# Classic Models Sales Analysis

**Project Overview**

This Power BI dashboard provides comprehensive sales analytics for Classic Models, a vintage and collectible vehicle dealership. The dashboard offers multi-dimensional analysis of sales performance across products, geography, time periods, and customer segments.

**Data Architecture**

* **Data Source**: MySQL Database
* **Data Integration**: Created custom MySQL views for optimized data modelling
* **Connection Method**: Direct MySQL connection to Power BI for real-time data access
* **Data Processing**: Leveraged MySQL views to pre-aggregate and structure data for efficient dashboard performance

**Dashboard Features**

**Page 1: Executive Sales Overview**

**Key Performance Indicators:**

* Total Sales: $9.6M across the analysis period
* Unique Orders: 326 individual transactions
* Average Order Value: ₹29.46K (approximately $35,000)

**Sales Analysis by Product Line:**

* Classic Cars: $3.9M (highest performing category)
* Vintage Cars: $1.8M
* Motorcycles: $1.1M
* Trucks and Buses: $1.0M
* Planes: $1.0M
* Ships: $0.7M
* Trains: Minimal sales volume

**Geographic Performance:**

* USA: $3.48M (largest market)
* France: $3.08M
* UK: $1.44M
* Australia: $1.15M
* Japan: $0.46M

**Sales Trends:**

* Time-series visualization showing sales performance over the period 06-01-2003 to 31-05-2005
* Separate trend analysis for office locations and international markets
* Cost vs. Sales correlation analysis with positive linear relationship

**Customer Analysis:**

* Sales distribution by customer country with USA leading
* Customer segmentation showing geographic diversity across multiple countries

**Page 2: Detailed Sales Analysis**

**Interactive Filtering:**

* Customer Country filter (Australia selected in view)
* Product Line filter (Classic Cars selected)
* Customer Name filter for granular analysis

**Monthly Performance Tracking:**

* Comprehensive month-over-month analysis from January 2003 to May 2005
* Sales Value and Month-over-Month percentage changes
* Year-to-Date (YTD) sales tracking
* Performance highlights:
  + Peak months showing growth rates exceeding 100%
  + Seasonal variations and trend identification
  + Detailed breakdown of sales values ranging from $1.16M to $5.14M per month

**Customer Hierarchy Visualization:**

* Tree map showing sales distribution by geography and product category
* Net Profit analysis: $343,680.25 total profit margin
* Detailed customer-level performance metrics

**Technical Implementation**

**MySQL Views Architecture**

* Designed and implemented custom MySQL views to:
  + Aggregate sales data across multiple dimensions
  + Calculate key performance metrics (MoM%, YTD values)
  + Optimize query performance for Power BI consumption
  + Ensure data consistency and integrity

**Power BI Features Utilized**

* **Interactive Filtering**: Cross-filtering across all visualizations
* **Date Intelligence**: Time-based calculations and comparisons
* **Geographic Mapping**: Location-based sales analysis
* **Drill-through Capabilities**: From summary to detailed views
* **Dynamic Visualizations**: Bar charts, line graphs, pie charts, and treemaps
* **Conditional Formatting**: Performance indicators and trend highlights

**Business Insights Generated**

**Market Performance**

* USA and France represent 68% of total sales volume
* Classic Cars dominate the product portfolio with 41% market share
* Strong correlation between cost and sales indicating healthy margin management

**Temporal Trends**

* Significant seasonal variations in sales performance
* Growth trajectory from 2003 to 2005 with notable peaks in specific months
* Month-over-month volatility requiring attention to inventory and marketing timing

**Customer Segmentation**

* Geographic diversification across 15+ countries
* High-value transactions with substantial average order values
* Opportunity for customer relationship management in top-performing regions

**Technical Specifications**

* **Database**: MySQL
* **Dashboard Pages**: 2 comprehensive views
* **Data Refresh**: Real-time via MySQL connection
* **Visualization Types**: 12+ chart types including KPI cards, time series, geographic maps, and correlation plots
* **Interactivity Level**: Full cross-filtering and drill-down capabilities
* **Performance**: Optimized through MySQL view pre-processing

**Project Value**

This dashboard demonstrates advanced Power BI development skills including:

* Complex data modeling and MySQL view creation
* Multi-dimensional sales analysis
* Interactive dashboard design
* Business intelligence best practices
* Data visualization expertise across various chart types and analytical perspectives

The solution provides stakeholders with actionable insights for strategic decision-making in sales, inventory management, and market expansion planning.