

E-commerce Analysis Report Using Power BI

Introduction: The objective of this analysis is to provide actionable insights into the performance of an e-commerce business using Power BI. This project was developed after attending a Power BI workshop by Tech Tip 24, focusing on sales performance, profitability, customer behavior, and operational efficiency across different regions, markets, and categories.

Key Metrics and Visualizations:

1. Sales by Country:

- The analysis provides a comprehensive view of sales distribution across various countries. The key insights are as follows:
 - **United States:** Leading with \$2.3M in sales, accounting for 42.46% of total sales.
 - **Australia:** Contributing \$0.93M (17.1%).
 - **France:** Sales amounted to \$0.86M (15.87%).
 - **China:** Recorded \$0.7M (12.95%).
 - **Germany:** Brought in \$0.63M (11.62%).

2. Sales by State:

- A breakdown of sales by state highlights key regions driving revenue, including:
 - **England**
 - **California**
 - **Ile-de-France**

3. Sales by Category:

- The project categorizes sales into three primary segments:
 - **Technology**
 - **Furniture**
 - **Office Supplies**
- This breakdown helps identify which categories are most profitable and can guide inventory and marketing strategies.

4. Sales by Market:

- The global market analysis divides sales into several key markets:
 - **APAC**
 - **EU**
 - **US**
 - **LATAM**
 - **EMEA**
 - **Africa**
 - **Canada**
- This segmentation allows for targeted marketing efforts and better understanding of regional demand.

5. Sales by Ship Mode:

- Different shipping modes are analyzed to understand customer preferences and shipping efficiency:
 - **Standard Class**

- **Second Class**
- **First Class**
- **Same Day**

- This helps in optimizing logistics and customer satisfaction.

6. **Overall Metrics:**

- **Total Sales:** \$12.64M, indicating strong market performance.
- **Total Profit:** \$1.47M, showcasing the business's profitability.
- **Total Quantity Sold:** 178K units, reflecting high demand and sales volume.
- **Total Shipping Cost:** \$1.35M, highlighting operational expenses related to logistics.

Insights:

- **Geographical Focus:** The United States is the largest market, suggesting a focus on enhancing services and marketing efforts in this region could yield further growth. Emerging markets like Australia and France also present opportunities for expansion.
- **Category Performance:** Technology leads in sales, indicating a trend towards digital products. However, Furniture and Office Supplies also contribute significantly, suggesting a balanced product portfolio is essential.
- **Market Dynamics:** The diversified market presence across regions like APAC, EU, and LATAM underscores the importance of localized strategies to cater to different customer preferences and economic conditions.
- **Shipping Efficiency:** The preference for Standard Class shipping suggests that cost-effective delivery options are important to customers, but offering premium services like Same Day shipping could cater to urgent needs and enhance customer satisfaction.

Conclusion: This Power BI e-commerce analysis project provides a holistic view of the business's performance, enabling data-driven decisions to enhance profitability, optimize operations, and strategically target markets. By leveraging these insights, the e-commerce business can align its strategies with customer needs, market trends, and operational efficiencies to drive sustained growth.