

Sales Analytics Dashboard

Project Overview

The Sales Analytics Dashboard is an interactive data visualization tool developed in Power BI that provides comprehensive insights into sales, costs, shipments, and profits for the fictional company "Awesome Chocolates." The dashboard is designed to monitor and analyze various sales performance metrics and KPIs, including total sales, profits, shipments, and the efficiency of individual salespersons.

The dashboard features several visualizations that allow users to drill down into detailed data based on regions, time periods, and shipment sizes, helping stakeholders make informed business decisions.

Features and Functionalities

1. KPIs and Key Metrics:

- **Total Boxes Sold:** Displays the total number of boxes sold (2 million).
- **Total Costs:** Shows the total costs (\$14 million).
- **Total Sales:** Represents the total sales value (\$34 million).
- **Total Profit:** Indicates the total profit (\$21 million).
- **Month-on-Month (MoM) Percentage:** Displays the percentage change in sales compared to the previous month (-10.8%).
- **Sales for This Month:** Shows the total sales value for the current month (2.53M).

2. Shipment Analysis:

- **Shipments by Start of Month:** A **line chart** that visualizes the number of shipments per month.
- **Total Shipments by Boxes (bins):** A **bar chart** (or histogram) showing the distribution of shipments based on box sizes (bins).

3. Salesperson Performance:

- A **table** showing detailed performance metrics for each salesperson, including:

- **Sales:** Total sales achieved by each salesperson.
- **Profit:** Profit made by each salesperson.
- **Profit %:** Profit percentage.
- **LBS:** The number of shipments managed by each salesperson.
- **Conditional Formatting:** Visual indicators (green and red) show whether the salesperson met or missed sales targets.

4. **LBS (Shipments by Weight):**

- **Gauge** visual showing the percentage of shipments based on their weight (LBS count), with a percentage of 10.2%.

5. **Interactive Filters and Navigation:**

- **Slicers** to filter data by different regions such as Australia, Canada, USA, and more.
- **Buttons and Bookmarks** for easy navigation between different views (Bars, Bites, Other, etc.).

Visualization Techniques Used

- **DAX (Data Analysis Expressions):**

- Calculations like **SUM**, **SUMX**, **COUNT**, and **CALCULATE** are used to aggregate data for various KPIs.
- **IF()** and **SWITCH()** are used for conditional formatting and calculations like profit percentages and performance-based formatting.

- **Power Query:**

- Data transformation is applied using **Power Query** to clean and prepare the data.
- **Binning** feature in Power Query is used for grouping continuous data (such as box sizes) into discrete bins for the bar chart.
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- **Power BI Visualizations:**
 - **Line Charts:** Used for showing trends over time (Shipments by Start of Month).
 - **Bar Charts / Histograms:** Used for displaying data distributions (Total Shipments by Boxes).
 - **Tables:** Display detailed data with conditional formatting.
 - **Gauge:** Shows the percentage of LBS shipments compared to the total.
- **Conditional Formatting:**
 - Applied to the salesperson performance table to highlight whether the salesperson's performance is above or below target, using **color scales** and **icons**.
- **Interactivity:**
 - **Slicers:** Filters that allow the user to select and view data for specific regions (Australia, Canada, USA, etc.).
 - **Bookmarks and Buttons:** Used to navigate between different sections of the dashboard, providing an interactive experience.

Technologies Used

- **Power BI Desktop:** Primary tool for building and visualizing the dashboard.
- **DAX (Data Analysis Expressions):** Used for creating calculated columns, measures, and KPIs.
- **Power Query:** Used for data transformation, cleaning, and preparing the data for visualization.
- **Excel or CSV:** Data files used for the initial input (sales, shipments, and personnel data).

How to Use the Dashboard

1. **View KPIs:** At the top of the dashboard, you can quickly see total sales, costs, profits, and boxes sold.
2. **Analyze Trends:** Use the line chart to track **Shipments by Start of Month** and identify trends in sales and shipments.
3. **Examine Shipment Distribution:** View the **Total Shipments by Boxes** bar chart to understand how shipments are distributed across different box sizes.
4. **Review Salesperson Performance:** The table provides detailed performance metrics for each salesperson. Look for green icons to identify top performers.
5. **Monitor LBS:** The **LBS** gauge indicates how many shipments are within the expected weight range.
6. **Apply Filters:** Use the **Slicers** to filter data by region or time period.

Future Improvements

- **Advanced Predictive Analytics:** Integrate machine learning models to forecast sales trends and predict future performance.
- **Real-Time Data Integration:** Connect the dashboard to live data sources for real-time updates.
- **Mobile Optimization:** Adjust the layout to make the dashboard more mobile-friendly for users on the go.

Conclusion

This **Sales Analytics Dashboard** provides a powerful, interactive tool for sales teams, managers, and executives to monitor business performance in real-time. By utilizing Power BI's robust visualization and calculation features, it allows stakeholders to easily track key metrics and gain insights that drive informed decision-making.