

AdventureWorks Sales Analysis (Interactive Excel Dashboard)

1. Project Overview

This project is an interactive Excel-based sales dashboard created using the AdventureWorks dataset. The goal was to analyze sales performance across time, geography, products, and customer demographics. The project consists of two interconnected dashboards namely, 'Time Analysis' and 'Detail Dashboard' linked via macro buttons for seamless navigation.

2. Tools and Techniques Used

- Advanced Excel formulas: VLOOKUP, INDEX-MATCH, IFS, and logical expressions for dynamic analysis and automation
- Pivot Tables and Pivot Charts
- Slicers for interactivity
- Macros and Buttons for dashboard navigation

3. Dashboard Design

The project includes two dashboards that provide different levels of analysis:

1. Time Analysis Dashboard: Focused on sales and profit trends over time, including yearly, monthly, and weekday-wise insights.
2. Detail Dashboard: Provides deeper insights into products, customer demographics, and regional performance.

4. Key Insights

- Overall profit margin: 41.12%.
- 2007-2008 were the most profitable years, contributing 67% of total profit.
- Weekday sales account for 72% of total profit.
- Expensive products (> \$150) generated 95% of total profit.
- Top age group (51+) contributed 46.9% of profit.
- United States and Australia accounted for 62.7% of total profit.

5. How It Was Built

1. The raw AdventureWorks dataset was cleaned and formatted in Excel.
2. Pivot Tables were created to summarize sales, profit, and customer data.
3. Pivot Charts and slicers were added for visual analysis and interactivity.
4. Implemented advanced Excel formulas to perform dynamic lookups, conditional analysis, and data validation for enhanced data accuracy and automation.
5. Macros were implemented to create navigation buttons linking the two dashboards.
6. Final dashboards were designed for clarity, with consistent color schemes and labeled visuals.

6. Conclusion

This Excel dashboard project demonstrates the ability to transform raw sales data into meaningful insights. It effectively highlights performance trends, customer behavior, and product profitability, making it a valuable tool for business decision-making.