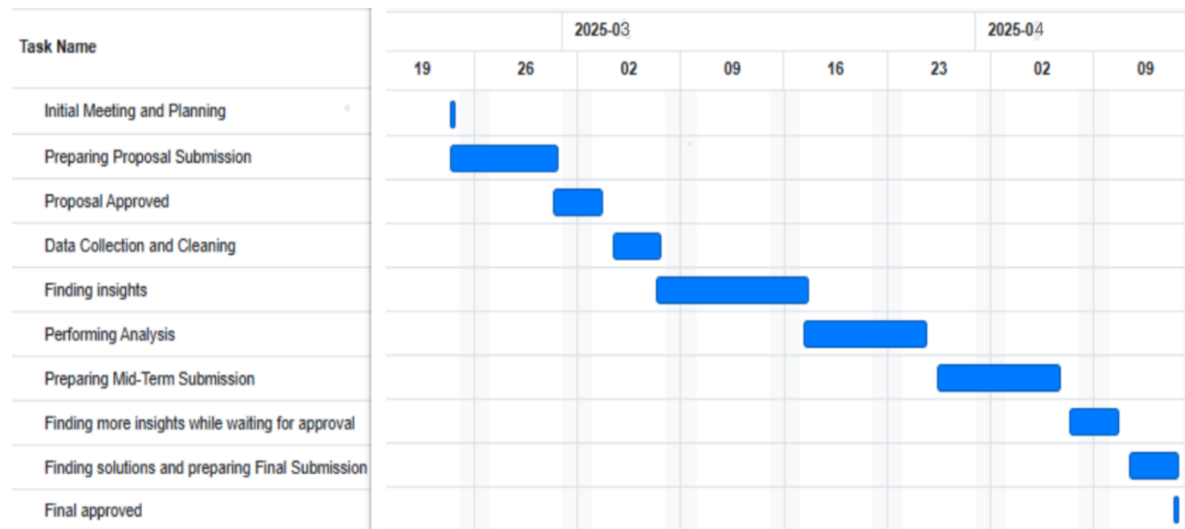


Figure 2: Expected Timeline of the project through Gantt Chart.

## 7 Expected Outcome

7.1 The expected outcome of this project is to provide actionable insights for improving operational efficiency and revenue management at DTDC Courier Franchise Services. By analysing revenue trends, the franchise will be able to identify high and low-performing regions, enabling more strategic decision-making.

7.2 Understanding the reasons behind high parcel return rates will help in formulating targeted strategies to reduce returns and improve service quality. This, in turn, will enhance customer satisfaction and profitability.

7.3 Additionally, optimizing delivery routes will lead to faster deliveries, reduced operational costs, and better resource utilization. Implementing these changes will ultimately contribute to higher efficiency and better financial performance for the franchise.