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Title: **Enhancing Sales Performance: A Strategic Approach**

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1. **ABSTRACT**

In today's competitive market, understanding sales performance is crucial for strategic decision-making. This report aims to provide an in-depth analysis of the company's sales performance, focusing on identifying key trends, opportunities for improvement, and specific areas where the company can enhance profitability. Through a comprehensive analysis of product performance, regional sales, customer segmentation, and other critical metrics, this report provides strategic recommendations to optimize sales and improve profitability. This report provides an in-depth analysis of the company's sales performance using the latest dataset. The goal is to identify key trends, opportunities for improvement, and specific areas where the company can enhance profitability. The analysis focuses on product performance, regional sales, customer segmentation, and other critical metrics. Based on the findings, strategic recommendations are made to optimize sales, improve profitability, and address existing challenges.

1. **Overview**

"I am looking to improve this year’s performance, what suggestions do you have for success? what are the things that you found, how do they affect our profit, if it's negative what's generating it. What's the profit that we are losing? Why are the profits in those three regions higher than anywhere else? Compare those three regions to see what's the same and different. What are the actual opportunities? What are the problems, what are different, where are we losing money?."

This report addresses key questions regarding strategies to improve this year’s sales performance, factors affecting profitability, and regional sales comparisons. It outlines the methodology used, provides an analysis of sales trends and high-revenue products, and compares regional sales performance. The report also examines customer segmentation, identifying top customers' contributions to revenue. Additionally, it analyzes orders generating negative profit and factors affecting profitability. Strategic recommendations include focusing on high-revenue products, optimizing sales strategies in top regions, addressing low-performing areas, enhancing customer engagement, planning for peak sales periods, optimizing pricing strategies, and diversifying the product portfolio. The report concludes with a summary of key findings and a strategic roadmap for enhancing overall sales performance.

1. **Methodology**

**Data Collection**

For this project, data tables from the SQL server were utilized as the primary data source. Additional reputable and free data sources were encouraged but not necessary. The dataset included columns such as `order\_date\_DateOrders`, `Order\_Profit\_Per\_Order`, `Order\_Item\_Quantity`, `Sales`, `Order\_Customer\_Id`, `Order\_Item\_Cardprod\_Id`, `Order\_Item\_Product\_Price`, `Order\_Region`, `Category\_Name`, `Product\_Card\_Id`, `Product\_Status`, and `Product\_Price`.

**Data Preparation**

**1.** **SQL Queries:** SQL was used to extract relevant data from the SQL server. The queries were designed to join multiple tables to get a comprehensive dataset, ensuring all necessary columns were included for analysis.

**2. Data Cleaning:** The extracted data was cleaned and pre-processed in Python. This included handling missing values, ensuring data types were correct, and normalizing the data where necessary.

**Analysis and Visualization**

**1. Python Scripts:** Python, along with libraries such as Pandas, Matplotlib, and Seaborn, was used to perform data analysis and generate visualizations. The Python scripts focused on:

- Calculating performance metrics (e.g., revenue, profit).

- Identifying trends and patterns in the data.

- Segmenting data by products, regions, and customers.

**2. Visualization Tools:** Matplotlib and Seaborn were primarily used for creating visualizations. These tools helped in generating clear and insightful graphs to support the analysis and recommendations.

**3. Business Intelligence Tools: While** the project instructions suggested using tools like Tableau, PowerBI, or Excel, this analysis leveraged Python's plotting capabilities to maintain consistency and integration within the data processing workflow.

**Steps Undertaken**

**1. Data Extraction:**

- Used SQL to join `OrderData`, `ProductData`, and `CustomerData`.

- Extracted columns necessary for performance analysis, such as `order\_date\_DateOrders`, `Order\_Profit\_Per\_Order`, `Order\_Item\_Quantity`, `Sales`.

**2. Data Cleaning and Preparation:**

- Checked for missing values and handled them appropriately.

- Ensured data types were correctly set for analysis (e.g., dates were in datetime format).

- Normalized data where necessary to ensure consistency.

**3. Data Analysis:**

- Calculated key performance metrics such as total revenue, profit, and average sales price.

- Analyzed sales trends over time to identify peak periods.

- Segmented customers to identify top contributors to revenue.

- Compared performance across different regions to identify high-performing areas.

**4. Visualization and Insights:**

- Generated bar plots, line graphs, and heatmaps to visualize data.

- Interpreted visualizations to extract actionable insights.

- Highlighted key findings and areas of improvement.

1. **Results**

**Key Findings**

A graph with a bar chart

Description automatically generated with medium confidence

Figure 1 “total revenue by product”

A graph of different colored bars

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Figure 2 “total revenue by region”

A graph of different colored bars

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Figure 3 “top 10 customers by revenue”

A graph of a bar chart

Description automatically generated with medium confidence

Figure 4 “average revenue by product category”

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Figure 5 “Average sales price by product”

A graph with different colored squares

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Figure 6 “revenue distribution by region”

A graph with different colored and black text

Description automatically generated with medium confidence

Figure 7 “revenue distribution by product category”

A screenshot of a computer screen

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Figure 8 “correlation Heatmap”

“A graph of different colored bars

Description automatically generated

Figure 9 “total revenue by product category in western Europe”

A graph of different colored bars

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Figure 10 “top 10 customers by revenue in western europe”

A graph of different colored bars

Description automatically generated

Figure 11 “total revenue by product category in central america”

A graph of different colored bars

Description automatically generated

Figure 12 “top 10 customers by revenue in central america”

A graph of different colored bars

Description automatically generated

Figure 13 “total revenue by product category in south america”

A graph of different colored bars

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Figure 14 “top 10 customers by revenue in south america “

The analysis of sales data reveals significant trends and insights. Electronics and Computers consistently generate the highest revenue, indicating strong market demand, while Books and DVDs generate the least (figure 1), suggesting areas for potential improvement. North America leads in revenue contribution, followed by Europe and Asia Pacific, with regions like the Middle East & Africa and Southeast Asia showing lower revenue, highlighting opportunities for expansion. Key customers like 'FNY1' and 'GTR9' significantly impact revenue, emphasizing the need for strong customer relationships. Product categories like Electronics and Computers have the highest average revenue and stable performance, whereas Books and DVDs show inconsistent revenue patterns. The correlation heatmap indicates a positive relationship between product price and revenue, but higher discount rates reduce profitability. Regional analysis reveals that Desktops, Laptops, and Monitors dominate in Western Europe, Beverages and Dairy Products lead in Central and South America, with strategic customer management essential across all regions.

**Key Insights from the Data**

The analysis reveals several key insights into the company's sales performance. High-revenue products, such as Electronics, Computers, and Consumer Electronics, consistently generate the highest revenue due to strong market demand. Conversely, low-revenue products like Books, DVDs, and Crafts (Figure 1) contribute less to overall sales, suggesting potential areas for re-evaluation or enhanced marketing strategies. Regional revenue differences indicate that North America, Europe, and Asia Pacific are the top-performing regions, each contributing significantly to total revenue due to their established markets and high consumer demand (Figure 2).

**Factors Affecting Profitability**

Several factors positively and negatively impact profitability. High-value products like Electronics and Computers (Figure 1) contribute positively due to their higher average sales prices. Strong relationships with high-revenue customers (Figure 3) significantly boost overall profit, emphasizing the importance of customer retention strategies. Stable markets, such as North America (Figure 2), demonstrate consistent revenue generation, indicating a reliable market environment. Conversely, high discount rates negatively impact profit margins, necessitating a balance between attracting customers and maintaining profitability (Figure 8). Underperforming products like Books and DVDs (Figure 1) may drag overall profitability, and regions with wider revenue variance, such as Southeast Asia and India (Figure 6), indicate market instability that can adversely affect profitability.

**Profit Loss Analysis**

The analysis identifies specific areas where profit is being lost. Underperforming products like Books and DVDs (Figure 1) lower overall profit margins, suggesting the need for a thorough evaluation of these products' market relevance and potential improvement strategies. Regions with lower revenue contributions, such as the Middle East & Africa, Southeast Asia, and India (Figure 2), show potential areas where profit is not maximized. These regions may require targeted marketing and sales strategies to improve performance and profitability.

**Regional Comparison: North America, Europe, and Asia Pacific**

North America, Europe, and Asia Pacific (Figure 2) share similarities such as high demand for Electronics and Computers (Figure 1), indicating a strong market presence. These regions also have stable market environments with consistent revenue generation. However, there are notable differences. North America has the highest revenue, indicating a larger market size (Figure 2), while Europe and Asia Pacific, although significant, show varying growth potentials. Consumer preferences and demand patterns differ across these regions, with some products performing better in specific regions due to cultural and economic factors (Figures 9, 11, and 13).

1. **Recommendations**

**Opportunities for Improvement**

**Recommendations**

To optimize high-revenue products, it is essential to increase marketing efforts for top-performing products like Electronics and Computers (Figure 1). Exploring opportunities for product innovation and diversification can help maintain interest and market share. Addressing low-performing products requires re-evaluating the product portfolio to identify and improve or discontinue underperforming products like Books and DVDs (Figure 1). Implementing targeted marketing strategies can boost sales in these categories.

Enhancing regional sales strategies involves focusing on top-performing regions like North America, Europe, and Asia Pacific (Figure 2) to maintain and grow market share. Developing region-specific strategies that cater to local consumer preferences and market conditions is crucial (Figures 9, 11, and 13). Investing in emerging markets with high growth potential, while balancing risks with strategic opportunities, can also yield benefits (Figure 6).

Improving customer engagement is vital. Strengthening relationships with high-revenue customers through personalized marketing and exclusive offers can help maintain their loyalty (Figure 3). Implementing loyalty programs can retain top customers and encourage repeat business (Figure 3). Optimizing pricing and discount strategies involves balancing discount strategies to attract customers without significantly impacting profit margins (Figure 8). Analyzing pricing strategies ensures competitiveness while maximizing profitability (Figure 5).

Mitigating market volatility requires developing risk management strategies for regions with wider revenue variance (Figure 6). Conducting market research to understand and address factors contributing to market instability is essential (Figure 6). Addressing specific problems identified in the analysis involves enhancing marketing efforts, improving product features, or considering discontinuing low-demand products (Figure 1) to boost revenue. Implementing targeted marketing campaigns, investing in local market research, and adapting product offerings to suit regional preferences can address regional underperformance (Figure 2).

**Solutions to Identified Problems**

Several solutions can address the problems identified in the analysis. For low revenue from certain products, enhancing marketing efforts, improving product features, or considering discontinuation can help (Figure 1). Regional underperformance can be addressed by implementing targeted marketing campaigns, investing in local market research, and adapting product offerings to suit regional preferences (Figure 2). High discount rates impacting profit can be mitigated by developing balanced discount strategies that attract customers while maintaining profitability (Figure 8). Exploring alternative promotional tactics can also be beneficial. For market saturation in top regions, innovating and diversifying product offerings, exploring new customer segments, and enhancing customer experience can sustain growth.

By implementing these recommendations, the company can enhance overall sales performance, improve profitability, and address existing challenges effectively. This comprehensive analysis and strategic approach provide a roadmap for optimizing sales processes and achieving sustained growth.

1. **Conclusion**

In conclusion, our comprehensive analysis of the company's sales performance reveals significant insights into revenue trends, factors affecting profitability, and regional performance disparities. High-revenue products such as Electronics and Computers (Figure 1) consistently drive substantial sales, whereas low-revenue products like Books and DVDs (Figure 1) highlight areas needing strategic reassessment. Regions like North America, Europe, and Asia Pacific (Figure 2) dominate in revenue generation, emphasizing the importance of maintaining and expanding our market presence in these areas.

Identifying both positive and negative factors influencing profitability has provided a clear understanding of areas requiring improvement. High-value products (Figure 1) and key customer relationships (Figure 3) positively impact profits, while high discount rates (Figure 8) and market volatility (Figure 6) present challenges that need to be addressed. Additionally, analyzing underperforming regions and products has revealed opportunities for targeted interventions to enhance sales and profitability (Figures 1 and 2).

Our regional comparison highlights similarities and differences between North America, Europe, and Asia Pacific (Figure 2), providing a basis for tailored strategies that leverage regional strengths and address specific challenges. Focusing on market expansion, product diversification, and customer engagement across these regions (Figures 9, 11, and 13) can drive sustained growth.

Strategic recommendations have been formulated to optimize high-revenue products, address low-performing products, enhance regional sales strategies, improve customer engagement, and optimize pricing and discount strategies. Implementing these recommendations will help mitigate market volatility (Figure 6), address identified problems, and capitalize on opportunities for improvement.

In summary, this report provides a strategic roadmap for enhancing overall sales performance and profitability. By focusing on high-revenue products, strengthening customer relationships, and implementing region-specific strategies, the company can achieve sustained growth and improved financial outcomes. Adopting these recommendations will position the company to effectively navigate market challenges and seize growth opportunities, ensuring long-term success.

1. **Appendix**

**Data Summary:**

The dataset includes key columns such as `order\_date\_DateOrders`, `Order\_Profit\_Per\_Order`, `Order\_Item\_Quantity`, `Sales`, `Order\_Customer\_Id`, `Order\_Item\_Cardprod\_Id`, `Order\_Item\_Product\_Price`, `Order\_Region`, `Category\_Name`, `Product\_Card\_Id`, `Product\_Status`, and `Product\_Price`.

**Visualizations:**

Here is the list of figures with their existing labels from the document:

Figure 1 Total Revenue by Product

Figure 2: Total Revenue by Region

Figure 3: Top 10 Customers by Revenue

Figure 4: Average Revenue by Product Category

Figure 5: Average Sales Price by Product

Figure 6: Revenue Distribution by Region

Figure 7: Revenue Distribution by Product Category

Figure 8: Correlation Heatmap

Figure 9: Total Revenue by Product Category in Western Europe

Figure 10: Top 10 Customers by Revenue in Western Europe

Figure 11: Total Revenue by Product Category in Central America

Figure 12: Top 10 Customers by Revenue in Central America

Figure 13: Total Revenue by Product Category in South America

Figure 14: Top 10 Customers by Revenue in South America

1. **References**

**Data Sources:**

**johndroescher.com**