Walmart Retail Dashboard Report

This report provides a detailed explanation and analysis of the visuals present in the Walmart retail dashboard. The purpose is to interpret the data, identify trends, and suggest actionable insights.

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1. Year-Wise Sales Trend (Line Chart)

Description:

- This visual represents sales trends from 2012 to 2015.

Insights:

- Sales steadily increased year-on-year:

    o **2012:** 3.44M (lowest).

    o **2015:** 4.21M (highest).

- This consistent growth reflects effective strategies, possible market expansion, and successful campaigns.

- Peaks in 2015 could correlate with seasonal demands or new product introductions.

Recommendations:

- Investigate drivers behind the 2015 peak and replicate these strategies.

- Analyze underperforming quarters or months in 2012 to improve in similar periods.

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2. Product Group-Wise Sales (Bar Chart)

Description:

- Sales distribution across three product groups: Technology, Furniture, and Office Supplies.

Insights:

- **Technology** leads with 62.7% of total sales (~59.84M), highlighting its dominance.

- **Furniture** and **Office Supplies** contribute 22% (~51.78M) and 15.6% (~37.52M), respectively.

- This suggests Technology products are the key revenue driver.

Recommendations:

- Focus marketing efforts on Furniture and Office Supplies to diversify revenue streams.

- Develop technology promotions to maintain dominance in this category.

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3. Product Sub-Category Contribution (Pie Chart)

Description:

- Sales percentage across product sub-categories such as Office Machines, Tables, Telephones, etc.

Insights:

- **Office Machines** contribute the highest (14.54%), followed by **Tables (12.71%)** and **Telephones (12.67%)**.

- Smaller sub-categories like Storage & Organization (~5.5%) indicate potential for growth.

Recommendations:

- Prioritize high-performing sub-categories in promotions.

- Analyze customer needs in low-performing sub-categories to boost visibility and sales.

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4. Product Sub-Group Performance (Table)

Description:

- Performance of sub-groups within Furniture, Office Supplies, and Technology based on order counts.

Insights:

- **Paper (1,225 orders)** leads in Office Supplies.

- **Telephones and Communication (883 orders)** dominate Technology.

- **Storage & Organization (546 orders)** is the top-performing Furniture sub-group.

Recommendations:

- Ensure high availability of top-performing sub-groups.

- Create promotional bundles including high-demand items such as Paper and Telephones.

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5. Monthly Sales Distribution (Bar Chart)

Description:

- Monthly sales data for September, October, and November.

Insights:

- **November (1.38M)** records the highest sales, likely due to holiday shopping.

- **October (1.33M)** maintains strong momentum, while **September (1.15M)** shows a slight dip.

Recommendations:

- Capitalize on November trends with early holiday promotions.

- Launch September campaigns to drive demand during the low season.

6. Co-Purchase Trends (Matrix/Heatmap)

Description:

- A matrix showing frequently co-purchased products, with columns as product groups and rows as product sub-groups. Values represent order counts.

Insights:

- **Paper and Telephones (81 instances)** are the most co-purchased pair.

- Strong interdependencies between Office Supplies and Technology suggest operational or workplace needs.

Recommendations:

- Offer discounts on bundles such as Paper and Telephones.

- Highlight co-purchase trends in marketing campaigns to encourage cross-category purchases.

7. Complementary Products (Bar Chart)

Description:

- Pairs of products frequently bought together (e.g., Paper and Telephones).

Insights:

- **Paper and Telephones (81 instances)** and **Binders and Pens (78 instances)** dominate as complementary products.

- These combinations reflect logical purchasing behavior (e.g., office setups).

Recommendations:

- Design pre-packaged bundles of complementary products.

- Include "Frequently Bought Together" sections on e-commerce platforms.

8. Filters (Dropdowns)

Description:

- Filters for Ship Mode, Region, and Customer Segment.

Insights:

- Filters enable granular analysis to identify:

    o High-performing regions.

    o Preferred shipping modes.

    o Segments contributing the most revenue.

Recommendations:

- Use region-wise data to focus marketing efforts on high-demand areas.
- Analyze customer segments to tailor products and services.

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9. Profit Metrics (KPI Indicator)

Description:

- Displays total profit achieved across the entire dataset.

Insights:

- High profits likely align with strong sales in Technology and high-margin sub-categories.
- Profitability data can highlight which products are most financially beneficial.

Recommendations:

- Focus on high-margin items while optimizing pricing strategies for low-margin categories.
- Regularly review profit trends to identify areas for cost reduction.

Final Recommendations:

1. **Maximize Revenue:**

   o Continue leveraging the dominance of Technology while boosting Furniture and Office Supplies sales.

   o Introduce holiday-specific promotions for peak months like November.

2. **Optimize Product Offerings:**

   o Develop and market bundles based on co-purchase and complementary product trends.

   o Address low-performing sub-categories through targeted marketing.

3. **Enhance Customer Experience:**

   o Use filters to gain deeper customer insights and tailor marketing strategies accordingly.

   o Ensure seamless availability of high-demand products.

4. **Boost Operational Efficiency:**

   o Optimize inventory management for frequently co-purchased products.

   o Invest in logistics and shipping improvements based on preferred modes.

QA Section

1. What company is this? About the company.

Company: Walmart

- Walmart Inc. is a global leader in retail, headquartered in Bentonville, Arkansas, USA.

- Founded in 1962, Walmart operates a chain of hypermarkets, discount department stores, and grocery stores.

- It is recognized for its customer-focused strategy, offering a wide variety of products at low prices.

- The company is known for its data-driven decision-making, leveraging advanced analytics to optimize operations and enhance customer satisfaction.

Relation to Dashboard:
The dashboard provides sales data from Walmart's U.S. retail operations between 2012 and 2015, showcasing its ability to track and analyze key performance metrics.

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2. Why this data? What is it used for?

Why this data:

- The dataset reflects Walmart's sales performance over four years (2012-2015), allowing an in-depth understanding of customer preferences, seasonal trends, and product performance.

- It includes visuals like Yearly Sales Trends, Product Group and Sub-Category Sales, Co-Purchase Trends, and Profit Metrics.

What it is used for:

- **Decision-Making:**

  o Walmart uses this type of data to identify high-performing products (e.g., Technology) and optimize their inventory.

  o Co-purchase trends (e.g., Paper and Telephones) guide marketing efforts like creating bundles.

- **Operational Efficiency:**

  o Monthly trends help forecast demand during peak months (e.g., November) and adjust supply chains accordingly.

- **Customer Behavior Analysis:**

  o Complementary product pairs (e.g., Binders and Pens) suggest ways to enhance cross-selling opportunities.

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3. From where do we get this data?

Source:

- This data is sourced from Kaggle, a public platform for datasets and analytics projects.

- Kaggle's Walmart retail sales dataset is specifically curated to analyze sales trends, product performance, and customer behavior.

Relation to Dashboard:
The Power BI dashboard transforms raw data from Kaggle into actionable insights through visualization tools, enabling easy interpretation of complex data.

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4. What are we going to do with this data?

Objective:
Using the Power BI dashboard as a base, we will:

- **Analyze Sales Trends:**

  o Understand year-on-year growth to identify the factors behind 2015's peak sales.

- **Identify Product Group Leaders:**

  o Leverage insights to focus on dominant categories like Technology while boosting Furniture and Office Supplies.

- **Utilize Co-Purchase Trends:**

  o Develop promotional bundles for popular pairs (e.g., Paper and Telephones).

- **Enhance Marketing Strategies:**

  o Plan seasonal campaigns based on monthly sales distribution, targeting peak months like November.

- **Optimize Inventory and Logistics:**

  o Use product performance insights to ensure adequate stock for high-demand items and improve shipping modes based on regional trends.

Outcome:
These insights will guide Walmart (or any retail business) to enhance sales strategies, improve customer satisfaction, and maximize profitability by leveraging historical data effectively.