

# Internship Project Report

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Project Title: Sales Data Analysis and Dashboard

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Tools & Technologies Used: Microsoft Excel, Power BI

## 1. Project Overview

The project titled "**Sales Data Analysis and Dashboard**" was undertaken as part of a 4-week internship program at **Infotact Solutions**. The objective of this project was to analyze historical sales data to identify key revenue-generating factors, detect seasonal trends, and uncover performance variations across product categories and geographical regions. This end-to-end analysis enabled the creation of actionable insights aimed at improving business strategies and decision-making.

The project followed a systematic approach that included data collection, cleaning, transformation, KPI identification, and visualization using **Microsoft Excel** and **Power BI**. Excel was primarily used for data cleaning, formatting, and initial exploratory analysis through PivotTables, while Power BI was utilized to build an interactive dashboard that presented business metrics in a user-friendly format.

Throughout the internship, the focus remained on understanding how data-driven insights can influence real-world business decisions. By identifying trends such as peak sales periods, top-performing products, and regional inconsistencies, the dashboard aimed to serve as a powerful tool for stakeholders to monitor performance and take strategic actions.

This project not only enhanced technical skills in data analytics and visualization tools but also provided practical exposure to working with real datasets and delivering value through visual storytelling and reporting.

## 2. Methodology & Weekly Breakdown

The internship project was executed over four weeks, following a structured and milestone-based approach. Each week focused on specific objectives that aligned with the overall goal of analyzing sales data and presenting key insights using Excel and Power BI.

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### **Week 1: Data Collection, Cleaning, and Preprocessing ([Excel](#))**

In the initial phase, a mock dataset resembling a real-world sales environment was sourced. It contained critical fields such as Order Date, Region, Category, Sub-Category, Sales, Quantity, and Profit.

#### **Data Cleaning Activities:**

Removed duplicate entries to avoid inflated results.

Identified and handled missing values using filter functions.

Standardized inconsistent formatting in date and text fields using Excel functions like TRIM(), PROPER(), and CLEAN().

#### **Data Transformation:**

Created new columns for:

Month using =TEXT([@OrderDate],"mmm-yyyy")

Year using =YEAR([@OrderDate])

Quarter using CHOOSE and MATCH functions

These derived fields allowed for time-based trend analysis and seasonal comparisons.

Outcome: A clean, structured, and analysis-ready dataset in Excel.

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### **Week 2: KPI Identification and PivotTable Analysis ([Excel](#))**

The second week involved defining core business KPIs and conducting exploratory analysis using Excel PivotTables and charts.

#### **Key Performance Indicators Identified:**

- Total Sales
- Total Profit
- Monthly Sales Trend
- Region-wise Sales Distribution
- Top Performing Categories and Products

#### **Excel Tools and Techniques Used:**

- PivotTables to summarize sales by region, category, and time period.

- PivotCharts (e.g., Column, Pie, and Line Charts) to visualize patterns.
- Slicers to add interactivity and filter reports by month or region.
- Conditional Formatting to highlight high-performing categories.



## Product Sales Data Analysis Dashboard (2023–2025)

This dashboard provides a summary of product sales performance across 2023, 2024, and 2025. It displays:

- **Total Sales:** ₹43.8 Lakhs
- **Shipping Cost:** ₹41,191
- **Total Products Sold:** 1,500
- **Top Products:** Tablet, Printer, Laptop
- **Best Sales Year:** 2024
- **Top Regions:** North and South
- **Salespersons:** 6 total, with Alice and Bob leading

Visuals include:

- **Line Chart** for yearly and monthly sales trends
- **Bar Chart** for salesperson performance
- **Pie Chart** for region-wise sales
- **Filters** to analyze by year, product, and region

It helps track sales trends, product performance, and team efficiency.

## Week 3: Power BI Dashboard Development([Power BI](#))

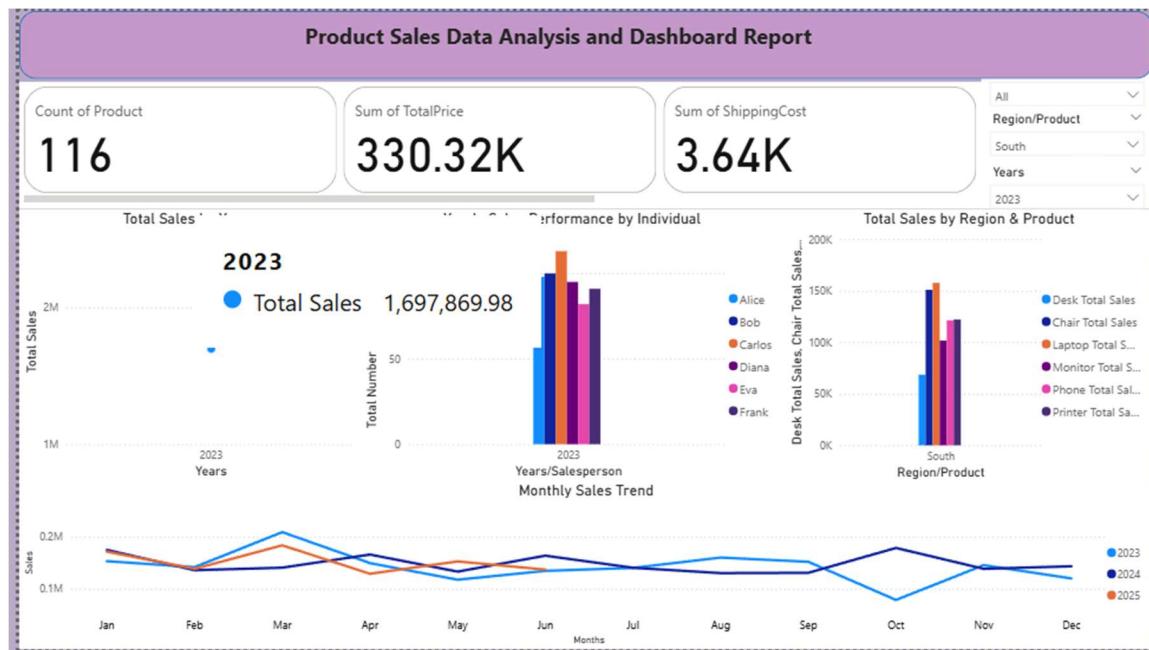
This week was dedicated to building an interactive and dynamic dashboard in Power BI by importing the cleaned Excel dataset.

### Data Modeling and Relationships:

- Imported Excel file using Get Data.
- Verified and established relationships if multiple tables existed.
- Ensured proper data types and formatting for visuals.
- Dashboard Components Created:
  - Line Chart for Monthly Sales Trend
  - Bar Chart for Category-wise Sales
  - Stacked Bar Chart for Regional Sales Breakdown
  - TreeMap for Sub-Category Performance
  - KPI Cards for Total Sales, Profit Margin, and Order Count

### Interactive Features:

- Slicers for filtering by Region, Category, and Month
- Drill-through for navigating to deeper layers of data
- Visual-level Filters for custom views.



### Product Sales Data Analysis and Dashboard Report (2023–2025)

This dashboard provides a complete overview of sales performance from **2023 to 2025** across all regions and products.

#### Key Metrics:

- **Total Products Sold:** 1,500
- **Total Sales (Revenue):** ₹4.38 Million
- **Shipping Cost:** ₹41.26K

#### **Highlights:**

- **Top Sales Year:** 2024 recorded the highest total sales, followed by 2023; 2025 saw a drop.
- **Monthly Sales Trend:** Peaks in **March, July, and October** show seasonal spikes.
- **Top Salespersons:** **Bob** led in 2023, while **Alice** and **Frank** performed well in 2024.
- **Best Performing Regions:** **North and South** regions consistently generated high sales.
- **Top Products:** **Desk, Chair, and Laptop** ranked highest across all regions.

#### **Visuals Included:**

- **Line Chart:** Total yearly and monthly sales trends
- **Bar Chart:** Individual performance by year
- **Grouped Bar Chart:** Product-wise sales by region

This dashboard gives a clear and interactive insight into overall sales performance, supporting data-driven decisions in sales strategy and regional focus.

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## **Week 4: Finalization, Documentation, and Reporting**

The final week focused on polishing the dashboard, ensuring interactivity, and preparing the project documentation and summary report.

#### **Polishing & Enhancements:**

- Applied number formatting (e.g., currency, percentages).
- Aligned visuals and applied a consistent design theme.
- Added titles, tooltips, and labels to improve clarity.
- Report Writing & Documentation:
  - Created a comprehensive project report summarizing key findings, visuals, and recommendations.
  - Captured screenshots of Power BI dashboard sections.
  - Explained each KPI and chart to aid user understanding.

## **3. Key Insights & Findings**

Through extensive data cleaning, pivot analysis in Excel, and dynamic dashboard creation in Power BI, several valuable insights were uncovered from the sales data:

◆ **Seasonality and Time-based Trends**

- The fourth quarter (Q4) consistently showed the highest sales performance, indicating strong seasonal demand—possibly due to festive seasons, year-end budgeting, or promotional campaigns.
- A steady upward trend in sales was observed from Q2 to Q4, while Q1 showed the lowest sales activity.

◆ **Category and Sub-Category Performance**

- Technology and Office Supplies were the leading product categories in terms of both sales volume and profit.
- Among sub-categories, products like Phones, Chairs, and Binders emerged as top contributors to total revenue.
- Sub-categories such as Art and Labels had significantly lower sales and may need strategic revision or support.

◆ **Geographical Analysis**

- The Western region recorded the highest overall sales and profits, followed by the Eastern region.
- Regions such as Central and South showed relatively lower sales, suggesting potential for improvement through targeted campaigns.

◆ **Profitability Trends**

- While some high-sales items had low margins, certain sub-categories demonstrated high profit margins despite lower sales, indicating profitable niches.
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## 4. Recommendations

Based on the analysis and findings, the following actionable strategies are proposed for business improvement:

**Inventory and Stock Management**

Increase inventory for high-performing sub-categories (e.g., Phones, Chairs) especially in Q3 and Q4 to meet rising seasonal demand.

Ensure balanced stock across all regions to avoid out-of-stock issues in high-performing zones.

**Regional Marketing Focus**

Focus marketing and promotional campaigns on low-performing regions (e.g., Central, South) to boost visibility and engagement.

Consider region-specific bundles or offers tailored to local buying patterns.

**Category Optimization**

Reassess low-performing sub-categories like Art and Labels. Either redesign marketing strategies or consider discontinuation if profitability is low.

Encourage cross-selling strategies between high-profit and low-sales items.

**Sales Strategy Enhancement**

Plan and align sales campaigns with Q4 trends to maximize returns.

Provide additional training and incentives to sales teams in underperforming regions to boost motivation and conversion rates.

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## 5. Learning Outcomes

This internship project offered a comprehensive, hands-on experience across the entire data analytics pipeline. The key learnings include:

### **Technical Skill Development**

- Excel Proficiency: Mastered data cleaning, transformation, derived columns, PivotTables, slicers, and charts.
- Power BI Expertise: Gained practical knowledge in dashboard creation, data modeling, DAX expressions, and visualization best practices.

### **Analytical Thinking**

- Learned how to identify and interpret business trends, patterns, and anomalies in data.
- Understood how to break down large datasets into meaningful KPIs that align with business objectives.

### **Business Understanding**

- Developed an appreciation for how data influences business decision-making.
- Gained insight into sales strategies, regional analysis, and product lifecycle decisions through data interpretation.

### **Reporting & Communication**

- Learned to document work professionally through Word/PDF reports, annotated dashboards, and visual summaries.
- Improved ability to present complex insights in a simple and visual format for non-technical stakeholders.