

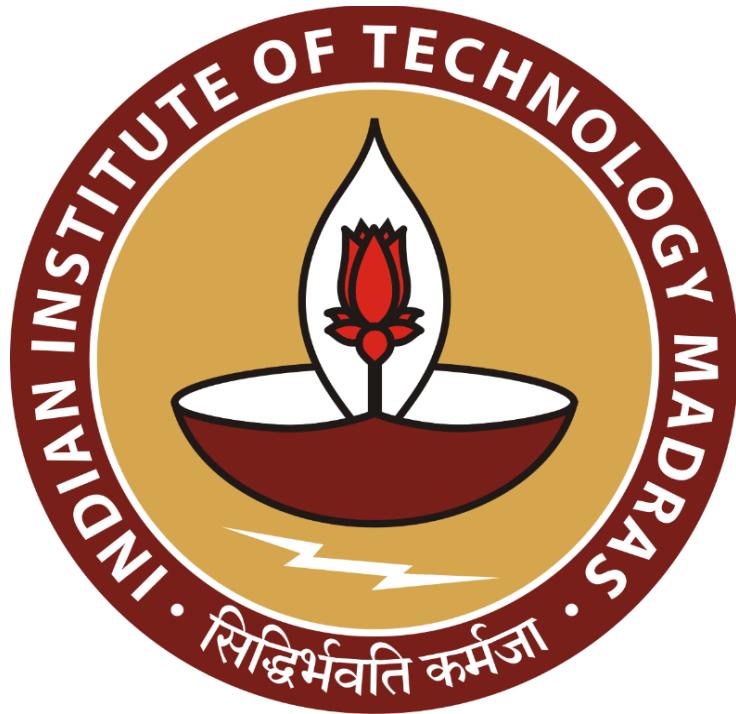
**Title: Enhancing Operational Efficiency and Revenue Analysis: A  
Data-Driven Study for DTDC Courier Franchise Services**

**A Mid-Term report for the BDM capstone Project**

Submitted by

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## 1 Executive Summary

DTDC Courier Franchise Services in Sharda Nagar, Kanpur, has been a local logistics provider since 1997, handling a mix of business and consumer deliveries. Despite operating for decades, the franchise faces three key operational inefficiencies: lack of clarity in regional revenue trends, high parcel return rates, and frequent delivery delays due to inefficient routing.

This project presents a data-driven analysis to address these challenges. Primary data collected directly from the franchise was analysed using Microsoft Excel. PivotTables, COUNTIF/AVERAGEIF functions, and visual tools such as charts and conditional formatting were employed to uncover trends and patterns.

The goal of this mid-term report is to present the findings from the initial phase of the analysis, highlight key operational inefficiencies, and provide data-backed insights into where and why the franchise is experiencing financial and service-related setbacks. This forms the foundation for actionable strategies in the final phase of the project.

Key goals of this report are:

- Identify revenue trends across delivery regions to support data-driven resource allocation and improve operational planning.
- Analyse parcel return rates and reasons to identify problem areas in service or customer experience and reduce the volume of returns.
- Evaluate delivery time patterns and locate delay-prone areas to recommend more efficient routing solutions.
- Provide visual insights and summaries using Excel tools for clear decision-making.

These objectives are aligned with improving the overall efficiency, customer service, and financial performance of the franchise.

## 2 Proof of Originality of Data

- **Details of the Business:**

**Owner:** Shailendra Nath Bajpai

**Address:** Sharda Nagar, Kanpur, Uttar Pradesh 208025

- **Photographs of the Office:**



Figure 2.1: Outside & Inside View of the Office

- **Photographs of the PODs (Proof of Delivery):**

| Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.   |  |                         |  |  |              |                     |  |  |  |   |  |
|--|--|-------------------------|--|--|--------------|---------------------|--|--|--|---|--|
| <b>DTDC</b><br><b>DTDC Express Limited</b><br>regd. Office: No-3, Victoria Road<br>Bengaluru - 560047  |  |                         |  | <b>ORIGIN</b>  | <b>DEST.</b> |                     |  |  |  |   |  |
|  |  |                         |  | <b>POUCH NO.</b>   | <b>DATE</b>  |                     |  |  |  |   |  |
| The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or its channel partner as & rate may be, upon request.   |  |                         |  |  |              |                     |  |  |  |   |  |
| Sender's (Consignor) Name: <i>Shubh Kulkarni</i> Ph:<br>Company Name & Address: <i>Shubh Kulkarni</i>  |  |                         |  | Recipient's (Consignee) Name: <i>Umesh Patel</i> Ph:<br>Company Name & Address: <i>ACRA</i>  |              |                     |  |  |  |   |  |
| City: <i>Bengaluru</i>   |  | State: <i>Karnataka</i> |  | PIN Code: <i>560047</i>  |              | City: <i>Mumbai</i> |  | State: <i>Maharashtra</i>  |  | PIN Code: <i>400001</i>   |  |
| Sender's GSTIN*: <i>99500102000101</i> *Where Applicable   |  |                         |  | Recipient's GSTIN*: <i>99500102000101</i> *Where Applicable  |              |                     |  |  |  |   |  |
| <b>3 Nature of consignment (✓)</b> <input checked="" type="checkbox"/> <b>Dox</b> <input type="checkbox"/> <b>Non-Dox</b> <input type="checkbox"/><br>DIM 1: L cm X B cm X H cm X Pcs Actual Wt.: kg<br>DIM 2: L cm X B cm X H cm X Pcs Volumetric Wt.: kg<br>DIM 3: L cm X B cm X H cm X Pcs Chargeable Wt.: kg             |  |                         |  | <b>4 Description of Content</b><br>Total Value of consignment for carriage / E-Way Bill: ₹ <i>1000</i>   |              |                     |  |  |  |   |  |
| <b>5 Paper Work Enclosures</b><br>I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting  |  |                         |  | <b>6 Type of consignment (✓)</b> <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Non Commercial <input type="checkbox"/> Not Available <input type="checkbox"/> CN Expiry Date |              |                     |  |  |  |   |  |
| <b>7</b> <input type="checkbox"/> <b>Charges</b> <input type="checkbox"/> <b>Amount (₹)</b><br>a) Tariff (incl. Of FSC + Taxed)<br>b) Risk Surcharge<br>c) Total amount (a+b)  |  |                         |  | <b>8 Mode (✓)</b> <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Air Cargo <input type="checkbox"/> Express  |              |                     |  | <b>9 Consignment Number:</b> U32167717   |  |   |  |
| <b>10</b> <input type="checkbox"/> <b>I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting</b>  |  |                         |  | <b>11</b> <b>Booking Branch / Franchisee Code</b><br>Courier Signature   |              |                     |  | <b>12</b> <b>Risk Surcharge</b><br>Owner <input type="checkbox"/> Carrier <input type="checkbox"/> |  |   |  |
| Date: <i>10/01/2024</i> Time: <i>AM/PM</i><br><i>I have read and understood terms &amp; conditions printed overleaf of this consignment note and agree to the same.</i><br><a href="http://www.dtdc.in">http://www.dtdc.in</a>    <a href="mailto:customersupport@dtdc.com">customersupport@dtdc.com</a>    +91-9606 911 811 |  |                         |  |  |              |                     |  | <b>ACCOUNTS COPY</b> <input type="checkbox"/> <b>Jan. 2024</b>                                     |  |   |  |
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Figure 2.2: Bill of service type - Standard

**DTDC Express Limited**  
R.O. Office: No.3, Victoria Road  
Bengaluru - 560047

|   |  |  |    |   |         |
|---|--|--|----|---|---------|
| Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.  |  | ORIGIN   | KR | DEST  | M.D     |
|   |  | POUCH NO.  |    | DATE  | 1.10.24 |
| The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or its channel partner, as the case may be, upon request.   |  |  |    |   |         |
| 1 Sender's (Consignor) Name: R. D. Ph. Company Name & Address:  |  | 2 Recipient's (Consignee) Name: Tatyay, Col. Ph. Company Name & Address:   |    | Download MyDTDC app<br>Available at select cities & pin codes   |         |
| City: State: PIN Code: Sender's GSTIN*: *Where Applicable   |  | City: State: PIN Code: Recipient's GSTIN*: *Where Applicable   |    |    |         |
| 3 Nature of consignment Dox <input type="checkbox"/> Non-Dox <input type="checkbox"/> Total Num Pcs: DIM 1: L cm X B cm X H cm X Pcs Actual Wt.: kg<br>DIM 2: L cm X B cm X H cm X Pcs Volumetric Wt.: kg<br>DIM 3: L cm X B cm X H cm X Pcs Chargeable Wt.: kg |  | 4 Description of Content Total Value of consignment for carriage / E-Way bill ₹  |    |   |         |
| 5 Paper Work Enclosures   |  | 6 Type of consignment <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Non Commercial   |    | 7 Value Added Services <input checked="" type="checkbox"/> Secure Pack <input checked="" type="checkbox"/> Passport <input type="checkbox"/> COD <input type="checkbox"/> Sunday Plus <input type="checkbox"/> Office Collect <input type="checkbox"/> CN Expiry Date |         |
| 9 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting   |  | 10 Charges Amount(R):<br>a) Tariff (incl. of FSC+GST)<br>b) Value Added Service Charges<br>c) Risk Surcharge<br>d) Total amount (a+b+c)  |    | 8 Mode <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Air cargo <input type="checkbox"/> Express  |         |
| Sender's Signature & Seal   |  | Above charges are inclusive of GST & other taxes if applicable<br>Mode of Payment: Cash <input type="checkbox"/> Card <input type="checkbox"/> Wallet <input type="checkbox"/> |    | Consignment Number: V85748810   |         |
| Date: Time: AM/PM<br>I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.   |  | 11 Booking Branch / Franchise Code Courier Signature   |    | 12 Owner Carrier  |         |
| 13 Receiver's Name:<br>Relationship:<br>Company Stamp & Signature:<br>Ph No.: Date: DD / MM / YY Time: AM/PM  |  |  |    | Risk Surcharge  |         |
| <a href="http://www.dtdc.in">http://www.dtdc.in</a>    <a href="mailto:customersupport@dtdc.com">customersupport@dtdc.com</a>    +91-9606 911 811 ACCOUNTS COPY Jan. 2024   |  |  |    |   |         |

Figure 2.3: Bill of service type - Express

**DTDC Express Limited**  
R.O. Office: No.3, Victoria Road  
Bengaluru - 560047

|   |  |  |    |   |          |
|---|--|--|----|---|----------|
| Non Negotiable Consignment Note / Subject to Bengaluru Jurisdiction.  |  | ORIGIN   | KR | DEST.   | MICHIGAN |
|   |  | POUCH NO.  |    | DATE  | 5.10.24  |
| The consignment note is not a tax invoice. A tax invoice will be made available by DTDC or its channel partner, as the case may be, upon request.   |  |  |    |   |          |
| 1 Sender's (Consignor) Name: Jyo Ph. Company Name & Address:  |  | 2 Recipient's (Consignee) Name: TEEJ CHILIMH Company Name & Address:   |    | Download MyDTDC app<br>Available at select cities & pin codes   |          |
| City: State: PIN Code: Sender's GSTIN*:    |  | City: State: PIN Code: Recipient's GSTIN*:    |    |   |          |
| 3 Nature of consignment Dox <input type="checkbox"/> Non-Dox <input type="checkbox"/> Total Num Pcs: 2 DIM 1: L cm X B cm X H cm X Pcs Actual Wt.: kg<br>DIM 2: L cm X B cm X H cm X Pcs Volumetric Wt.: kg<br>DIM 3: L cm X B cm X H cm X Pcs Chargeable Wt.: kg |  | 4 Description of Content Total Value of consignment for carriage / E-Way bill ₹ 5000/-   |    |   |          |
| 5 Paper Work Enclosures   |  | 6 Type of consignment <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Non Commercial   |    | 7 Value Added Services <input checked="" type="checkbox"/> SECURE PACK <input checked="" type="checkbox"/> CN Expiry Date |          |
| 9 I/We declare that this consignment does not contain personal mail, cash, jewellery, contraband, illegal drugs, any prohibited items and commodities which can cause safety hazards while transporting   |  | 10 Charges Amount(R):<br>a) Tariff (incl. of FSC+GST)<br>b) Value Added Service Charges<br>c) Risk Surcharge<br>d) Total amount (a+b+c)  |    | 8 Mode <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Air Cargo <input type="checkbox"/> Express    |          |
| Sender's Signature & Seal   |  | Above charges are inclusive of GST & other taxes if applicable<br>Mode of Payment: Cash <input type="checkbox"/> Card <input type="checkbox"/> Wallet <input type="checkbox"/> |    | Consignment Number: D93994454   |          |
| Date: Time: AM/PM<br>I have read and understood terms & conditions printed overleaf of this consignment note and I agree to the same.   |  | 11 Booking Branch / Franchise Code Courier Signature   |    | 12 Owner Carrier  |          |
| 13 Receiver's Name:<br>Relationship:<br>Company Stamp & Signature:<br>Ph No.: Date: / / Time: AM/PM   |  |  |    | Risk Surcharge  |          |
| <a href="http://www.dtdc.in">http://www.dtdc.in</a>    <a href="mailto:customersupport@dtdc.com">customersupport@dtdc.com</a>    +91-9606 911 811 ACCOUNTS COPY Jan. 2024   |  |  |    |   |          |

Figure 2.4: Bill of parcel weighing more than 5 kgs (Service type -Standard)

- **Letter from the Organisation:**

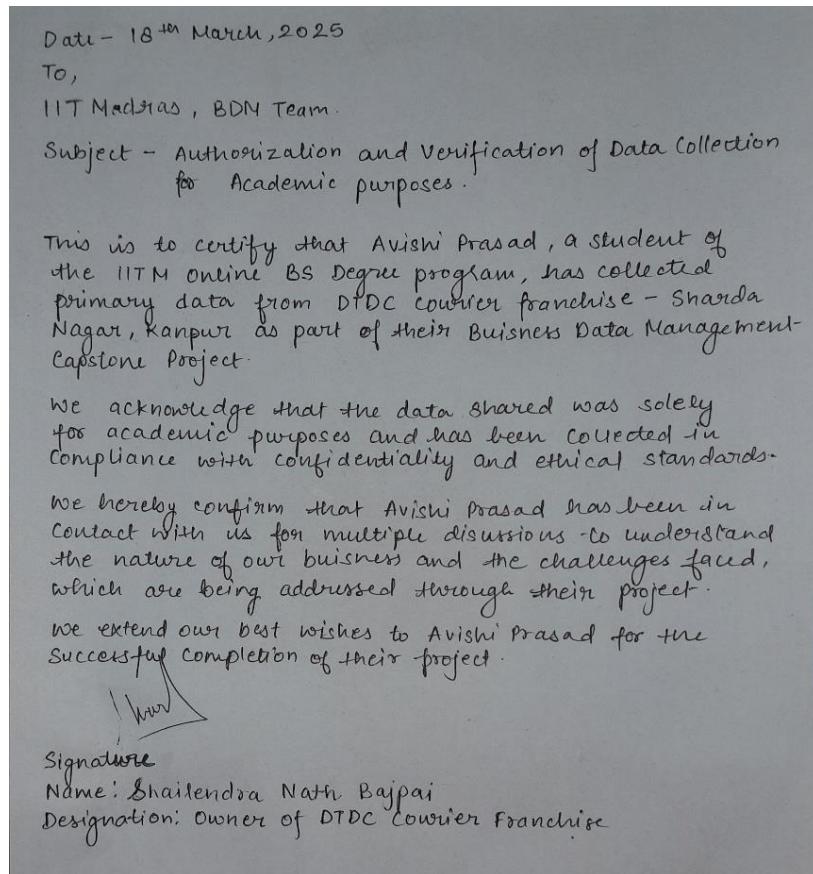


Figure 2.5 Letter from the Organization

- **Link to a short video of one of the meetings with the owner:**

[https://drive.google.com/file/d/111IuY8SkkfM92orrKRYU6fe\\_WARGHXLx/view?usp=drive\\_link](https://drive.google.com/file/d/111IuY8SkkfM92orrKRYU6fe_WARGHXLx/view?usp=drive_link)

### 3 Metadata and Descriptive Statistics

The data was captured by manually entering the bills for the entire month of October 2024 into an Excel file over the course of three to four meetings. Here is a snapshot of the data:

| Date of Transaction | Month of Transaction | Tracking Number | Service Type | Status    | Transaction Amount | Sender's Location | Receiver's Location | Parcel weight   | Parcel type | Date of Delivery | Date of Return |
|---------------------|----------------------|-----------------|--------------|-----------|--------------------|-------------------|---------------------|-----------------|-------------|------------------|----------------|
| 01-10-2024          | October-2024         | V85748809       | Express      | Delivered | ₹ 680.00           | Kanpur            | Hyderabad           | Less than 5 kgs | N.A.        | 03-10-2024       | N.A.           |
| 01-10-2024          | October-2024         | V85748810       | Express      | Delivered | ₹ 310.00           | Kanpur            | Delhi               | Less than 5 kgs | N.A.        | 03-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167711       | Standard     | Delivered | ₹ 320.00           | Kanpur            | Ghaziabad           | Less than 5 kgs | Eatables    | 07-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167712       | Standard     | Returned  | ₹ 140.00           | Kanpur            | Noida               | Less than 5 kgs | N.A.        | 15-10-2024       | 08-11-2024     |
| 03-10-2024          | October-2024         | U32167713       | Standard     | Delivered | ₹ 150.00           | Kanpur            | Noida               | Less than 5 kgs | N.A.        | 05-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167714       | Standard     | Delivered | ₹ 100.00           | Kanpur            | Lucknow             | Less than 5 kgs | N.A.        | 05-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167715       | Standard     | Delivered | ₹ 350.00           | Kanpur            | Forbesganj          | Less than 5 kgs | Clothes     | 05-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167717       | Standard     | Delivered | ₹ 230.00           | Kanpur            | Agra                | Less than 5 kgs | N.A.        | 05-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167718       | Standard     | Delivered | ₹ 720.00           | Kanpur            | Mumbai              | Less than 5 kgs | N.A.        | 07-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | U32167719       | Standard     | Delivered | ₹ 90.00            | Kanpur            | Agra                | Less than 5 kgs | N.A.        | 05-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | V85748812       | Express      | Delivered | ₹ 270.00           | Kanpur            | Baharaich           | Less than 5 kgs | N.A.        | 07-10-2024       | N.A.           |
| 03-10-2024          | October-2024         | V85748813       | Express      | Delivered | ₹ 500.00           | Kanpur            | Delhi               | Less than 5 kgs | Passport    | 04-10-2024       | N.A.           |
| 04-10-2024          | October-2024         | D93994451       | Standard     | Delivered | ₹ 480.00           | Kanpur            | Lucknow             | More than 5 kgs | Clothes     | 07-10-2024       | N.A.           |
| 04-10-2024          | October-2024         | U32167716       | Standard     | Delivered | ₹ 90.00            | Kanpur            | Lucknow             | Less than 5 kgs | N.A.        | 07-10-2024       | N.A.           |

Figure 3.1 Snapshot of the Data

The original data mainly contains the following details:

1. Date of Transaction
2. Tracking Number (U-series/ V-series/ D-series)
3. Service Type (Standard/Express)
4. Status (Delivered/Returned)
5. Transaction Amount
6. Sender's/Receiver's Location
7. Parcel Weight (Less/More than 5 kgs)
8. Parcel Type
9. Date of Delivery/Return

The following section presents the descriptive statistical analysis of the collected data using charts and graphs.

- Total number of parcels handled = 225
- Total revenue earned in October 2024 = Rs. 55095.00
- Total number of parcels returned = 2
- Revenue analysis by region:

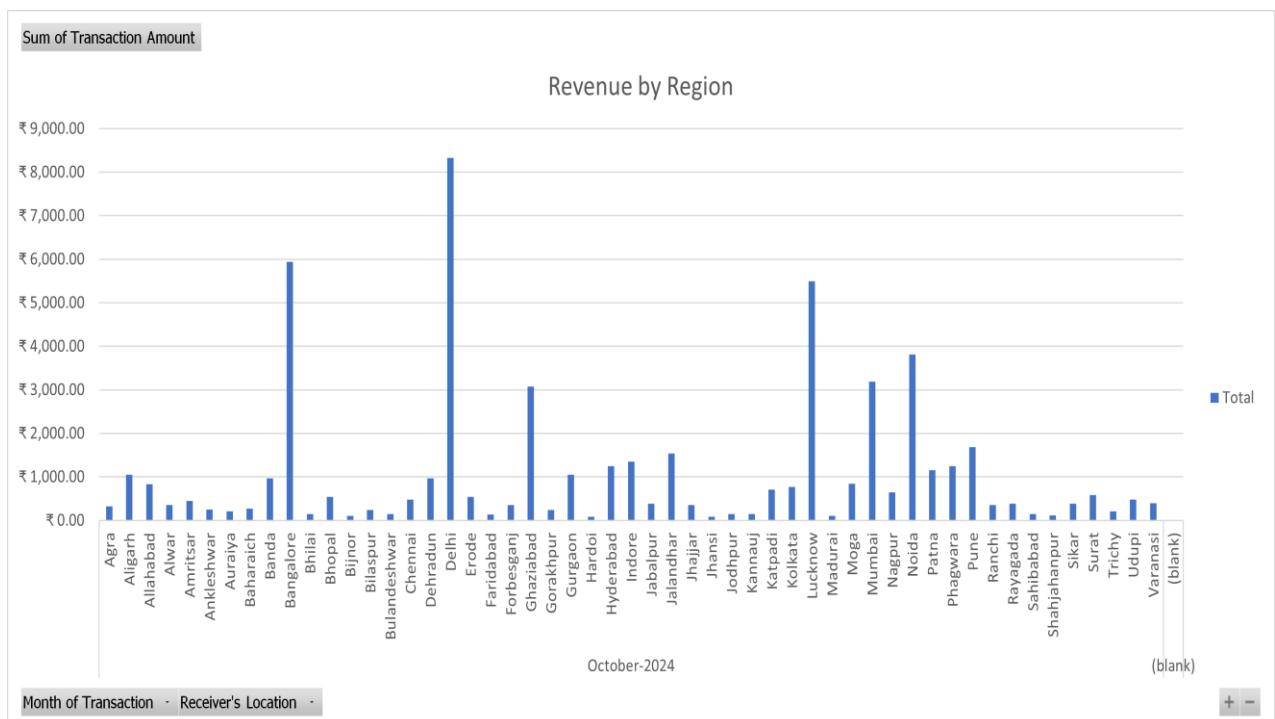


Figure 3.2 Revenue by region

- Proportion of delivered and returned parcels:

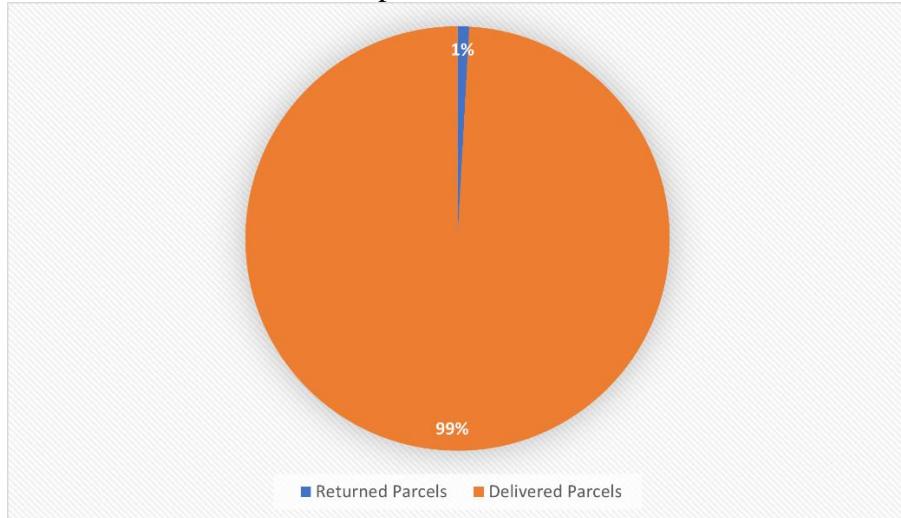


Figure 3.3 Proportion of delivered and returned parcels

- States with the highest number of parcels sent:

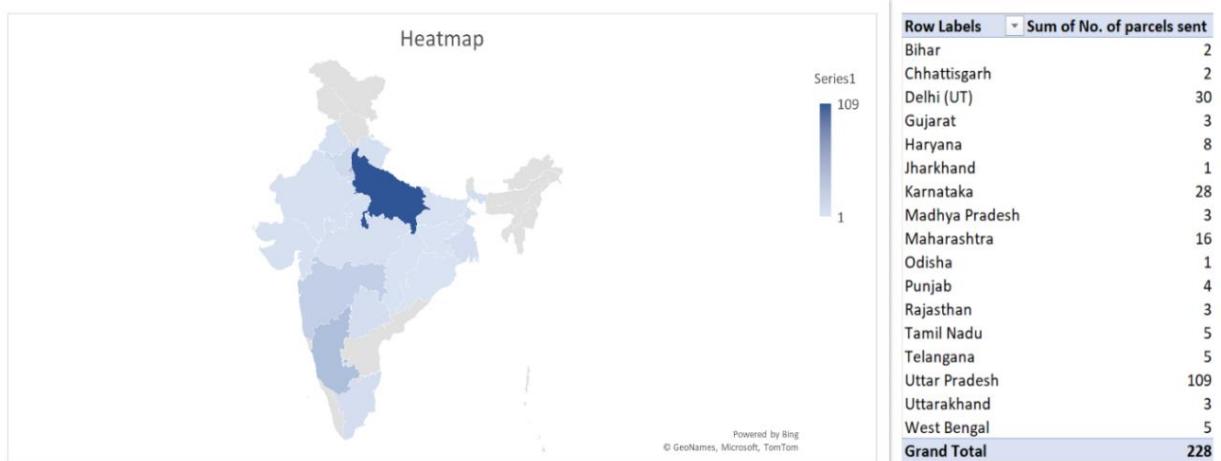


Figure 3.4 States with the highest demand

- Percentage of delayed parcels per region:

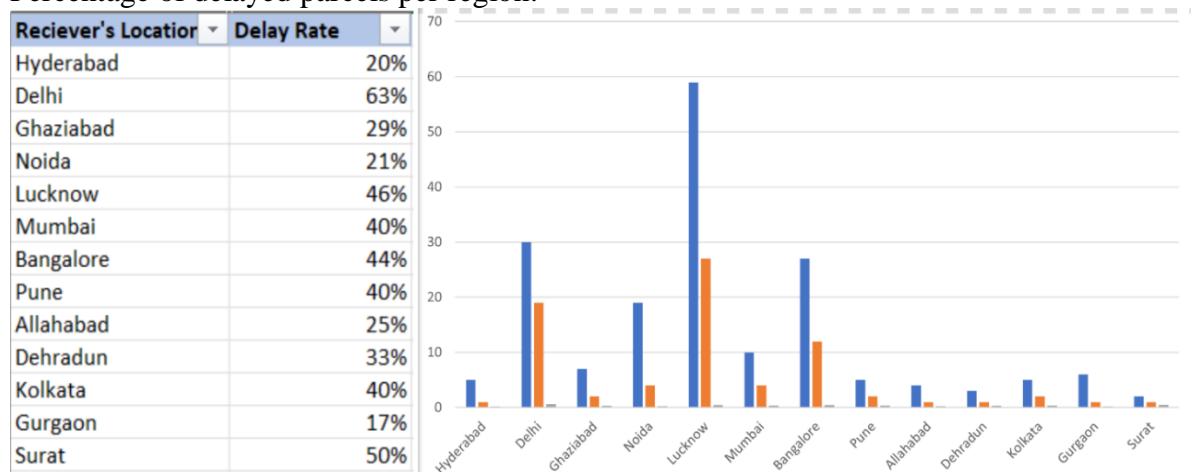


Figure 3.5 Percentage of delayed parcels per region

- Standard vs. Express service type:

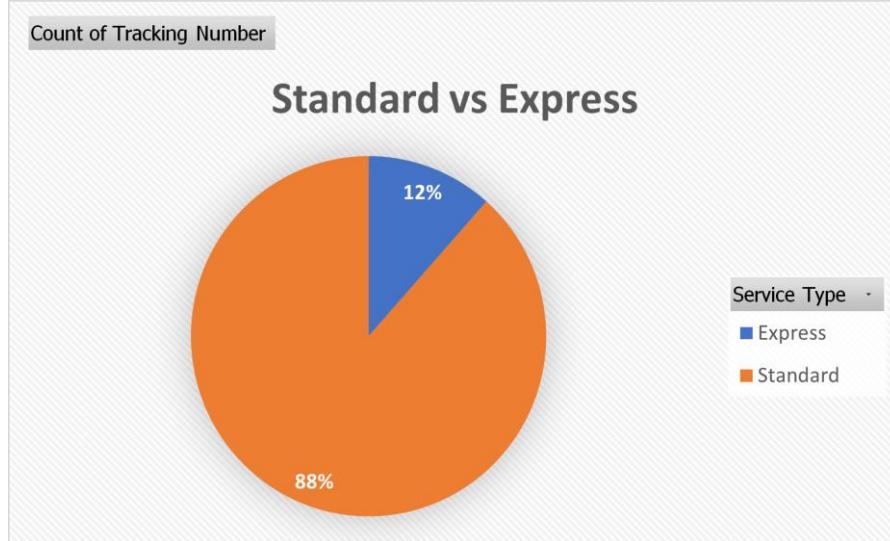


Figure 3.6 Standard vs Express

- Revenue vs Service type

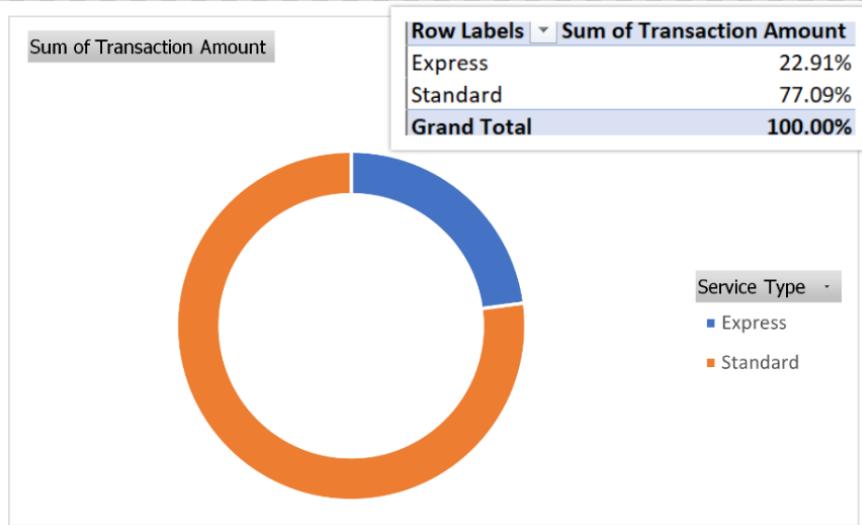


Figure 3.7 Revenue vs Service type

- Peak weekdays:

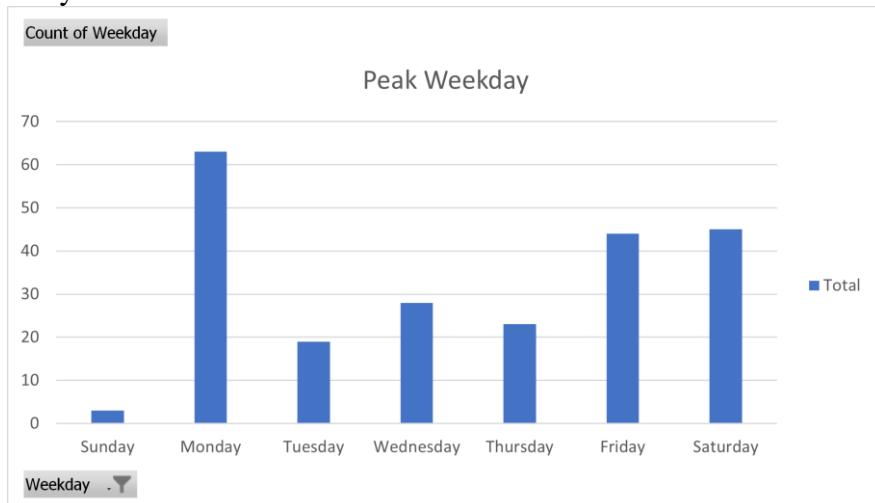


Figure 3.8 Peak weekdays

- Proportion of parcel weights:

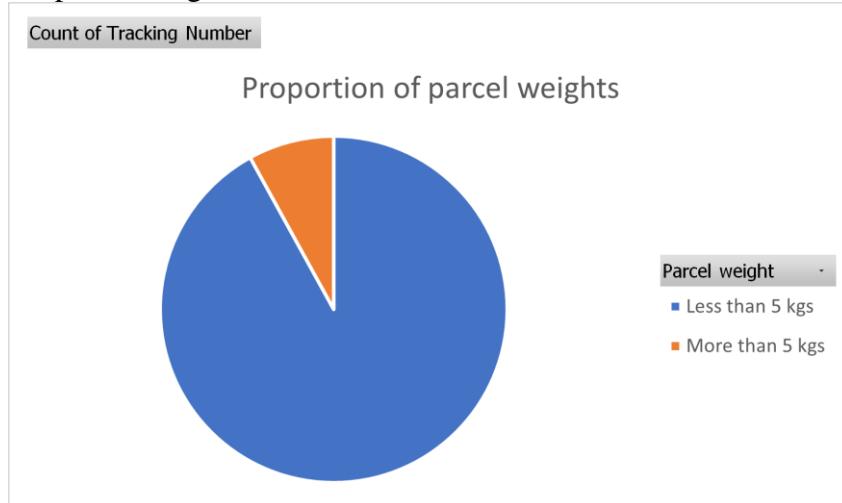


Figure 3.9 Proportion of parcel weights

- Revenue by parcel weights:

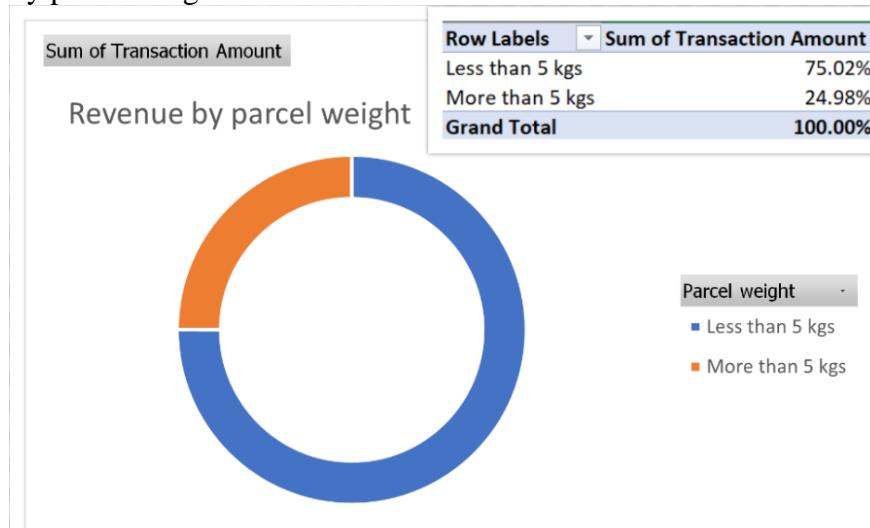


Figure 3.10 Revenue by parcel weight

- Revenue trend over the month:



Figure 3.11 Revenue trend over the month

## 4 Detailed Explanation of Analysis Process/Methods

This project used **Microsoft Excel** as the primary tool for analysing operational data from DTDC Courier Franchise Services. Excel was selected due to its accessibility, familiarity to the business owner, and ability to perform efficient, structured analysis without the need for advanced technical skills.

### Data Collection & Cleaning

Bills from October 2024 were manually entered into Excel over 3–4 meetings. Region names, service types, and weights were standardized to ensure consistency. Minor entry errors were cross-checked against physical documents.

### Methods Used and Justification

- **PivotTables** were used to summarize revenue by region, service types, and parcel weight categories.
- **COUNTIF/COUNTIFS** helped calculate return frequencies, weekday activity, and delay-prone zones.
- **AVERAGEIF** was used to find average delivery amounts/times and detect high-earning parcel categories.
- **Conditional Formatting** highlighted high- and low-performing regions and parcels.
- **Charts (bar, pie, line)** made patterns easy to interpret and present.

These methods were chosen because they are **simple, scalable, and transparent**—allowing the franchise owner to continue using them in future months. Compared to tools like Power BI or R, Excel offers **ease of use and immediate insights**, which makes it more suitable for a small business setup.

### Challenges

Some minor data gaps (e.g., parcel weight or delivery delay time) were noted, and workarounds were used. Despite manual entry, Excel enabled fast validation and correction.

In summary, Excel provided a robust yet user-friendly platform for extracting business insights aligned with the project's three problem statements.

## 5 Results and Findings

The following are the major findings from the descriptive statistical analysis:

### 1. Revenue by Region:

- Delhi contributed the highest revenue in October 2024, followed by Bangalore and Lucknow. (Figure 3.2)

- Regions like Jhansi and Hardoi had notably lower revenue contributions, indicating potential inefficiencies or low demand. (Figure 3.2)

## **2. Parcel Return Rates:**

- Only 2 out of 225 parcels were returned, indicating a low return rate of less than 1%. (Figure 3.3)
- Although the problem statement anticipated high return rates, the data collected for this time period indicates an unexpectedly low return rate of only 0.89%. This suggests either an improvement in delivery quality or a potential issue in data logging/reporting of returns. A longer observation period or further investigation could help clarify this discrepancy.

## **3. Service Type Trends:**

- Standard service was used for over 88% of the parcels. (Figure 3.6)
- Express services, although fewer in number, generated 23% of the total revenue(Figure 3.7)

## **4. Parcel Weight Insights:**

- Heavier parcels (>5 kg) were fewer but accounted for a disproportionately high share of revenue. (Figure 3.10)
- Lighter parcels dominated volume. (Figure 3.9)

## **5. Peak Activity Days:**

- The majority of transactions occurred on weekdays, with Mondays and Saturdays being the busiest. (Figure 3.8)
- This trend can help in optimizing staff allocation and resource planning.

## **6. Delay-Prone Regions:**

- Areas like Delhi and Surat showed a higher percentage of delayed deliveries. (Figure 3.5)
- Suggestion: Route planning tools like Google Maps API could help streamline deliveries in these regions.

## **7. Summary Dashboard**

To provide a consolidated visual representation of the key findings, a comprehensive dashboard was created using Power Bi and Excel. The dashboard displays key metrics and patterns across revenue, parcel types, and delivery performance.

**Link to Power Bi dashboard file:**

[https://drive.google.com/file/d/11Izkuc\\_177oIOSYxuvxYV57FkA96Ux-L/view?usp=drive\\_link](https://drive.google.com/file/d/11Izkuc_177oIOSYxuvxYV57FkA96Ux-L/view?usp=drive_link)