
Power BI Project Idea: Sales Performance Dashboard for superstore sales

1. Project Planning & Management

- **Project Proposal:**
 - **Objective:** Build an interactive Power BI dashboard to analyze sales performance, identify trends, and improve decision-making.
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 - **Scope:** Sales Performance: Identify best-selling products, categories, and regions. Customer Insights: Analyze purchase frequency and customer segments. Shipping Analysis: Evaluate delivery times and shipping modes. Regional Sales Trends: Compare sales across different locations.

- **Project Plan:**

Phase	Tasks	Duration	Milestone
1-Data collection	Gather sales data, Customer details, and Shipping information	Week 1	Dataset finalized
2-Data cleaning & transformation	Handle missing values, correct errors, changing data type	Week 2	Cleaned dataset ready
3-Data analysis and Metrics creation	Calculate sales trends, Customer behavior, and Shipping insights	Week 3	Key insights identified
4-Dashboard and Development	Build Power BI dashboards with visuals and KPIs	Week 4	First version of dashboard
5-Review & Refinement	Improve visuals, verify accuracy, and finalize the report	Week 5	Final dashboard ready
6-Presentation and documentation	Prepare findings, document analysis, present results	Week 6	Project completed

- **Resources:** Power BI, EXCEL
- **Task Assignment & Roles:**

- Data Collection: Roaa Wael, Rodayna Essam
- Data Cleaning & Transformation: Nada Badawy, Nada Mohamed
- Dashboard and development: Nada Mohamed, Maryam Khalid
- Data analysis and Metrics creation: Maryam Khalid
- Review & Refinement: Roaa Wael, Rodayna Essam
- Presentation and documentation: All team members
- **Risk Assessment & Mitigation Plan:**
 - **Risk:** Data inconsistency → **Solution:** Data validation techniques.
 - **Risk:** Performance issues → **Solution:** Use efficient DAX queries and data model optimization.
- **KPIs:**
 - Total Sales, Sales by category, Total customers, AVG purchase value, AVG delivery time, orders by ship mode, Sales by month, Month name, Sales by region, Sales by state.
- **Dataset Overview:**

Column name	Description
Row ID	A unique identifier for each row in the dataset.
Order ID	A unique identifier for each order placed.
Order date	The date when the order was placed.
Ship date	The date when the order was shipped.
Ship mode	The method used for shipping (e.g., Standard, Express).
Customer ID	A unique identifier for each customer.
Customer name	The full name of the customer.
Segment	The customer's category (e.g., Consumer, Corporate, or Home Office).
Country	The country where the order was placed.
City	The city where the order was placed.
State	The state or province of the order's location.
Postal code	The postal or ZIP code of the order location.
Rejion	The geographical region (e.g., East, West, Central, South).
Product ID	A unique identifier for each product.
Category	The main category of the product (e.g., Furniture, Office Supplies).
Sub-Category	A more specific classification within the category (e.g., Chairs, Binders).
Product name	The name of the product purchased.
Sales	The total revenue generated from the order.

2. Literature Review

- **Feedback & Evaluation:** Gather insights from business stakeholders or industry experts.
- **Suggested Improvements:** Optimize dashboard layout, enhance filtering options.
- **Final Grading Criteria:** Based on data accuracy, visualization effectiveness, user interaction, and storytelling.

3. Requirements Gathering

- **Stakeholder Analysis:** Business managers, sales teams, and executives.
- **User Stories:** "As a sales manager, I want to see sales trends over time to identify seasonal patterns."
- **Functional Requirements:** Total sales analysis, customer insights, and shipping performance with filters for time, product, and region. It will provide geographical sales analysis on a map and allow interactive drill-down into detailed data. The dashboard will support easy navigation for quick decision-making.
- **Non-functional Requirements:** Dashboard must load within 5 seconds, ensure clear data visualization.

4. System Analysis & Design

- **Problem Statement:** The goal is to create an automated Power BI dashboard to analyze superstore sales data. This will replace manual analysis, save time, and provide clear insights for decision-making.
- **Use Case Diagram:**
 - Admin: Manage data and update dashboards.
 - Business Users: View and interact with the dashboard.
 - Data Analysts: Perform detailed analysis and create reports.
- **Software Architecture:** Power BI dashboard for visualizing and interacting with the sales data, Data will be stored in a file-based system (CSV), and Data Flow: Data will flow from the source files into Power BI for analysis, where it will be processed and displayed in interactive visuals.

Database Design & Data Modeling

- **ER Diagram:** Shows how key data (Customers, Orders, Products, Sales) is related.
- **Logical schema:** Describes the data structure with tables (e.g., Orders, Sales) and their relationships (e.g., linking Order ID between tables).

- **Physical Schema:** Defines how data is stored, including table types and keys (e.g., Order ID as a primary key).

Data Flow & System Behavior

- **DFD:** Shows data extraction from source, transformation in Power Query, and visualization in Power BI.
- **Activity Diagram:** Shows steps from loading data to generating insights.

UI/UX Design & Prototyping

- **Wireframes:** Basic sketches showing the layout of the Power BI dashboard.
- **UI/UX Guidelines:** Use a professional color palette, interactive slicers, and readable fonts.

5. Deployment System & Integration

- **Technology Stack:** Power BI for dashboard creation. CSV for data storage. Power BI Service for sharing.
- **Deployment Diagram:** Shows how data moves from Excel/CSV to Power BI, and how users access the dashboard.
- **Component Diagram:** Shows how Power BI and the data source work together.

6. Additional Deliverables

- **API Documentation:** Explains how to connect data if APIs are used.
- **Testing & Validation:** Ensures the data is correct and the dashboard works.
- **Deployment Strategy:** How the dashboard will be published and accessed by users.