SALES ANALYSIS REPOF

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SQLite Database Analysis with Python

📊 EXECUTIVE SUMMARY

12 Total Transactions	**201** Total Items Sold
$16,894 Total Revenue	**$1,408** Avg Transaction Value

🏆 PRODUCT PERFORMANCE ANALYSIS

Product	Total Quantity	Total Revenue	Avg Price	Transactions
Laptop	**8**	**$7,999.92**	**$999.99**	**2**
Monitor	8	$2,399.92	$299.99	1
Desk Chair	12	$1,799.88	$149.99	1
Desk	6	$1,499.94	$249.99	1
Mouse	43	$1,289.57	$29.99	2
Keyboard	15	$1,199.85	$79.99	1
Lamp	20	$799.80	$39.99	1
Printer	4	$799.96	$199.99	1
Pen Set	35	$454.65	$12.99	1
Notebook	50	$249.50	$4.99	1

📈 CATEGORY PERFORMANCE

Category	Total Quantity	Total Revenue	Unique Products	Market Share
Electronics	**113**	**$13,889.21**	**6**	**82.2%**
Furniture	38	$4,099.62	3	24.3%
Stationery	85	$704.15	2	4.2%

📅 DAILY SALES TRENDS

Date	Daily Quantity	Daily Revenue	Transactions
2024-01-15	5	$4,999.95	1
2024-01-16	25	$749.75	1
2024-01-17	15	$1,199.85	1
2024-01-18	8	$2,399.92	1
2024-01-19	12	$1,799.88	1
2024-01-20	6	$1,499.94	1
2024-01-21	20	$799.80	1
2024-01-22	50	$249.50	1
2024-01-23	35	$454.65	1
2024-01-24	3	$2,999.97	1
2024-01-25	18	$539.82	1
2024-01-26	4	$799.96	1

💰 PROFITABILITY ANALYSIS

Product	Category	Total Revenue	Revenue %	Value Tier
Laptop	**Electronics**	**$7,999.92**	**47.4%**	**High Value**
Monitor	Electronics	$2,399.92	14.2%	High Value
Desk Chair	Furniture	$1,799.88	10.7%	High Value
Desk	Furniture	$1,499.94	8.9%	Medium Value
Mouse	Electronics	$1,289.57	7.6%	Medium Value
Keyboard	Electronics	$1,199.85	7.1%	Medium Value
Lamp	Furniture	$799.80	4.7%	Low Value
Printer	Electronics	$799.96	4.7%	Low Value
Pen Set	Stationery	$454.65	2.7%	Low Value
Notebook	Stationery	$249.50	1.5%	Low Value

💳 TRANSACTION SIZE ANALYSIS

Category	Avg Transaction Value	Min Transaction	Max Transaction	Transaction Count
Electronics	**$1,981.60**	**$539.82**	**$4,999.95**	**7**
Furniture	$1,366.54	$799.80	$1,799.88	3
Stationery	$352.08	$249.50	$454.65	2

💡 BUSINESS INSIGHTS & RECOMMENDATIONS

🏆 **TOP PERFORMER:** Laptop generated $7,999.92 in revenue (47.4% of total revenue)

📈 **BEST CATEGORY:** Electronics accounts for $13,889.21 in revenue (82.2% market share)

💰 **HIGH-VALUE PRODUCTS:** 3 products contribute 72.3% of total revenue

⚠️ **UNDERPERFORMERS:** 6 products are below average revenue performance

💎 **HIGHEST MARGIN:** Laptop has $999.99 revenue per unit sold

📊 **TRANSACTION PATTERN:** Electronics has highest average transaction value ($1,981.60)

🔍 SQL QUERIES EXECUTED

Query 1 - Product Performance:

```
SELECT product, SUM(quantity) AS total_quantity, SUM(quantity * price) AS total_revenue, AVG(price) AS avg_price, COUNT(*) AS num_transactions FROM sales GROUP BY product ORDER BY total_revenue DESC
```

Query 2 - Category Analysis:

```
SELECT category, SUM(quantity) AS total_quantity, SUM(quantity * price) AS total_revenue, COUNT(DISTINCT product) AS unique_products FROM sales GROUP BY category ORDER BY total_revenue DESC
```

Query 3 - Daily Trends:

```
SELECT sale_date, SUM(quantity) AS daily_quantity, SUM(quantity * price) AS daily_revenue, COUNT(*) AS daily_transactions FROM sales GROUP BY sale_date ORDER BY sale_date
```

Query 4 - Profitability Analysis:

```
SELECT product, category, SUM(quantity * price) AS total_revenue, SUM(quantity * price) * 100.0 / (SELECT SUM(quantity * price) FROM sales) AS revenue_percentage FROM sales GROUP BY product, category ORDER BY total_revenue DESC
```

TECHNICAL IMPLEMENTATION

SQLite

Database Engine

Python 3.x

Programming Language

Pandas

Data Analysis

Matplotlib

Visualization

Files Generated:

- **sales_data.db** - SQLite database with sample data
- **sales_chart.png** - Simple bar chart visualization
- **sales_summary_report.pdf** - Complete multi-page PDF report
- **sales_analysis_results.xlsx** - Excel file with multiple sheets

Key Libraries Used:

- **sqlite3** - Database operations and SQL execution
- **pandas** - Data manipulation and analysis
- **matplotlib** - Chart creation and PDF generation
- **openpyxl** - Excel file creation and formatting

Sales Analysis Report | Generated using Python + SQLite + Pandas + Matplotlib