USER MANUAL

Interactive Sales Analytics Dashboard

Date: December 2025

Application: Self-Service Business Intelligence Platform

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Contents

1. Introduction

1.1 Purpose

This user manual provides comprehensive guidance for using the Interactive Sales Analytics Dashboard. The platform enables self-service business intelligence, allowing users to explore data, generate insights, and make data-driven decisions.

1.2 Who Should Use This Manual

- **Business analysts**
- **Sales managers**
- **Executive leadership**
- **Marketing teams**
- **Operations personnel**
- **Anyone needing sales and performance insights**

1.3 System Requirements

Minimum Requirements:

- **Modern web browser (Chrome, Firefox, Safari, Edge)**
- **Internet connection**
- **Screen resolution: 1280x720 or higher**
- **JavaScript enabled**

Recommended:

- **Desktop or laptop computer**
- **Screen resolution: 1920x1080**
- **High-speed internet connection**

2. Getting Started

2.1 Accessing the Dashboard

Method 1: Web Browser

1. **Open your web browser**
2. **Navigate to the dashboard URL**
3. **Wait for the application to load (typically 2-3 seconds)**

Method 2: Local Installation (if applicable)

1. **Ensure Python is installed**
2. **Open command prompt/terminal**
3. **Navigate to application directory**
4. **Run: streamlit run part_d_interactive_dashboard.py**
5. **Browser will open automatically**

2.2 First-Time Setup

No account creation required - The dashboard is ready to use immediately upon loading.

Initial Display:

- **Dashboard loads with default date range (full dataset)**
- **All regions selected**
- **All categories included**
- **Executive Summary view displayed**

2.3 Navigation Overview

Main Components:

- **Header: Application title and description**
- **Sidebar: Filters and controls (left side)**
- **Main Area: Visualizations and data**
- **Footer: Version and attribution information**

3. Dashboard Overview

3.1 Available Views

The dashboard provides four distinct views accessible via sidebar:

Executive Summary

- **High-level KPIs**
- **Trend analysis**
- **Category and regional performance**
- **Best for: Quick overview, executive reporting**

Detailed Analysis

- **Product-level insights**
- **Time-based analysis**
- **Profitability examination**
- **Best for: Deep dives, operational analysis**

Drill-Down Explorer

- **Interactive data exploration**
- **Multi-level navigation**
- **Hierarchical views**
- **Best for: Investigating specific areas**

What-If Scenario

- **Predictive modeling**
- **Parameter adjustment**
- **Impact analysis**
- **Best for: Planning, forecasting**

3.2 Key Metrics Displayed

Sales Metrics:

- **Total Sales: Sum of all sales revenue**
- **Average Order Value: Sales divided by number of orders**
- **Sales by Category: Technology, Furniture, Office Supplies**
- **Sales by Region: East, West, Central, South**

Profitability Metrics:

- **Total Profit: Net profit after costs**
- **Profit Margin: Profit as percentage of sales**

- **Profit by Segment: Consumer, Corporate, Home Office**

Volume Metrics:

- **Total Orders: Count of unique orders**
- **Quantity Sold: Total units sold**
- **Average Quantity per Order**

4. Using Filters and Controls

4.1 Sidebar Filters

Location: Left side of the screen, always visible

Available Filters:

Date Range Selector

- **Purpose: Filter data by time period**
- **How to use:**
    1. **Click on the date range field**
    2. **Select start date from calendar**
    3. **Select end date from calendar**
    4. **Dashboard updates automatically**
- **Tips: Use for comparing different time periods**

Region Filter

- **Purpose: View data for specific regions**
- **Options: All, East, West, Central, South**
- **How to use: Select from dropdown menu**
- **Default: All regions**
- **Tips: Select 'All' to see complete picture**

Category Filter

- **Purpose: Focus on specific product categories**
- **Options: All, Technology, Furniture, Office Supplies**
- **How to use: Select from dropdown menu**
- **Default: All categories**

Segment Filter

- **Purpose: Analyze specific customer segments**
- **Options: Consumer, Corporate, Home Office (multi-select)**
- **How to use: Check/uncheck boxes for desired segments**
- **Default: All segments selected**
- **Tips: Compare segments by selecting multiple**

4.2 View Selector

Location: Sidebar under filters

How to Use:

1. **Locate the "Dashboard View" radio buttons**
2. **Click on desired view**
3. **Main area updates to show selected view**
4. **Filters remain active across all views**

4.3 Export Functionality

Purpose: Download filtered data for external analysis

Steps:

1. **Apply desired filters**
2. **Click "Export Data" button in sidebar**
3. **Click "Download CSV" when prompted**
4. **File saves to your Downloads folder**
5. **Open in Excel, Google Sheets, or other tools**

5. Executive Summary View

5.1 Overview

This view provides a high-level snapshot of business performance, ideal for quick status checks and executive reporting.

5.2 Key Performance Indicators (KPIs)

Top Row - Four KPI Cards:

Total Sales

- **Shows: Sum of all sales revenue**
- **Delta: Total in millions for reference**
- **Interpretation: Overall business volume**

Total Profit

- **Shows: Net profit amount**
- **Delta: Profit margin percentage**
- **Interpretation: Bottom-line performance**

Total Orders

- **Shows: Count of orders**
- **Delta: Status indicator**
- **Interpretation: Transaction volume**

Average Order Value

- **Shows: Sales per order**
- **Delta: Per order designation**
- **Interpretation: Customer spending level**

5.3 Charts and Visualizations

Sales & Profit Trend (Left side, large)

- **Type: Combination chart (area + line)**
- **Shows: Monthly sales (area) and profit (line)**
- **Hover: Display exact values**
- **Use: Identify trends, seasonality, anomalies**

Category Split (Right side, donut chart)

- **Type: Pie chart with center hole**
- **Shows: Sales distribution across categories**
- **Hover: See exact amounts and percentages**
- **Use: Understand product mix**

Regional Performance (Bottom left)

- **Type: Bar chart**
- **Shows: Sales by geographic region**
- **Labels: Values displayed on bars**
- **Use: Compare regional performance**

Segment Analysis (Bottom right)

- **Type: Colored bar chart**
- **Shows: Sales by customer segment**
- **Color: Represents profit level**
- **Use: Understand customer base composition**

5.4 Interpreting the Data

Green indicators: Positive performance Red indicators: Negative performance or losses Upward trends: Growth over time Downward trends: Decline over time

6. Detailed Analysis View

6.1 Overview

This view offers deeper insights through three tabbed sections for comprehensive analysis.

6.2 Product Analysis Tab

Top 10 Products by Sales

- **Type: Horizontal bar chart**
- **Shows: Highest-selling products**
- **Color: Gradient based on sales volume**
- **Use: Identify star products**

Sub-Category Performance

- **Type: Scatter plot**
- **X-axis: Sales**
- **Y-axis: Profit**
- **Size: Sales volume**
- **Use: Find high-profit, high-sales items**

6.3 Time Analysis Tab

Quarterly Trends

- **Type: Combined bar and line chart**
- **Shows: Sales bars and profit line by quarter**
- **Format: Year-Quarter format (e.g., 2024-Q1)**
- **Use: Seasonal analysis, year-over-year comparison**

6.4 Profitability Tab

Profitability Heatmap

- **Type: Heatmap matrix**
- **Rows: Categories**
- **Columns: Regions**
- **Color: Green (high profit) to Red (low profit)**
- **Values: Dollar amounts displayed**
- **Use: Identify profitable combinations**

6.5 How to Navigate Tabs

1. **Click on tab name at top of section**
2. **Content switches immediately**
3. **All filters still apply**
4. **Charts are interactive (hover for details)**

7. Drill-Down Explorer

7.1 Overview

This view enables multi-level data exploration, allowing you to drill from summary to detail progressively.

7.2 Drill-Down Options

Category to Sub-Category

- **Step 1: View all categories**
- **Step 2: Select a category**
- **Step 3: See sub-categories within selected category**
- **Step 4: View detailed transactions**

Region to State

- **Step 1: View regional totals**
- **Step 2: Select a region**
- **Step 3: See state breakdown**
- **Use: Geographic performance analysis**

Time Analysis

- **Navigate from year to month to day**
- **Understand temporal patterns**
- **Identify specific time periods of interest**

7.3 Using the Category Drill-Down

Instructions:

1. **Select "Category → Sub-Category" option**
2. **Choose a category from dropdown menu**
3. **Left chart shows all categories (context)**
4. **Right chart displays sub-categories (detail)**
5. **Bottom table shows individual transactions**
6. **Click different categories to compare**

Treemap Visualization:

- **Larger boxes = higher sales**
- **Green shading = higher profit**
- **Red shading = lower or negative profit**
- **Hover over boxes for exact numbers**

7.4 Using the Regional Drill-Down

Instructions:

1. **Select "Region → State" option**
2. **Choose a region from dropdown**
3. **Pie chart shows regional context**
4. **Bar chart displays top states in selected region**
5. **Compare states within region**

7.5 Transaction Details Table

Features:

- **Shows up to 20 most recent transactions**
- **Sortable columns (click header to sort)**
- **Includes: Order ID, Date, Product, Sales, Profit, Quantity**
- **Use: Investigate specific orders**

8. What-If Scenario Analysis

8.1 Overview

This powerful tool allows you to model different business scenarios and see predicted impacts on sales and profit.

8.2 Available Parameters

Price Change

- **Range: -50% to +50%**
- **Step: 5%**
- **Effect: Adjusts revenue per unit**
- **Example: +10% = 10% price increase**

Volume Change

- **Range: -50% to +50%**
- **Step: 5%**
- **Effect: Adjusts number of units sold**
- **Example: -20% = 20% fewer sales**

Cost Change

- **Range: -30% to +30%**
- **Step: 5%**
- **Effect: Adjusts cost of goods**
- **Example: +15% = 15% cost increase**

8.3 Using the What-If Tool

Steps:

1. **Navigate to "What-If Scenario" view**
2. **Adjust sliders to desired values**
3. **Observe real-time updates to metrics**
4. **Review comparison chart at bottom**
5. **Note changes in profit margin**
6. **Experiment with different combinations**

8.4 Interpreting Results

Projected Metrics:

- **Green delta: Favorable change**
- **Red delta: Unfavorable change**
- **Larger changes: Greater impact**

Common Scenarios:

- **Price increase + volume decrease: Test elasticity**
- **Cost reduction: Identify savings impact**
- **Volume growth: Plan for expansion**
- **Combined changes: Model complex situations**

8.5 Best Practices

- **Start with small changes (5-10%)**
- **Model realistic scenarios only**
- **Consider market conditions**
- **Document assumptions**
- **Share scenarios with stakeholders**
- **Use as planning tool, not prediction**

9. Exporting Data

9.1 Export Options

CSV Export

- Includes all filtered data
- All columns from source dataset
- Opens in Excel, Google Sheets, etc.

9.2 Export Process

1. Apply desired filters to narrow data
2. Click "Export Data" button in sidebar
3. Click "Download CSV" in popup
4. File downloads to default location
5. Open file in spreadsheet application

9.3 Using Exported Data

Common Uses:

- Further analysis in Excel
- Creating custom reports
- Sharing with colleagues
- Archiving snapshots
- Integration with other tools

File Format:

- Comma-separated values (CSV)
- UTF-8 encoding
- Header row included
- Compatible with all major spreadsheet tools

10. Troubleshooting

10.1 Common Issues

Dashboard Not Loading

- Check internet connection
- Refresh browser page
- Clear browser cache
- Try different browser
- Verify URL is correct

Slow Performance

- Reduce date range
- Select specific regions/categories
- Close other browser tabs
- Check internet speed
- Wait for charts to fully load

Filters Not Working

- Ensure selections are applied
- Try resetting filters
- Refresh the page
- Check that data exists for selection

Charts Not Displaying

- Enable JavaScript in browser
- Disable ad blockers temporarily
- Update browser to latest version
- Check console for errors

Export Not Working

- Check browser download settings
- Ensure popup blockers are disabled
- Verify sufficient disk space
- Try different export format

10.2 Error Messages

"No Data Available"

- Your filter combination has no matching records
- Adjust filters to broaden selection
- Check date range includes data

"Loading Failed"

- Network connection issue
- Refresh the page
- Contact administrator if persists

10.3 Getting Help

Support Resources:

- This user manual
- Technical documentation
- Contact system administrator
- Submit feedback via thumbs down button

11. Frequently Asked Questions

Q: How often is the data updated?

A: Data refresh frequency depends on implementation. Check with your administrator for specifics.

Q: Can I save my filter selections?

A: Currently, filters reset when you close the dashboard. Export data for persistent copies.

Q: Can multiple users access simultaneously?

A: Yes, the dashboard supports multiple concurrent users.

Q: Is my data secure?

A: The dashboard uses standard security protocols. Contact IT for specific security policies.

Q: Can I customize the visualizations?

A: Current version offers predefined views. Contact administrator for customization requests.

Q: How do I share insights with my team?

A: Use screenshot tools, export data, or share your screen during presentations.

Q: What browsers are supported?

A: Chrome, Firefox, Safari, and Edge. Latest versions recommended.

Q: Can I access this on mobile?

A: Yes, the dashboard is responsive, though desktop is recommended for full functionality.

Q: How do I interpret negative profit?

A: Negative profit indicates the item/category sold at a loss (costs exceeded revenue).

Q: What time zone is used for dates?

A: Dates reflect the time zone of the source data system.

12. Tips for Effective Use

General Tips:

- **Start with Executive Summary for overview**
- **Use filters to focus analysis**
- **Hover over charts for detailed information**
- **Compare time periods using date filter**
- **Export data for offline analysis**
- **Regular monitoring reveals trends**

For Executives:

- **Check KPIs daily**
- **Monitor trend charts for patterns**
- **Review regional performance weekly**
- **Use What-If for strategic planning**

For Analysts:

- **Explore Detailed Analysis tabs thoroughly**
- **Use Drill-Down for investigations**
- **Export data for deeper analysis**
- **Combine multiple filters for insights**

For Managers:

- **Monitor team/region performance**
- **Identify top and bottom performers**
- **Track progress toward targets**
- **Share insights with teams**

Conclusion

This dashboard empowers users to explore data independently, gain insights quickly, and make informed decisions. Regular use and exploration will reveal additional insights and patterns in your business data.

THANK YOU

For using the Interactive Sales Analytics Dashboard

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