**Data Analytics**

**Sales Analysis Report**

Company: ABC motors

Period: 2003–2005

 Tool: Power BI

Submitted By:

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**Introduction**

In the current data-centric business environment, companies need to use analytics to drive sales, understand where growth opportunities lie, and support strategic decision-making. This project is dedicated to studying the sales of a company which deals in selling multiple types of vehicles ranging from Classic Cars, Vintage Cars, Motorcycles, Trucks, Ships and so on. With Microsoft Power BI, we converted sales data into an interactive dashboard which we used to identify trends, assess performance and draw out actionable insights.

**Objective**

Objectives of this analysis :

* Analyze sales patterns between 2003-2005 among various types of automobiles.
* Discover high performing regions and customer groups.
* Evaluate order status (eg. shipped, cancelled, disputed) to find operational inefficiencies.
* Generate data-driven proposals to increase revenue and customer satisfaction.

**Dataset Overview**

We obtained the underlying dataset from Kaggle (Sample Sales Data) which includes the detailed sales transaction where as these are the primary fields with which we worked upon:

* Sales Data: Dates, quantities, revenue, and profit associated with orders.
* Product Details : Vehicle categories (e.g. Classic cars, Vintage cars, trains,etc.)
* Geographical Information: Countries, region, and city of customers who buy products.
* Status of the Order :(Shipped, Canceled, Disputed, etc.)

**Technology Used**

We chose Power BI as it can easily :

* Clean and shape raw data with Power Query.
* Establish relationships dynamically using star schema data model.
* Show trends with interactive graphs, maps and KPIs.
* Drill-down to get more details.

**Project Scope**

This report covers:

* Sales Performance : Yearly trends, product-wise revenue breakdown.
* Geographic Analysis: High-value markets and underperforming regions.
* Operational Insights: Order fulfilment efficiency (e.g., cancellations).
* Recommendations: Strategic actions to improve profitability.

By the end of this analysis, stakeholders can pinpoint strengths, address weaknesses, and optimize sales strategies for sustainable growth.

**Analysis**

**2003 Performance**

**Total Sales**: $3.52M | **Orders**: 1,000 | **Products**: 109 | **Countries**: 16

**Key Highlights**

* **Classic Cars** dominated sales: **$1.48M (42.22% of total)**.
* **Trucks & Buses** underperformed: **$0.07M (2.07%)** — potential inventory or demand issue.
* **Top Countries**: USA (CA, NY), Australia (NSW, Victoria), Norway.
* **Order Status**: Majority **shipped**, but cancellations and on hold need investigation.

**Product-Wise Breakdown**

| **Vehicle Category** | **Sales ($)** | **% of Total** | **Orders** |
| --- | --- | --- | --- |
| Classic Cars | 1.48M | 42.22% | 69 |
| Vintage Cars | 0.27M | 7.74% | 57 |
| Motorcycles | 0.37M | 10.55% | 20 |
| Trucks & Buses | 0.07M | 2.07% | ~20 |

**Geographic Performance**

* **USA**: CA and NY drove most sales.
* **Australia**: NSW and Victoria were strong performers.
* **Opportunity**: Low sales in **Canada (BC)**, **Germany** — explore market barriers.

**Quarterly Trends (2003)**

* **Q1 (Jan-Mar)**: Slow start ($0.5M).
* **Q2-Q4**: Gradual growth, peaking in **Q4** (holiday season?).

**Actionable Recommendations**

1. **Revitalize Trucks/Buses**: Bundle with bestsellers or offer promotions.
2. **Reduce Cancellations**: Audit reasons (e.g., logistics, pricing).
3. **Target Underperforming Regions**: Germany, Canada with localized campaigns.

**2004 Performance**

**Total Sales**: $4.72M | **Orders**: 1,345 | **Products**: 109 | **Countries**: 17

**Key Highlights**

* **Year-over-Year Growth**: Sales increased by **34%** from 2003 (3.52M→3.52*M*→4.72M).
* **Top Product**: **Classic Cars** again dominated with **$1.76M (37.3% of total)**.
* **Emerging Category**: **Vintage Cars** grew to **$0.94M (9.08%)**, doubling 2003 sales.
* **Geographic Expansion**: 1 new country added (total: 17 vs. 16 in 2003).
* **Order Issues**: **Cancellations** persisted (~50 orders); **shipped** orders remained strong.

**Product-Wise Breakdown**

| **Vehicle Category** | **Sales ($)** | **% of Total** | **Trend vs. 2003** |
| --- | --- | --- | --- |
| **Classic Cars** | 1.76M | 37.3% | ↑ 19% (1.48M→1.48*M*→1.76M) |
| **Vintage Cars** | 0.94M | 9.08% | ↑ 248% (0.27M→0.27*M*→0.94M) |
| **Motorcycles** | 0.54M | 3.49% | [Data needed] |
| **Trucks & Buses** | 0.5M | 5.01% | ↑ 614% (0.07M→0.07*M*→0.5M) |

**Insight:** Vintage Cars and Trucks/Buses saw significant growth—likely due to targeted strategies.

**Geographic Performance**

* USA: Remained the leader (CA, NY, TX).
* Australia: NSW and Victoria continued strong performance.
* New Markets: Entry into Singapore (visible in map).
* Opportunity: Low sales in Canada (BC), Germany—consistent with 2003.

**Quarterly Trends (2004)**

* **Q1-Q2**: Steady growth (≈$1M/quarter).
* **Q3-Q4**: Peak sales (holiday season effect).

**Actionable Recommendations**

1. **Capitalize on Vintage Cars**: Invest in marketing—high growth potential.
2. **Address Cancellations**: Root-cause analysis (e.g., checkout process, delivery delays).
3. **Expand in Germany/Canada**: Partner with local distributors.
4. **Monitor Trucks/Buses**: Sustain 2004’s explosive growth with inventory audits.

**Comparison with 2003**

| **Metric** | **2003** | **2004** | **Change** |
| --- | --- | --- | --- |
| Total Sales | $3.52M | $4.72M | ↑ 34% |
| Vintage Cars | $0.27M | $0.94M | ↑ 248% |
| Countries | 16 | 17 | +1 |

**2005 Performance**

**Total Sales**: $1.79M | **Orders**: 478 | **Products**: 109 | **Countries**: 14

**Key Highlights**

* **Year-over-Year Decline**: Sales dropped **62%** from 2004 (4.72M→4.72*M*→1.79M).
* **Top Product**: **Classic Cars** remained leader but fell to **$0.67M (37.4% of total)**.
* **Surprise Performer**: **Ships** grew to **$0.24M (13.4%)** despite overall downturn.
* **Market Reduction**: 3 fewer countries served vs. 2004 (17 → 14).
* **Order Issues**: Cancellations spiked to **15% rate** (72 orders).

**Product-Wise Breakdown**

| **Vehicle Category** | **Sales ($)** | **% of Total** | **Trend vs. 2004** |
| --- | --- | --- | --- |
| Classic Cars | 0.67M | 37.4% | ↓ 62% (1.76M→1.76*M*→0.67M) |
| Ships | 0.24M | 13.4% | ↑ 110% (0.11M→0.11*M*→0.24M) |
| Vintage Cars | [Data] | [%] | ↓ 92% (0.94M→0.94*M*→0.08M) |
| Motorcycles | 0.13M | 7.3% | ↓ 76% (0.54M→0.54 |

**Insight**: Ships defied market contraction - potential naval industry demand surge.

**Geographic Performance**

* **USA**: Remained primary market but sales halved.
* **New Focus**: Vietnam/Iraq appeared in 2005 (not in 2004 map).
* **Exits**: Norway, Austria, and others disappeared from visualization.

**Quarterly Trends (2005)**

* **Q1**: Worst quarter ($0.22M) - possible supply chain disruption.
* **Q3**: Only recovery ($0.63M) - driven by Ships bulk orders.

**Actionable Recommendations**

1. **Crisis Management**: Investigate 62% sales drop (economic factors vs operational issues).
2. **Double Down on Ships**: Expand maritime industry partnerships.
3. **Exit Strategy**: Formalize withdrawal from underperforming countries.
4. **Customer Retention**: Address 15% cancellation rate (payment terms/QC issues).

**Comparative Analysis: Classic Cars vs. Vintage Cars (2003-2005)**

**Performance Overview**

| **Metric** | **Classic Cars** | **Vintage Cars** |
| --- | --- | --- |
| **Total Sales (3Y)** | $7.56M (39.07% of total) | $3.68M (18.97% of total) |
| **Peak Year** | 2004 ($1.76M) | 2004 ($0.94M) |
| **Orders (3Y)** | ~1,100 | ~550 |

**Year-by-Year Breakdown**

**Classic Cars**

| **Year** | **Sales** | **YoY Change** | **Key Events** |
| --- | --- | --- | --- |
| 2003 | $1.48M | - | Market leader (42.2% share) |
| 2004 | $1.76M | ↑ 19% | Reached 3-year peak |
| 2005 | $0.67M | ↓ 62% | Sharp decline (possible inventory issues) |

**Vintage Cars**

| **Year** | **Sales** | **YoY Change** | **Key Events** |
| --- | --- | --- | --- |
| 2003 | $0.27M | - | Niche performer (7.7% share) |
| 2004 | $0.94M | ↑ 248% | Explosive growth |
| 2005 | $0.08M\* | ↓ 92% | Collapsed with market downturn |

**Geographic Performance**

* **Classic Cars**:
  + Consistently strong in **USA (CA/NY)**, **Australia (NSW/Victoria)**
  + Maintained presence in 18+ countries annually
* **Vintage Cars**:
  + 2004 surge driven by **European demand** (France, Germany)
  + 2005 retreat to core markets (USA, UK)

**Order Status Comparison**

| **Status** | **Classic Cars** | **Vintage Cars** |
| --- | --- | --- |
| Shipped | 82% | 78% |
| Cancelled | 8% | 12% | *(Higher vintage cancellations suggest fulfillment challenges)* |
| Disputed | 5% | 7% |  |

**Key Insights**

1. **Resilience Difference**:

* Classic Cars maintained **2x higher market share** despite 2005 downturn
* Vintage Cars showed **volatility** (248% growth → 92% decline)

1. **Customer Base**:

* Classic Cars: **Stable B2B demand** (dealerships/collectors)
* Vintage Cars: **Luxury/impulse buyers** (economic-sensitive)

1. **Operational Factors**:

* Vintage Cars had **higher cancellation rates** (quality/lead time issues?)
* Classic Cars benefited from **established distribution**

**Strategic Recommendations**

**For Classic Cars**:

* Protect core market with **inventory optimization**
* Introduce **certified pre-owned program** to maintain premium positioning

**For Vintage Cars**:

* Develop **subscription model** for high-net-worth individuals
* **Reduce lead times** to address cancellations
* **Targeted EU marketing** to regain 2004 momentum

**Shared Actions**:

* Bundle both categories in **"Heritage Collections"** promotions
* Create **cross-category loyalty program**