

Business Analyst Task

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

Objective

A supermarket chain is preparing for an upcoming expansion in the next quarter. To ensure growth and profitability, the management wants to understand **market performance, customer behavior, and operational efficiency**. By analyzing past sales data, they aim to identify the most profitable regions, customer segments, and product categories, while also addressing challenges such as discounts, returns, and delivery delays.

Analyze the dataset containing sales, profitability, and operational data. Use **Google Sheets (Pivot Tables, Charts, and AI Explore feature)** to perform the analysis and derive insights.

Problem Statements

1. **Profitability Analysis by Segment & Region**
 - 1.1. Determine which **region-customer segment combination** contributes the highest profit margin.
 - 1.2. Identify any **loss-making regions or product categories** due to excessive discounts or high return rates.
2. **Impact of Discounts on Profitability**
 - 2.1. Analyze the relationship between **discount percentage and overall profitability**.
 - 2.2. Highlight cases where discounts increased sales volume but **reduced net profits**.
3. **Operational Efficiency (Delivery Time vs. Profitability)**
 - 3.1. Compare **Delivery Days** across regions and categories.
 - 3.2. Assess whether **longer delivery times** are negatively correlated with profit margins.
 - 3.3. Analyse and detect whether a relationship exists between profitability and operational efficiency, and determine the nature and extent of this relationship.
 - 3.4. Highlight quarterly profitability trends to identify patterns over time.
4. **Customer Return & Retention Risk**
 - 4.1. Identify the **customer segments, regions, or products** that exhibit the **highest return rates**.
5. **Product Category & Subcategory Deep-Dive**
 - 5.1. Within **Electronics, Furniture, and Office Supplies**, determine which **subcategories/products** generate **80% of the total profits** (Pareto 80/20 principle)
6. **AI-Based Forecasting (Bonus Task)**

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- 6.1. Using Google Sheets' AI Explore tool or add-ons, create a **3-month profit forecast** based on historical data.
- 6.2. Provide recommendations for regions/products where **profitability can be maximized**.

Deliverables

1. Pivot Tables (Profitability, Discounts, Returns, Delivery Efficiency).
2. Visual charts summarizing key insights.
3. Summary (5–6 points) of findings with **business recommendations**.

Resources

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

Submission Guidelines

1. **Submission Components:** Each submission must include the following:

- 1.1. **PDF Report**

- 1.1.1. Include pivot tables, charts/graphs (screenshots), and a short written summary (5–6 key insights with recommendations).

- 1.2. **Google Sheet**

- 1.2.1. Contain all pivot tables, charts, and calculations.
- 1.2.2. Must be shared with *"Anyone with the link → Viewer access."*

2. **File & Folder Naming Convention**

- 2.1. A dedicated folder must be created by each student inside the common Google Drive.
- 2.2. Folder name format: Role_FullName_TaskID
 - 2.2.1. Example: **BusinessAnalyst_AkashMehta_TSK-BA-25-01**
- 2.3. Inside this folder:
 - 2.3.1. PDF Report → **BA_Report_FullName.pdf**
 - 2.3.2. Google Sheet → **BA_Sheet_FullName.xlsx**

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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: Business Analyst (Task Code: TW-TSK-BA-25-01).
- 5.2. The role name and task code must be clearly mentioned on the cover page of the PDF report.