Power BI Dashboard Project Report

Name: Rishabh Sharma

Position: Data Analyst Intern

Contact No: 8791933713

Mail: rishabh8791933713@gmail.com

Table of Contents

Executive Summary:

This Power BI report presents a comprehensive analysis of sales and performance data to support data-driven decision-making. The dataset includes detailed information on revenue, profit, sales volume, item categories (SKUs), and regional performance.

Four interactive dashboards were developed:

1. Sales Analysis Dashboard – Provides an overview of total revenue, profit, and sales trends across years and regions.

2. Performance Analysis Dashboard – Evaluates monthly profit trends, top-performing countries, and sales channel effectiveness.

3. SKU Analysis Dashboard – Highlights item-wise performance across key metrics such as revenue, units sold, and profit.

4. Pareto Analysis Dashboard – Applies the 80/20 rule to identify the top product categories contributing most to overall profit.

Key insights show that a few item categories (such as Office Supplies and Cosmetics) drive the majority of the profit, while some SKUs contribute minimally. Regional and monthly trends were identified to help optimize sales strategies.

This report enables the business to prioritize high-performing areas, identify improvement opportunities, and align its strategy for increased profitability.

Data Overview:

The dataset used in this project contains detailed sales and performance records across various regions and item types. It consists of 525,000 total sales units and includes the following key fields:

- Item Type – Category of the product sold (e.g., Office Supplies, Cosmetics, etc.)

- Region & Country – Geographical location of the sales

- Order Date & Month – Time dimension for trend analysis

- Sales Channel – Online or Offline distribution mode

- Total Revenue – Total income generated from sales

- Units Sold – Quantity of items sold in each transaction.

- Unit Price & Unit Cost – Price charged per unit and cost per unit, respectively.

- Total Cost – Expenses associated with the sales

- Total Profit – Net profit calculated as revenue minus cost

- Profit Margin – Percentage of profit relative to revenue

The data spans multiple years and provides a strong foundation for analyzing business performance across time, geography, and product categories.

Dashboard 1 – Sales Analysis Dashboard

Objective:

The primary objective of this dashboard is to analyze the overall sales performance of the company over time, across regions, and based on key financial metrics. It helps in identifying trends in revenue, profit, and cost, and in evaluating regional contributions and profitability.

Key Visuals:

- KPI Cards: Display key metrics such as Total Sales (525K), Total Revenue ($137.3M), Profit Margin (28.25%), Total Volume (100), and Total Profit ($38.79M).

- Year-wise Revenue Bar Chart: Shows revenue trends from 2010 to 2017, highlighting peak and declining years.

- Region-wise Profit/Revenue Chart: Compares total revenue and profit across different global regions, emphasizing regional performance.

- Revenue vs Cost vs Profit Chart: A combination bar chart displaying total revenue, cost, and profit by year for comparative analysis.

- Total Revenue vs Profit Margin Chart: Dual-axis chart showing how profit margin trends align with revenue growth over time.

- Slicers: Filters by Order Year and Order Month allow dynamic interaction for more granular analysis.

Insights:

- Revenue peaked in 2013 and has seen a decline afterward.

- Sub-Saharan Africa and Europe generate the highest profit and revenue among all regions.

- Despite high revenue in certain years, profit margin fluctuates, indicating variability in cost management.

- The year 2015 shows the highest profit margin, even though revenue was not at its peak.

- North America shows relatively low figures, suggesting a potential market gap or underperformance.

Screenshot:

Color Justification – Sales Analysis Dashboard

The Sales Analysis Dashboard utilizes a vibrant and modern color palette that enhances readability and directs attention to key financial insights.

- **Background:**
  A deep blue-to-purple gradient background provides a professional and visually engaging base, allowing chart elements to stand out clearly without distraction.

- **Bar Charts (Orange):**
  Revenue-related bars (e.g., Year-wise Revenue, Total Revenue) are shown in **orange**, which symbolizes energy, growth, and attention. This helps the viewer focus on revenue trends over time.

- **Bar Charts (Blue & Light Blue):**
  In visualizations like *Region-wise Profit/Revenue* and *Revenue vs Cost vs Profit*, **shades of blue** are used for profit and cost, representing stability, trust, and clarity—ideal for financial KPIs.

- **Combo Chart (White line):**
  The profit margin line is shown in **white**, contrasting perfectly with the dark background. This ensures trend visibility and highlights fluctuations across years effectively.

- **KPI Cards:**
  KPI cards use bright white and pink tones to separate them from charts, ensuring they catch the eye first—perfect for quick metric reviews.

- **Slicers:**
  Slicers are bordered and highlighted using white/grey tones to maintain visibility without clashing with the primary charts.

Dashboard 2 – Performance Analysis Dashboard

Objective:

This dashboard is designed to evaluate performance across multiple dimensions, including country-wise profit, monthly profit trends, item-wise contribution, and sales channel effectiveness. It helps identify top-performing areas and potential improvement opportunities.

Key Visuals:

- KPI Cards: Highlights key performance metrics such as Profit Margin (28.25%), Total Profit ($38.79M), Total Revenue ($137.30M), and Total Sales (525K).

- Profit by Country Bar Chart: Displays the top countries by profit, with Libya, Senegal, and Ukraine leading the chart.

- Month-wise Profit Line Chart: Shows how profit fluctuates over each month, revealing seasonal trends and performance dips.

- Revenue and Profit by Item Type Bar Chart: Compares revenue and profit across different item categories, identifying which products drive the most value.

- Total Revenue by Sales Channel Pie Chart: Shows revenue distribution between Online and Offline channels, with Online contributing $73.02M (53.18%) and Offline contributing $64.28M (46.8%).

- Region Filter: Allows users to analyze performance data based on different geographical regions.

Insights:

- Country Performance: Libya, Senegal, and Ukraine are the top 3 most profitable countries.

- Seasonality: Profit is highest in January and August, with noticeable dips in months like June and December, indicating seasonal variation.

- Item Performance: Office Supplies and Household items generate the highest revenue and profit. Several other categories show relatively low contribution, suggesting they may need marketing or product strategy review.

- Sales Channel: Online sales contribute slightly more than offline, suggesting a healthy digital presence but also a balanced channel performance overall.

Screenshot :

Color Justification – Performance Analysis Dashboard

This dashboard applies a bold and contrast-rich color theme to emphasize performance indicators across different dimensions such as country, month, item type, and sales channels.

- **Background:**
  A deep blue-purple gradient is used as the base to maintain consistency with the previous dashboard, ensuring visual continuity throughout the report.

- **Profit by Country (Red Bars):**
  The use of shades of red indicates variation in country-wise profit. Red is a high-impact color, drawing attention to the comparative performance of countries quickly. Darker shades suggest higher profits, while lighter shades depict lower values.

- **Month-wise Profit (Orange Line):**
  The Orange trend line stands out crisply against the dark background, helping viewers follow profit seasonality across months without distraction.

- **Revenue vs Profit by Item Type (Orange & Blue Bars):**
  Revenue bars are shown in orange, symbolizing energy and financial gain, while blue is used for profit to maintain the classic finance color association of reliability and trust.

- **Pie Chart (Sales Channel):**
  The pie chart uses two distinct blue tones—a lighter one for *Online* and a darker one for *Offline*. This consistent blue theme enhances contrast and clearly distinguishes the channel-wise revenue distribution.

- **KPI Cards (White on Dark):**
  Clean white fonts on a dark background make KPIs highly readable, giving them priority in visual hierarchy.

- **Region Filter:**
  The region slicer is styled with a soft white border for easy navigation without overpowering the visuals.

Dashboard 3 – SKU Analysis Dashboard

Objective:

This dashboard provides a detailed analysis of item performance at the SKU (Stock Keeping Unit) level. It evaluates sales volume, revenue, and profit across various item categories, helping stakeholders understand which products drive business value.

Key Visuals:

- KPI Cards: Displays Total Profit ($38.79M), Total Units Sold (525K), Total Revenue ($137.30M), and Total Number of SKUs (12).

- Total Revenue by Item Type (Pie Chart): Highlights revenue contribution by each product category, with Office Supplies (37.09%) and Household (12.93%) leading.

- Units Sold by Item Type (Bar Chart): Shows the quantity of units sold for each item category; Office Supplies and Household again top the list.

- Total Revenue by Item Type (Bar Chart): Presents exact revenue figures by category, emphasizing which items bring in the most sales.

- Total Profit by Item Type (Combo Line Chart): Displays profit amounts and trend across categories, identifying highly profitable SKUs.

Insights:

- Top Performing Categories: Office Supplies dominates across all metrics—revenue, profit, and units sold—making it the most valuable SKU.

- Moderate Contributors: Categories like Cosmetics, Household, and Cereal show strong performance but less than Office Supplies.

- Underperforming SKUs: Beverages, Snacks, and Fruits have the lowest sales, revenue, and profit. These may require strategic review or optimization.

- Balanced Product Portfolio: With 12 SKUs tracked, the business maintains a moderately diverse product line that covers various customer needs.

Screenshot :
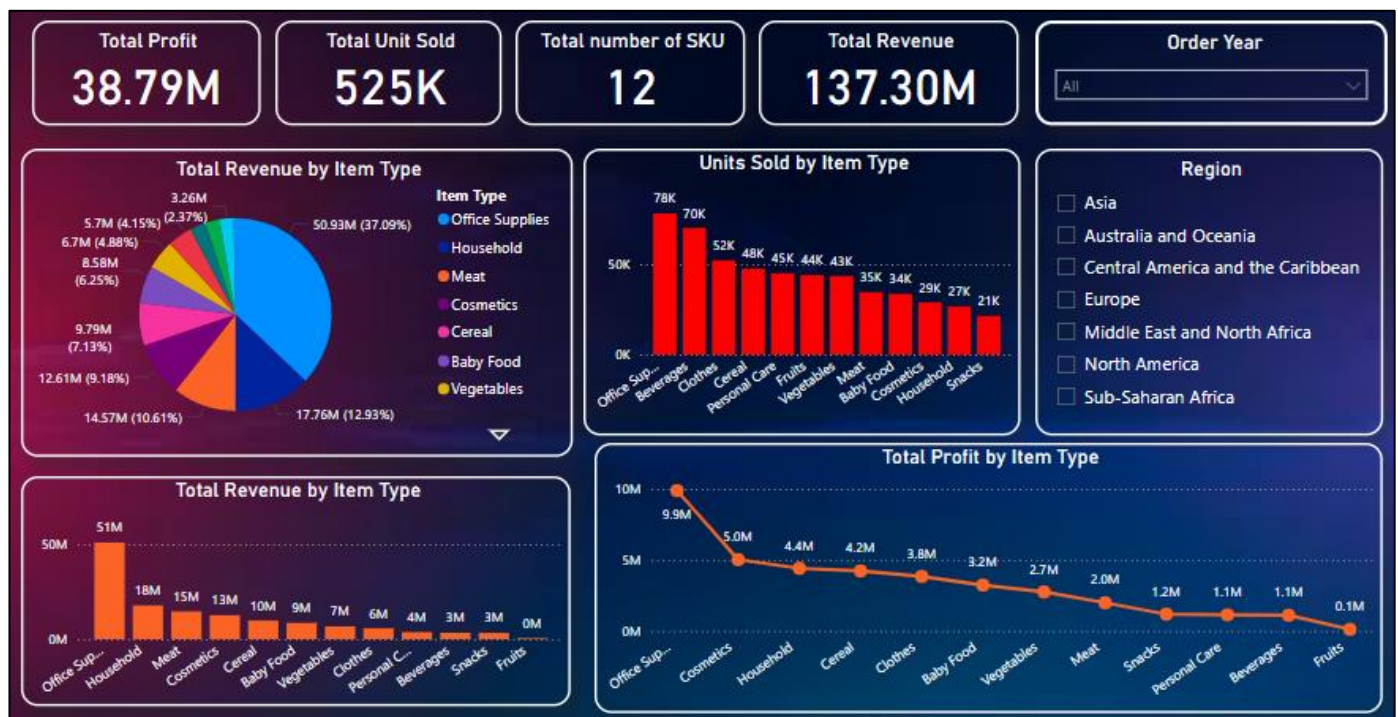
Color Justification – SKU Analysis Dashboard

The SKU Analysis Dashboard uses a well-balanced and vivid color scheme to clearly distinguish among various item types, allowing for effective comparison of revenue, profit, and sales volume across the SKU portfolio.

- **Background**:
  A consistent blue-purple gradient background maintains visual harmony with the other dashboards while ensuring that colorful visuals stand out prominently.

- **Pie Chart (Total Revenue by Item Type):**
  A categorical color palette is applied, assigning each item type a distinct color (e.g., blue, green, pink, orange, purple). This enhances the user's ability to visually segment and interpret each category at a glance.

- **Units Sold by Item Type (Red Bars):**
  The red bars draw immediate attention to quantity-based performance. Red is bold and effectively highlights contrasts between high and low volume items.

- **Bar Chart – Total Revenue by Item Type (Orange):**
  Orange is used to represent revenue figures—consistent with the theme across dashboards—denoting financial inflow and business activity.

- **Line + Dot Chart (Total Profit by Item Type):**
  A dotted orange line overlays the chart to emphasize the profit trend, clearly contrasting with the dark background. This creates an easy-to-follow visual trajectory across SKUs.

- **KPI Cards:**
  White text on dark blocks keeps key metrics such as total revenue, units sold, and number of SKUs instantly readable and visually distinct.

- **Slicers (Region, Order Year):**
  Minimalist white-bordered slicers blend cleanly into the background, offering filtering functionality without interfering with the main visuals.

Dashboard 4 – Pareto Analysis Dashboard

Objective:

This dashboard applies the Pareto Principle (80/20 rule) to analyze profit distribution across item types. It helps identify the key few products that contribute to the majority of total profit and highlights less impactful categories for possible review.

Key Visuals:

- Pareto Chart (Bar + Line Combo): Displays the total profit for each item type alongside the cumulative percentage. The line shows how much each category adds to the overall profit percentage.

- Profit Contribution Table: A table listing each item type and its corresponding profit value, with a grand total of ₹3,87,89,337.48.

- Region Filter: Allows breakdown of profit contribution by specific regions.

Insights:

Top Contributors:

- Office Supplies (₹9.9M)

- Cosmetics (₹5.0M)

- Household (₹4.4M)
  These top 3 categories together contribute approximately 49.73% of the total profit.

80/20 Rule Observation:

The top 6 item types (from Office Supplies to Baby Food) contribute over 85% of the total profit, validating the Pareto Principle, which states that roughly 20% of items generate 80% of the results.

Low Profit Categories:

Fruits, Beverages, Snacks, and Personal Care generate relatively low profit (around ₹1M or less), indicating that these categories are currently less profitable for the business.

Recommendation:

The company should maintain strategic focus on high-profit categories while considering cost optimization or repositioning for low-profit segments to improve overall profitability.

Screenshot :
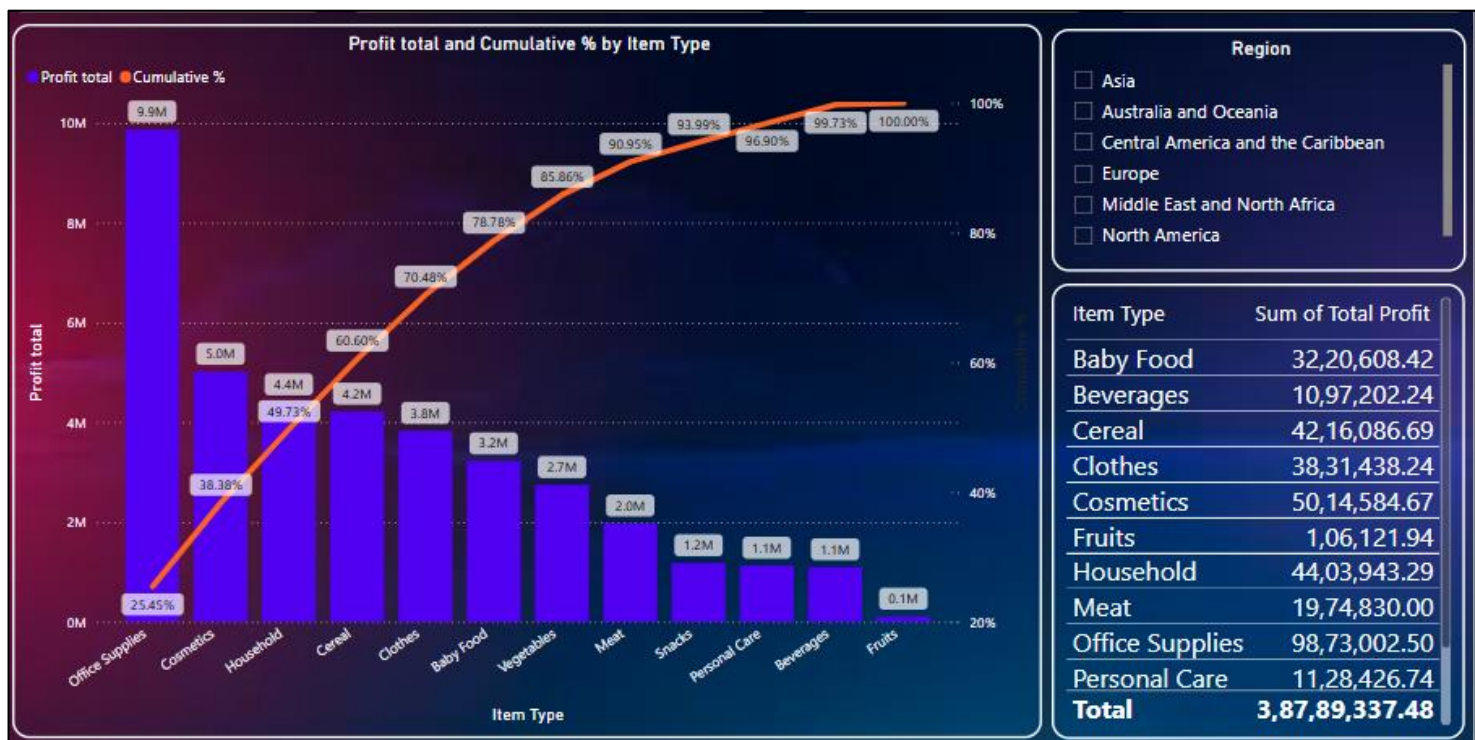
Color Justification – Pareto Analysis Dashboard

The Pareto Analysis Dashboard employs a focused and insightful color scheme to highlight cumulative profit distribution across item types and effectively visualize the 80/20 principle.

- **Background:**
  A dark blue-to-purple gradient provides a neutral yet modern backdrop, helping the bright chart elements stand out and making the entire dashboard visually cohesive with previous ones.

- **Bar Chart (Profit Total – Purple):**
  The profit totals are represented using a bold purple color, chosen for its balance between visibility and calmness. Purple provides excellent contrast against the background and draws immediate attention to the highest-profit items.

- **Line Chart (Cumulative % – Orange):**
  The orange cumulative percentage line contrasts strongly with both the bars and background, clearly guiding the user's eye through the gradual accumulation of profit percentages. This highlights how a few item types contribute to the majority of profits — the essence of Pareto analysis.

- **Data Labels:**
  Labels on both bars and line points use white and light grey fonts, which ensure legibility while maintaining a clean, professional look.

- **Table (Item Type & Profit):**
  The table uses bright blue highlight for the total profit value, ensuring quick visibility of the final number. Alternating cell colors and borderless design help in maintaining dashboard elegance.

- **Slicer Panel (Region):**
  Region filters use white text and a subtle border, blending cleanly with the background and offering functional control without overpowering the main visuals.

Overall Insights & Recommendations

Insights:

- Office Supplies, Cosmetics, and Household are the top-performing item types, generating the highest revenue and profit across all dashboards.

- A significant portion of profit is concentrated in a few SKUs — validating the Pareto Principle (80/20 rule).

- Monthly profit trends show seasonality, with higher sales and profits in January and August, indicating opportunities to run targeted promotions during peak months.

- Online sales channel contributes slightly more than Offline, but both are nearly balanced, suggesting a strong multi-channel strategy.

- North America region shows relatively low performance compared to other regions, indicating a potential market gap or underutilized opportunity.

Recommendations:

- Focus on high-performing categories like Office Supplies and Cosmetics for future growth through promotions, bundling, or expanding product lines.

- Re-evaluate low-profit items such as Fruits, Beverages, and Snacks to reduce cost, improve marketing, or consider phasing them out.

- Optimize cost management, especially in years where profit margin dropped despite high revenue.

- Leverage strong seasonal trends by preparing campaigns in advance for peak months.

- Explore improvement strategies in underperforming regions (e.g., North America) through better distribution, localized promotions, or sales expansion.