

Data Analyst Task

Task Code: TW-TSK-DA-25-01

Objective

You are working as a **Data Analyst** at **Cartify**, a fast-growing e-commerce company dealing in fashion, electronics, and lifestyle products. With thousands of daily transactions generating sales, customer, and operational data, Cartify's management relies on you to leverage data analysis to **visualize profitability, provide insights that can optimize operations, and enhance customer satisfaction**.

As a Data Analyst, you are asked to explore the company's datasets and answer the following problem statements.

Problem Statement & KPIs

1. Sales & Operational Profitability by Region and Segment

- 1.1. Identify the region–customer segment combinations that generate the highest revenue and operational profit margins.
- 1.2. Highlight loss-making areas caused by inefficiencies (e.g., high discounts, frequent returns, delayed deliveries).
- 1.3. **KPIs to track:**
 - 1.3.1. Total Profit (by region, segment, product, year)
 - 1.3.2. Operational Profit Margin (%)
 - 1.3.3. Top 5 Profit-Contributing Products/Segments; highlight them in green
 - 1.3.4. Loss-Making Products/Regions; highlight them in red

2. Discount Strategy vs. Operational Impact

- 2.1. Assess how discounting impacts sales volumes, margins, and delivery operations.
- 2.2. Identify cases where discounts drove sales but hurt profitability or logistics performance.
- 2.3. Suggest optimized discount strategies per product category.
- 2.4. **KPIs to track:**
 - 2.4.1. Average Discount (%)
 - 2.4.2. Discount vs. Profit Correlation
 - 2.4.3. Revenue Lost Due to Discounts

3. Logistics & Delivery Performance

- 3.1. Analyze Delivery_Days across regions, segments, and categories.
- 3.2. Check if longer delivery times are linked to higher returns or lower repeat purchases.
- 3.3. Spot bottlenecks in logistics operations (e.g., specific regions or categories).
- 3.4. **KPIs to track:**
 - 3.4.1. Region-wise Average Delivery Days

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- 3.4.2. On-Time Delivery Rate (%)
- 3.4.3. Delivery Time vs. Profit Correlation

4. Returns & Customer Retention Risk

- 4.1. Identify customer segments, products, or regions with the highest return rates (a critical factor in fashion/e-commerce).
- 4.2. Analyze if returns are due to product mismatch, quality issues, or delivery delays.
- 4.3. Recommend strategies to reduce returns and boost retention.
- 4.4. **KPIs to track:**
 - 4.4.1. Return Rate (%) (by year)
 - 4.4.2. Top Products by Returns (per year)

5. Product & Category Operational Deep-Dive

- 5.1. Apply the **Pareto 80/20 principle** to identify products/categories (e.g., fashion apparel, footwear, accessories) that drive 80% of profits.
- 5.2. Highlight underperforming categories that may require marketing, pricing, or supply chain changes.
- 5.3. **KPIs to track:**
 - 5.3.1. Profit Contribution (%) (by year, quarter, month)
 - 5.3.2. Total Profit by Subcategory (per year, quarter, month)
 - 5.3.3. Revenue per Product Category (by year, quarter, month)

Deliverables

- 1. **Interactive Power BI Dashboards** covering:
 - 1.1. Sales & profitability by region, segment, and product
 - 1.2. Discount impact on sales and profitability
 - 1.3. Delivery performance vs. profitability
 - 1.4. Returns and customer retention analysis
 - 1.5. Product/category Pareto analysis
- 2. **Summary Report:** 5–6 key insights with **operational and strategic recommendations**.

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Resources

Link to Google Sheets with Data: [TW-TSK-DA-25-01- Data Analyst Task\(Sample Data\)](#)

Submission Guidelines

1. **Submission Components:** Each student must submit the following:
 - 1.1. **Published Power BI Link (Mandatory)**
 - 1.1.1. Publish your dashboard to the Power BI Service.
 - 1.1.2. Generate a public share link (with “Anyone with the link” access).
 - 1.1.3. The link must be included on the cover page of the PDF report.
 - 1.2. **Power BI File (.pbix)**
 - 1.2.1. Upload the working .pbix file used to build the dashboard.
 - 1.2.2. File must not be password-protected.
 - 1.3. **PDF Report (Business Insights)**
 - 1.3.1. Include key screenshots of your dashboards.
 - 1.3.2. Provide a summary of 5–6 business insights with recommendations.
 - 1.3.3. Mention your Role & Task Code on the cover page along with the link of the dashboard.
2. **File & Folder Naming Convention**
 - 2.1. A dedicated folder must be created by each student inside the shared Google Drive
 - 2.2. Folder Name Format: **Role_FullName_TaskID**
 - 2.2.1. Example: **DataAnalyst_AkashMehta_TSK-DA-25-01**
 - 2.3. Inside this folder:

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2.3.1. PDF Report → [DA_Report_FullName.pdf](#)

2.3.2. Power BI File → [DA_PowerBI_FullName.pbix](#)

3. Submission Drive

- 3.1. All students must upload their work to the common Google Drive folder shared by the coordinator.
- 3.2. Create your own subfolder as per the naming convention.
- 3.3. Submissions sent via email or personal links will not be accepted.

4. Deadline

- 4.1. The final submission must be completed by Sunday, 21st September, at 7:00 PM.
- 4.2. Late submissions will not be evaluated unless pre-approved.

5. Role Identification

- 5.1. This task is assigned for the role: Data Analyst
- 5.2. Task Code: [TW-TSK-DA-25-01](#)
- 5.3. The role name and task code must be clearly mentioned on the cover page of the PDF report.