# Technical Task

**Objective**

The goal of this task is to evaluate your ability to design, implement, and communicate a Business Intelligence solution that addresses specific business needs. You will be assessed on your approach, technical expertise, problem-solving skills, and ability to convey actionable insights.

**Task Description**

**Scenario**

You are managing the BI strategy for a retail company. The company operates online and offline stores and wants to improve its sales performance by analyzing the following areas:

1. Monthly sales trends by store and region.
2. Customer purchasing behavior, including average order value and product preferences.
3. Key product categories contributing to sales growth.
4. Inventory performance, highlighting understocked or overstocked items.

**Your Task**

1. **Design a BI Solution:**

• Create a data model to capture the required data points.

• Define the KPIs and metrics necessary to address the business questions.

2. **Develop Dashboards and Reports:**

• Design at least one mockup/dashboard that visualizes:

• Sales trends over time.

• Top-performing regions and stores.

• Inventory performance metrics.

• You may use tools like Power BI, Tableau, Looker, or any tool you are proficient in.

3. **Data Preparation:**

• Simulate a small dataset (or use the provided dataset, if attached) to demonstrate your solution.

• Include fields such as:

• Store ID, Store Location, Region, Month, Sales, Product ID, Category, Inventory Level, and Customer ID.

4. **Explain Your Approach:**

• Document the steps you followed to design the solution.

• Justify your choice of KPIs and visualizations.

5. **Business Recommendations:**

• Based on your analysis, provide three actionable recommendations to improve sales or inventory performance.

**Deliverables**

1. **Data Model:**

• A diagram or explanation of your proposed data schema.

2. **Dashboard Mockups:**

• Screenshots or exported files of the dashboard(s) you created.

• Alternatively, share a live link or access to the dashboard (if possible).

3. **Documentation:**

• A brief report (1–2 pages) explaining:

• Your approach to the task.

• KPIs and metrics you prioritized.

• Challenges you foresee in implementing this solution in a real-world scenario.

   4. **Business Recommendations:**

• A summary of actionable insights and how they address the company's goals.

**Guidelines**

• **Tools:** You are free to use any BI tool you are comfortable with (e.g., Power BI, Tableau, Excel, Python/SQL for analysis).

• **Timeframe:** Please submit the completed task within **5 business days**.

• **Dataset:** Use a sample dataset that you create, or request one if needed.

**Evaluation Criteria**

   1. **Technical Skills:**

• Ability to design a scalable and efficient data model.

• Proficiency with BI tools and data visualization best practices.

   2. **Analytical Thinking:**

• Relevance and clarity of KPIs and metrics.

• Quality and actionability of business recommendations.

   3. **Communication:**

• Clarity and professionalism in the documentation.

• Ability to present insights to both technical and non-technical stakeholders.

   4. **Creativity and Innovation:**

• Originality in approach to solving the task.

• Ability to propose innovative BI solutions.

**Submission Instructions**

• Email your deliverables (documentation, dashboard files, screenshots, etc.) • Include a brief description of the tools and techniques you used.

**Optional: Dataset Example**

Here's a small example dataset schema that you can expand upon:

| Store ID | Region | Month | Sales | Product ID | Category | Inventory Level | Customer ID |
|---|---|---|---|---|---|---|---|
| 101 | East | Jan-23 | 12,000 | P001 | Electronics | 50 | C001 |
| 102 | West | Jan-23 | 18,000 | P002 | Furniture | 70 | C002 |
| 103 | North | Jan-23 | 22,000 | P003 | Apparel | 30 | C003 |