

# Optimizing Revenue for a Freight Forwarding Company

## Business Data Management Capstone Project

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Program: BS in Data Science and Applications



# Project Overview

## Organization's Background:

- The organization that I have worked with on this project is NNR Global Logistics India Pvt. Ltd.
- It is a freight-forwarding multinational company (MNC) that provides services such as Air and Ocean Freight Forwarding (Import-Export), Customs Clearance, Logistics, Airline Freight Agency and Warehousing Services across India.

## Problem Statement:

- To overcome stagnancy in revenue: For the last 5 years the company has not been able to increase its revenue due to failure to explore potential new markets and key commodity segments, weak marketing practices and underutilization of online platforms.



Company Logo



Company Head Office



Company Warehouse

# Data Collection, Preparation and Summary

## Data Collection:

- The company's sales data from Direct Shipments was collected over email in the form of Microsoft Excel Workbooks for FY-23 and FY-24.
- As well as the facts regarding the company's current marketing practices and overall business processes was also collected.

## Data Preparation:

- The dataset was consolidated into a single workbook, after which data cleaning and preprocessing was performed.
- This process included steps like, renaming of columns, reclassification of records, removal of empty records and application of uniform formatting across the entire dataset.

## Data Summary:

- Key variables that contributed to the problem statement were identified across the dataset.
- CW (Chargeable Weight), Revenue and Gross Profit were the numerical variables over which descriptive statistics was performed to measure their central and variational tendencies.

# Methodology

- **Trend Analysis:** Revenue and Gross Profit were analyzed across shipment types (AI, OI, AE and OE) to identify their trends for both years.
- **Segment Analysis:** Revenue and Gross Profit were analyzed across segments like Commodity, Customer Type, Office Branch, Shipment Types etc. to evaluate their performance segment-wise for both years. Cross-Segment Tables were also created to identify outliers and best/worst performing cross-segments like Commodity-Shipment Type, Commodity-Office Branch and Office Branch-Customer Type.
- **Ratio Analysis:** Financial Ratios like Profit Margin %, Cost-To-Revenue Ratio, and Revenue Growth Rate % were calculated for both years to evaluate the company's overall financial health. As well as, KPI's (Key Performance Indicators) like Profit/CW, Revenue/CW and Cost/CW were also calculated to evaluate the company's operational efficiency.
- **Qualitative Analysis:** Facts regarding the company's current marketing practices, CRM and digital presence were collected to analyze their effectiveness. These facts were worked upon to draft a new and effective marketing strategy to optimize revenue.

# Trend Analysis

- The AI segment was the best performing segment in Revenue, and the worst performing segment was the AE segment.
- 3<sup>rd</sup> Quarter of 2023 showed a huge dip for AI, OI and OE segments.
- Overall, all 4 shipment types displayed a repetitive pattern of rise and fall, which conveyed variability in revenue generation.

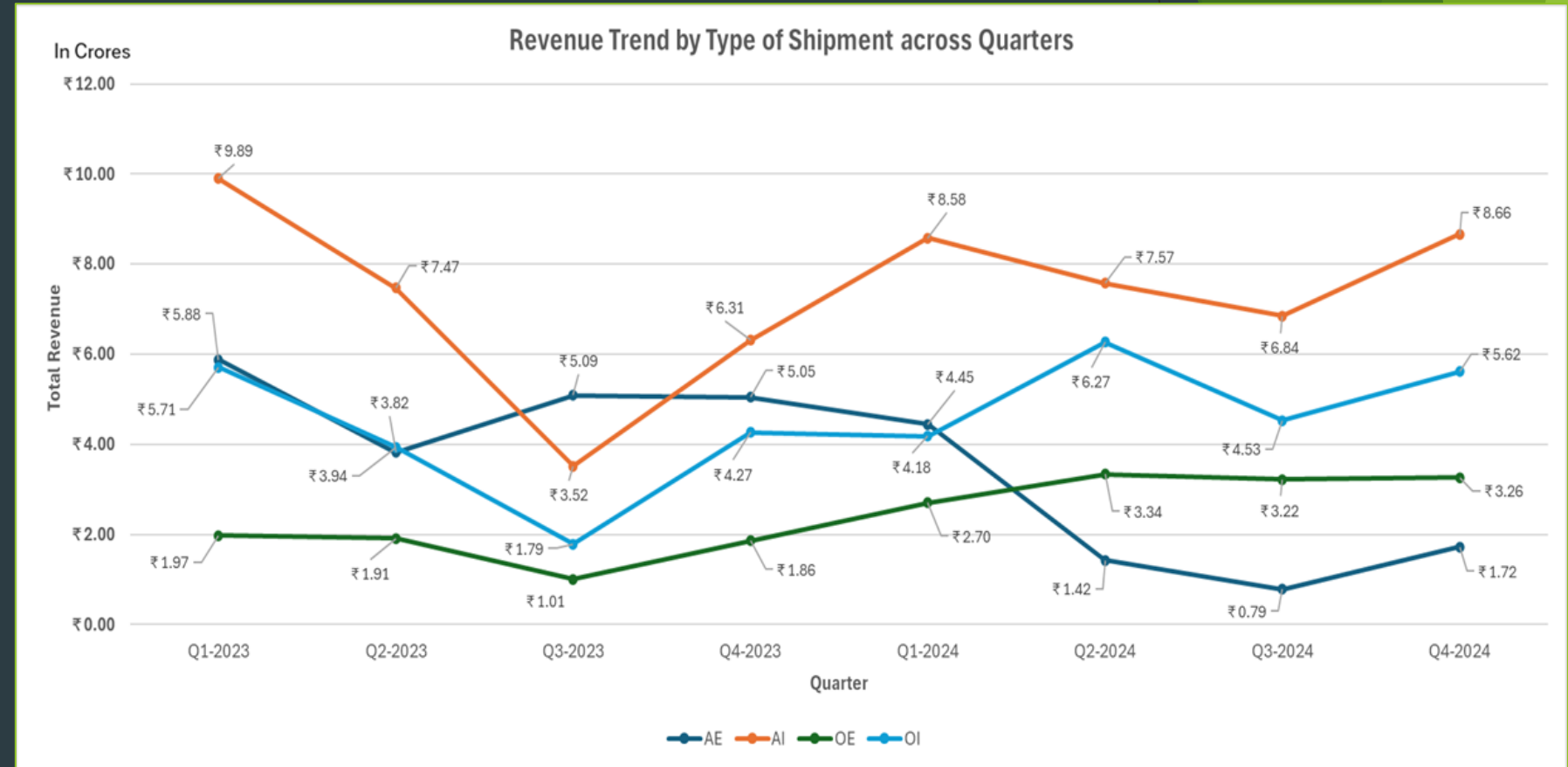


Figure 1: Revenue across Shipment Types for both years

# Segment Analysis

- The DEL branch was the best performing branch in revenue for both years.
- The LDH branch was the worst performing branch in revenue for both years.
- Overall, the difference between the best branch and the second-best branch was quite high, which indicated that the company's revenue generation is heavily dependent on a single branch.

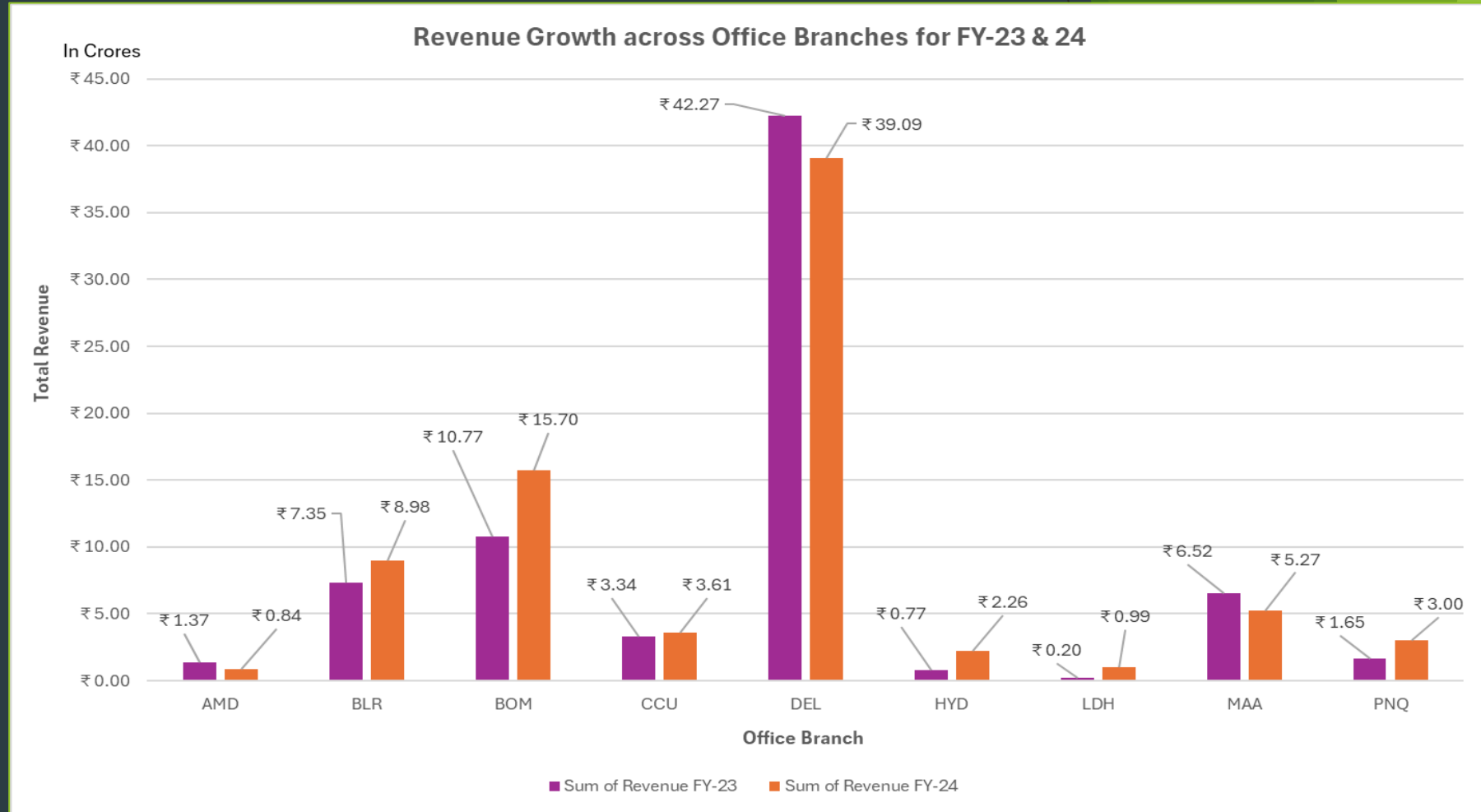


Figure 2: Revenue across Office Branches for both years



# Segment Analysis

- The AI-Automotive Parts cross segment performed the best in revenue for both years.
- Textiles, Apparels and Raw Materials were the worst performing segments in revenue for both years.
- Overall, the Export segment performed worst in almost all commodities which indicates that the company hasn't been able to break into the Indian Export Market and hence struggles with revenue generation.

Sum of Revenue FY-23'	Type of Shipment			
Commodities	AE	AI	OE	OI
Aerospace Parts	—	₹ 89,963.00	—	₹ 225,500.00
Automotive Parts	₹ 12,194,555.83	₹ 151,450,932.54	₹ 28,814,891.35	₹ 89,880,932.48
Chemicals	₹ 1,489,498.22	₹ 11,611,354.00	₹ 4,983,985.55	₹ 5,750,035.78
Diplomatic Cargo	—	—	—	₹ 43,521.00
Electronic Goods	₹ 949,164.00	₹ 41,814,662.39	—	₹ 25,543,549.52
Foods	₹ 1,469,253.57	₹ 2,608,394.00	₹ 2,216,176.96	₹ 2,288,756.19
Machinery Parts	—	₹ 13,393.00	₹ 664,594.00	₹ 2,613,508.00
Pharmaceuticals	₹ 3,852,204.00	₹ 7,557,697.00	₹ 444,602.00	₹ 241,219.90
Raw Materials	—	—	₹ 83,932.00	₹ 1,082,152.00
Robotic Parts	—	₹ 3,658,369.00	—	—
Semiconductors	₹ 7,085,209.32	₹ 3,031,687.58	₹ 1,021,590.00	—
Textiles	₹ 7,987,260.40	₹ 75,789.00	₹ 4,553,627.99	₹ 82,701.77
Unknown	₹ 163,312,936.79	₹ 50,047,802.36	₹ 24,650,357.07	₹ 29,266,382.93
Sum of Revenue FY-24'	Type of Shipment			
Commodities	AE	AI	OE	OI
Aerospace Parts	₹ 110,654.00	₹ 6,006,265.00	—	₹ 1,766,578.05
Apparels	₹ 126,147.00	—	₹ 388,329.00	—
Automotive Parts	₹ 14,463,625.56	₹ 197,387,138.22	₹ 32,788,678.45	₹ 136,153,331.33
Chemicals	₹ 3,818,694.76	₹ 12,243,171.04	₹ 21,020,302.84	₹ 7,452,876.78
Electronic Goods	₹ 2,224,356.50	₹ 31,575,227.56	₹ 2,179,447.14	₹ 22,511,466.40
Foods	₹ 1,655,713.35	₹ 6,815,856.32	₹ 5,399,973.33	₹ 2,063,589.90
Machinery Parts	₹ 3,478,678.00	—	—	—
Pharmaceuticals	₹ 371,617.68	₹ 12,998,973.64	—	₹ 1,754,231.74
Semiconductors	₹ 3,533,636.02	₹ 2,729,448.00	₹ 8,247,056.20	—
Textiles	₹ 5,720,045.35	—	₹ 4,929,460.43	₹ 36,629.96
Unknown	₹ 48,312,989.34	₹ 46,852,955.94	₹ 50,241,170.19	₹ 34,290,576.17

Figure 3:  
Revenue  
across  
Commodity-  
Shipment  
Type for  
both years

# Ratio Analysis

- From Figure 4, it can be concluded that the company's financial health is good, as overall profitability increased and revenue grew by 7.4%.
- From Figure 5, it can be concluded that the company's operational efficiency increased in 2024 in terms of volume of shipments handled.
- Overall, these ratios provide an overview of the company's sales performance.

Profit Margin % FY-23
10.74%
Profit Margin % FY-24
12.27%
Cost-To-Revenue Ratio % FY-23
89.68%
Cost-To-Revenue Ratio % FY-24
88.16%
Revenue Growth Rate %
7.40%

Figure 4: Financial Ratios

Year	KPI	Value
2023	Revenue/CW (₹/Kg)	442.99
2024	Revenue/CW (₹/Kg)	583.62
2023	Profit/CW (₹/Kg)	47.57
2024	Profit/CW (₹/Kg)	71.62
2023	Cost/CW (₹/Kg)	397.28
2024	Cost/CW (₹/Kg)	514.53

Figure 5: Key Performance Indicators



SWOT Table

Internal	<div>Strengths</div> <ul style="list-style-type: none"><li>• The overall Revenue and Gross Profit of the company increased from FY-23 to FY-24.</li><li>• CW (chargeable weight) of shipments handled by the company rose in FY-24.</li><li>• The best performing type of shipments were <b>AI</b> and <b>OI</b> segments in terms of Revenue and Gross Profit for both years. This indicates that the company has a strong business network in the Imports Domain.</li><li>• The top performing office branches were <b>DEL</b>, <b>BOM</b> and <b>BLR</b> in terms of Revenue and Gross Profit for both years.</li><li>• <b>Automotive Parts</b> was the most profitable and revenue generating commodity handled in both years. AI and OI shipments dominated in this segment</li><li>• The Revenue Growth Rate is <b>7.4%</b>.</li><li>• The Profit Margin has increased from 10.7% to <b>12.2%</b>.</li><li>• The Revenue/CW and Profit/CW KPIs both increased in FY-24 indicating revenue quality and effective profitability</li><li>• The older customers contributed more Revenue and Gross Profit both years as compared to newer ones.</li></ul>	<div>Weaknesses</div> <ul style="list-style-type: none"><li>• The worst performing type of shipment was <b>AE</b> for both years. This indicates that the company has not been able to breakthrough into the Indian Export Market.</li><li>• The worst performing office branches were <b>AMD</b>, <b>HYD</b> and <b>LDH</b> in terms of both Revenue and Gross Profit for both years.</li><li>• <b>Apparels</b> and <b>Raw Materials</b> were the worst revenue and profit generating commodities in both years. This indicates that the company should re-focus and not target such low value commodities.</li><li>• The company does not have a dedicated <b>ERP</b> (Enterprise Resource Planning) system.</li><li>• The lack of an ERP system also leads to poor Customer Relationship Management (<b>CRM</b>).</li><li>• The company does not utilize digital platforms for marketing resulting in poor visibility.</li><li>• Lack of an ERP system has also led to <b>Data Inaccuracy</b> and <b>Errors</b>, many of which were encountered during analysis. Specifically, many of the records did not have labels for commodity due which they had to categorised as Unknown. This category was the 2nd best performing in terms of revenue and profit.</li></ul>
	<div>Opportunities</div> <ul style="list-style-type: none"><li>• Entering into the Indian Export Market is a huge opportunity for the company. As the Indian export market rapidly rising due to the growth of many sectors and government initiatives.</li><li>• Sectors like Semi-Conductors, Pharmaceuticals and Electronics can be targeted to boost revenue.</li></ul>	<div>Threats</div> <ul style="list-style-type: none"><li>• The high volatility of the Indian Freight Forwarding and Logistics Industry.</li><li>• The costs incurred by any company are majorly externally dependent and usually very difficult to control.</li><li>• The ongoing Trade-Wars and Geographic Wars have impacted the trade lanes leading to disruptions and high costs.</li><li>• General global threats which are unpredictable and have highly impacted a lot of industries.</li><li>• The competition between freight forwarding companies has become more intense.</li></ul>

Figure 6:  
SWOT  
Table

# Recommendations for the company

- The company should reshape its focus on its weak points, namely commodities like Textiles, Raw Materials and Apparels, and office branches like AMD, LDH, CCU and HYD.
- The company should increase its customer base in key commodities like Textiles, Raw Materials, Apparels, Pharmaceuticals, Chemicals, Semi-Conductors and Electronic Goods to increase revenue generation.
- The company can utilize Account Based Marketing, which is a B2B marketing strategy that focuses the company's resources on a select group of high-value customers, treating each as a separate market.
- The company should invest in a dedicated and comprehensive ERP (Enterprise Resource Management) System, as well as a digital CRM system to manage its customers in a centralized and organized manner.
- The company should utilize its website by creating and maintaining India specific landing pages, optimizing Local SEO using Google SEO tools, asking customers to leave feedback and integrate the website's traffic data to improve customer conversion rates.
- The company can also use Email Marketing and LinkedIn for lead generation. Additionally, conducting in-depth market research in the Indian Export Market will help to understand the needs of Indian customers and tailor solutions accordingly.