**MASTER PROJECT**

**Data Driven Decision Making using Excel**

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**SITUATION**

Reliance Retail operates more than **19,340 stores across India**, offering products across groceries, electronics, fashion, and lifestyle categories.

Despite strong customer demand, the organization faces challenges in **predicting product demand, optimizing inventory, managing operational costs, and improving store profitability**.

Different departments such as **Sales, Supply Chain, Operations, Marketing, HR, Finance, and Category Management** generate large volumes of operational data across quarters.

This dataset represents **FY 2024–25 store performance across multiple departments and locations**.

Participants must analyze this dataset and transform it into **analytical insights, executive dashboards, and strategic recommendations** that support **data-driven decision making**.

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**OBJECTIVE**

The objective of this case study is to use operational datasets to:

- Analyze **store-level performance across quarters**
- Understand **department-wise cost structure**
- Evaluate **store profitability and margins**
- Identify **revenue drivers and operational inefficiencies**
- Generate **data-driven insights for improving sales forecasting and profitability**

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**DATA CONTEXT**

The dataset spans **FY 2024–25 (Q1–Q4)**.

**Store Performance Data**

Quarter-wise datasets include:

- Reliance_Store_Performance_Q1_FY2024_25
- Reliance_Store_Performance_Q2_FY2024_25
- Reliance_Store_Performance_Q3_FY2024_25
- Reliance_Store_Performance_Q4_FY2024_25

These datasets contain:

- Revenue
- Sales
- Store expenses
- Cost of goods sold (COGS)
- Store profitability metrics

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**Master Dataset**

A **Store Master dataset** provides information about stores including:

- Store ID
- Store Location
- Store Region
- Store Type

This dataset must be used to **map store attributes with quarterly performance**.

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**Department Cost Datasets**

Additional datasets contain cost information for the following departments:

- Sales
- Operations
- Supply Chain
- Marketing
- HR
- Category
- COGS

These represent the **operational cost structure of Reliance Retail stores**.

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**KEY BUSINESS QUESTIONS**

Participants should analyze the dataset to answer questions such as:

- Which stores generate the highest revenue and profitability?
- How does performance vary across quarters?
- Which product categories contribute the most sales?
- How do departmental costs impact store profitability?
- Which stores operate with low margins?
- What actions can improve profitability and forecasting accuracy?

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**TASKS**

Participants must complete the following tasks using **Microsoft Excel and Power Query**.

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**Task 1: Problem Statement (Business Understanding)- [Must be in PPT]**

Create a clear **business problem statement** using the **Past – Present – Future framework**.

**Past**

Explain how store performance and forecasting decisions were traditionally made.

**Present**

Describe what the FY 2024–25 dataset represents and the current business challenges.

**Future**

Explain how **data analytics, dashboards, and AI insights** can improve decision making.

This problem statement should be **clear, concise, and suitable for senior management review**.

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**Task 2: Data Identification & Collection**

Identify all datasets provided for the project.

These include:

- Store Master dataset[Master Data]
- Quarterly store performance datasets (Q1–Q4)[Primary Data]
- Department cost datasets[Secondary Data]

Participants must understand the **purpose and business meaning of each dataset**.

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**Task 3: Data Import & Integration**

Import all CSV datasets into Excel.

Using **Power Query or Excel**, perform the following:

- Append quarterly store performance datasets (Q1–Q4)
- Validate the number of records after integration
- Ensure column consistency across quarters

**Task 4: Data Merge & Relationship Mapping**

Participants must integrate all datasets to create a **single analytical dataset for store performance analysis**.

**Step 1: Append Quarterly Store Performance Data**

Append the following datasets to create a **combined store performance dataset**:

- Reliance_Store_Performance_Q1_FY2024_25
- Reliance_Store_Performance_Q2_FY2024_25
- Reliance_Store_Performance_Q3_FY2024_25
- Reliance_Store_Performance_Q4_FY2024_25

The result should be a **single consolidated store performance table covering all quarters**.

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**Step 2: Merge with Store Master Dataset**

Merge the appended store performance dataset with the **Store Master dataset** using:

**Key:**

Store_ID

This step enables:

- Region-wise analysis
- Store-type comparison
- Location-based performance insights

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**Step 3: Merge Department Cost Datasets**

Participants must integrate the **department-level cost datasets** with the store performance dataset.

These datasets include:

- Category
- COGS
- HR
- Marketing
- Operations
- Sales
- SupplyChain

Each dataset contains **monthly cost or sales data related to stores**.

Merge these datasets using the following keys:

**Store_ID + Month + Year** *[Press Ctrl to select multiple keys in right order]*

This ensures that **department costs and sales metrics are correctly aligned with store performance records for each time period**.

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**Step 4: Final Integrated Dataset**

The final output of this step must be a **single merged analytical dataset** that includes:

- Store Master information [Master Data]
- Quarterly store performance data [Primary Data]
- Category sales data [Secondary Data]
- COGS data [Secondary Data]
- HR cost data [Secondary Data]
- Marketing cost data [Secondary Data]
- Operations cost data [Secondary Data]

- Sales data [Secondary Data]
- Supply chain cost data [Secondary Data]

This dataset will serve as the **primary dataset for KPI calculations, pivot analysis, and dashboard creation**.

**Participants must verify that:**

- All merges are correct
- No duplicate records exist
- Store IDs match across datasets
- Month and Year fields align correctly across datasets

The final dataset should be **clean, complete, and ready for analysis**.

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**Task 5: KPI Definition & Calculation**

Create calculated & conditional fields for key performance indicators.

**Store Performance KPIs**

- Revenue
- Total Sales
- Total COGS
- Total Expenses
- Net Profit
- Profit Margin

**Category KPIs**

- Total Sales by Category

**COGS Metrics**

- Total COGS
- Gross Profit
- Gross Margin

**Department Costs**

- HR Cost
- Marketing Cost
- Operations Cost
- Supply Chain Cost

**Sales Metrics**

- Total Sales
- Average Bill Value

Participants must validate calculations before analysis.

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**Task 6: Analysis, Reports & Visualizations**

Using **Pivot Tables and Charts**, perform analytical exploration.

Create pivot analyses such as:

- Revenue by Store
- Profitability by Store
- Category-wise sales contribution
- Department cost distribution
- Quarterly revenue trends
- Region-wise store performance

Charts should clearly highlight **trends, comparisons, and performance gaps**.

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**Task 7: Visualization & Dashboard Creation**

Create a **final Excel Dashboard** summarizing key insights.

The dashboard should include:

- Key KPIs
- Revenue trends
- Profitability analysis
- Category performance
- Department cost distribution
- Store comparison

The dashboard must be **clear, structured, and suitable for executive decision making**.

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**Task 8: GenAI Insight Generation [OPTIONAL]**

Use **Generative AI tools such as ChatGPT or Microsoft Copilot** to analyse the dataset.

Generate insights related to:

- Sales forecasting improvement
- Store profitability drivers
- Cost optimization opportunities
- Operational efficiency improvements

These insights must be **clear, actionable, and business-focused**.

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**Task 9: Recommendations & Decision Support**

Based on the analysis, develop strategic recommendations such as:

- Improving store-level profitability
- Optimizing operational costs
- Improving category performance
- Enhancing demand forecasting accuracy

All recommendations must be **supported by data analysis**. This will be presented in the PPT also.

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**Task 10: Presentation Deck Creation**

Participants must create a **short executive presentation summarizing the complete project analysis**.

The presentation should clearly communicate the **business problem, analytical approach, insights, and recommendations**.

***PRESENTATION STRUCTURE (READY-TO-USE 8-SLIDE TEMPLATE)- Use CHATGPT & GAMMA.APP***

Participants must prepare a **short executive presentation (8 slides)** summarizing the analysis and recommendations.

The presentation should communicate the **problem, analysis approach, key insights, and strategic recommendations** clearly and professionally.

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**Slide 1: Project Title**

Include the following details:

- Project Title
  Improving Sales Forecasting and Store Profitability with AI at Reliance Retail
- Student Name
- Program Name: International Data Analyst Certification
- Submission Date

The slide should briefly introduce the **purpose of the analysis and the dataset used**.

**Slide 2: Business Problem Statement**

Explain the business context using the **Past – Present – Future framework**.

**Past**

How store performance and demand forecasting were traditionally handled.

**Present**

Challenges faced by Reliance Retail such as:

- fluctuating sales across regions
- inventory imbalances
- operational cost pressures
- lack of accurate forecasting

**Future**

How **data analytics, dashboards, and AI insights** can improve decision making.

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**Slide 3: Dataset Overview**

Provide a summary of the dataset used in the analysis.

Include:

- Duration: FY 2024–25 (Q1–Q4)
- Number of stores analyzed
- Department datasets used
- Store Master dataset

Explain briefly how **multiple datasets were integrated for analysis**.

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**Slide 4: Data Preparation & Integration**

Explain the data preparation steps.

Include:

- Importing CSV datasets into Excel
- Appending quarterly datasets (Q1–Q4)
- Merging datasets using Store ID
- Data validation and cleaning

This slide should demonstrate the **data engineering steps performed before analysis**.

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**Slide 5: KPI Framework**

Present the key metrics used in the analysis.

Key KPIs include:

Revenue
Total Sales
Total COGS
Total Expenses
Net Profit
Profit Margin
Average Bill Value

Explain how these KPIs help evaluate **store profitability and operational efficiency**.

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**Slide 6: Key Analytical Findings**

Present the most important insights derived from the analysis.

Examples:

- Top performing stores by revenue
- Stores with highest profitability
- Category contribution to sales
- Regions with declining performance
- Impact of departmental costs on margins

Use **charts or graphs from the dashboard** to support insights.

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**Slide 7: Dashboard Overview**

Provide a screenshot or summary of the Excel dashboard created.

Explain the dashboard components such as:

- KPI summary cards
- revenue trend analysis
- category sales analysis
- store comparison charts
- cost distribution

This slide should demonstrate how the dashboard helps **management quickly understand performance trends**.

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**Slide 8: Strategic Recommendations**

Provide **data-driven recommendations** for Reliance Retail.

Examples:

- Improve demand forecasting using analytics and AI
- Optimize inventory allocation across stores
- Reduce operational costs in low-margin stores
- Focus marketing investments on high-performing categories
- Use data dashboards for regular performance monitoring

Recommendations should clearly link **analysis → business impact → decision support**.

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**FINAL DELIVERABLES [TO BE UPLOADED ON THE LINK GIVEN BELOW]**

**PROJECT SUBMISSION LINK**

Upload all files using the following link:

https://vishwakarmaskillsai.com/courses/international-data-analyst/project-submission.html

**Files to upload:**

- Excel Workbook (.xlsx)
- Dashboard PDF (.pdf)
- Presentation Deck (.pptx)

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Participants must submit the following three files.

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**1. Excel Workbook (.xlsx)**

The Excel file must contain:

- Imported datasets
- Data integration and merges
- KPI calculations
- Pivot tables and charts
- Final Dashboard sheet

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**2. Dashboard PDF (.pdf)**

Export the **Dashboard sheet from Excel as a PDF**.

The PDF must clearly display:

- KPIs
- Charts
- Visual insights

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**3. Presentation Deck (.pptx)**

Participants must submit the **presentation created in Task 10**, summarizing the complete analysis and recommendations.

Use of ChatGPT / Gamma.app is allowed for an impressive presentation.

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**EXPECTED OUTPUT**

Participants should produce:

- Clean analytical datasets
- Correctly calculated business KPIs
- Pivot-based analysis and charts
- Executive-level Excel dashboard
- AI-generated insights
- Business recommendations supported by data

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**OUTCOME**

By completing this case study, participants will demonstrate the ability to:

- Transform raw retail datasets into analytical insights
- Apply Excel and Power Query for business analysis
- Build executive-level dashboards
- Communicate insights using presentations
- Use Generative AI for decision support.

**EVALUATION RUBRIC**

Participant submissions will be evaluated based on **data preparation, analytical thinking, dashboard design, and business insights**.

Assessment focuses on **clarity of analysis, correctness of calculations, and ability to translate data into actionable business insights**, not only on tool usage.

**Performance Levels**

**Beginner**

Basic understanding of datasets with limited analysis and incomplete dashboards.

**Novice**

Correct execution of basic analysis with simple charts and limited insights.

**Pro**

Well-structured analysis with clear KPIs, meaningful insights, and a professional dashboard.

**Expert**

End-to-end analysis with strong business reasoning, clear storytelling, and executive-ready insights.

**Evaluation Criteria**

| Area of Evaluation | Marks | Description |
|---|---|---|
| **Data Preparation & Integration** | 15 | Correct appending and merging of datasets using Power Query |
| **KPI Calculations** | 15 | Accurate calculation of revenue, COGS, profit, margins, and other KPIs |
| **Analysis & Pivot Reports** | 20 | Effective use of pivot tables and analytical exploration |
| **Dashboard Design** | 20 | Clear, structured dashboard with meaningful charts and KPIs |
| **Business Insights** | 20 | Ability to interpret data and identify key performance drivers |
| **Presentation (PPT)** | 10 | Clear problem statement, findings, and recommendations |

**Score Interpretation**

| Score Range | Performance Level |
|---|---|
| **85 – 100** | Expert |
| **70 – 84** | Pro |
| **50 – 69** | Novice |
| **Below 50** | Beginner |

This rubric ensures evaluation focuses on **analytical thinking, data handling, visualization, and business insight generation**.

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