



Data Analytics Project for Python Business Analytics

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Introduction & Objective

Our team has been tasked by our Vice President of Sales to improve the company's performance this fiscal year. With the sales database we were provided with, we look to highlight some of the KPIs that make up our company's performance over the past few years and discover insights that can be acted on in order to improve the business. Our report aims to provide a detailed analysis of our procedure, insights, and opportunities found.

Preface to our Report

Prior to our analysis we would like to make clear any potential errors that may have skewed our results. We have omitted any and all orders in the database that have been labeled as 'CANCELED' and 'SUSPECTED FRAUD'.

Our Procedure

Originally we were prompted by our Vice President with the following question: "I am looking to improve this year's performance. What suggestions do you have for success?" Given the open ended nature of this question we first decided to select specific metrics to observe as we started out with the analysis. Our team's primary focus was to identify the regions both domestically and internationally that had the highest sales volume as well as the time periods that correlated with these trends in order to identify what exactly brought successful business in these regions.

1. Information Needed to Answer:

- a. Data on current sales volumes categorized by geographic location.
- b. Demographic and economic information about these geographic locations.
- c. Trends in consumer behavior and preferences in different regions.
- d. Analysis of competitors' performance in these locations.
- e. Internal company data on marketing and sales efforts by region.

2. Sources to Collect Information:

- a. **Johns Data**
- b. **Sales Data:** Internal sales tracking systems or CRM databases.
- c. **Demographic and Economic Data:** Government publications, market research firms like Nielsen or Euromonitor, and economic development websites.
- d. **Consumer Behavior Data:** Consumer survey results, market research reports, and purchasing data platforms.
- e. **Competitor Analysis:** Industry reports, competitor announcements, and financial reports.
- f. **Marketing and Sales Efforts:** Internal marketing analytics tools and campaign performance reports.

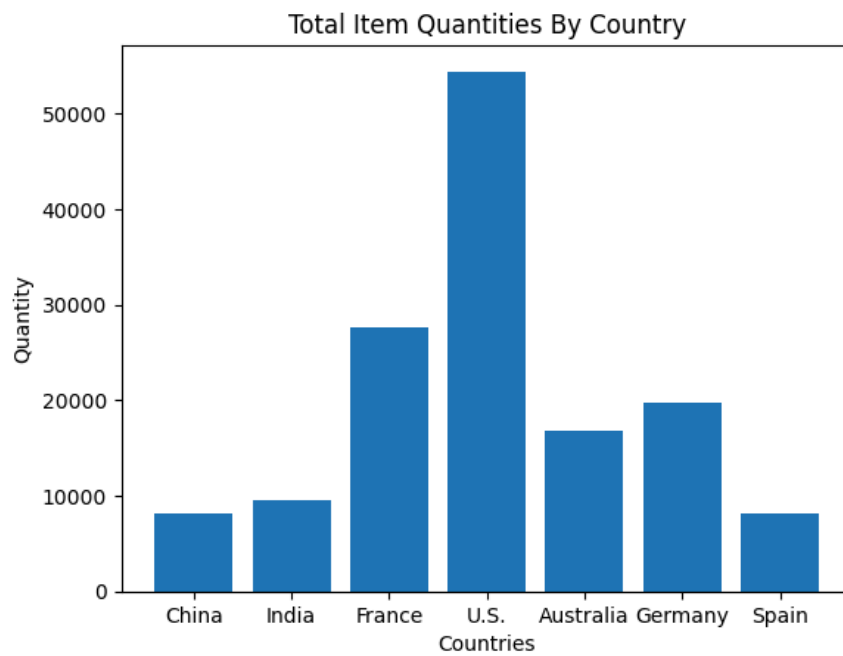
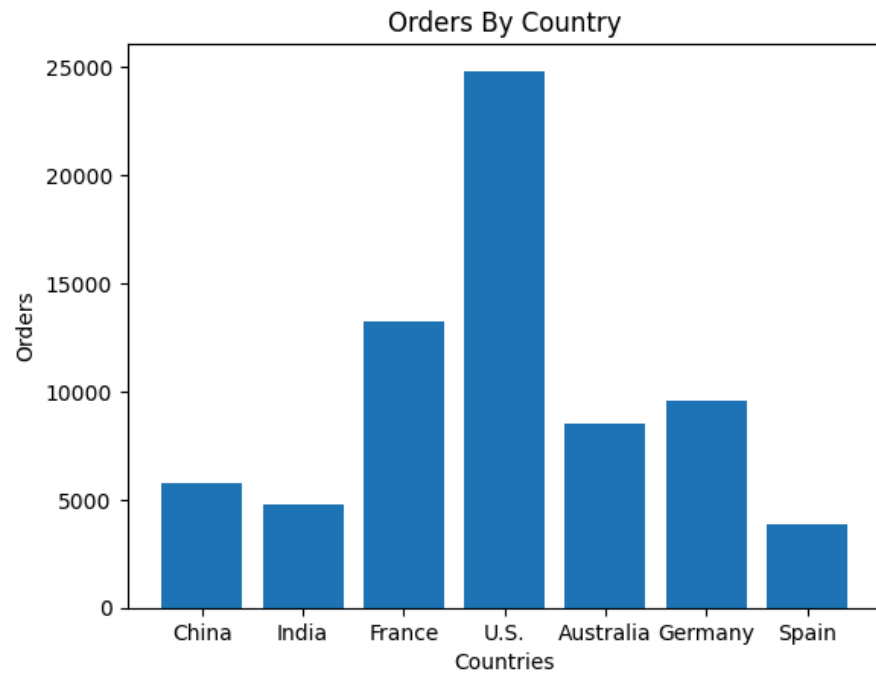
3. Organizing the Information:

- a. **Sales Volume by Region:** Create a detailed breakdown of sales figures by geographical areas.

- b. **Regional Demographics and Economics:** Compile statistics on population, income levels, spending habits, and economic conditions.
 - c. **Consumer Preferences and Trends:** Summarize key findings on what consumers prefer and buy in different regions.
 - d. **Competitor Performance:** Analyze and compare competitor sales volumes and marketing strategies in the same regions.
 - e. **Marketing Efforts:** Review past and current marketing efforts, budgets, and outcomes by region.
- 4. **Data Collection:**
 - a. Gather sales data from the company's CRM or sales database.
 - b. Collect demographic and economic data from reputable sources.
 - c. Obtain consumer behavior insights through surveys or purchase data services.
 - d. Compile information on competitors from industry reports and financial disclosures.
- 5. **Data Analysis:**
 - a. Use statistical software or tools to analyze the sales data by region.
 - b. Identify correlations between sales volumes and demographic/economic indicators.
 - c. Assess the impact of different marketing strategies on sales in various regions.
 - d. Compare company performance with competitors to identify strengths and weaknesses.
- 6. **Strategic Implementation:**
 - a. Develop targeted marketing campaigns that align with regional consumer preferences and economic conditions.
 - b. Optimize distribution channels to ensure product availability in high-demand areas.
 - c. Adjust pricing strategies based on consumers' purchasing power and competitive pricing in each region.
 - d. Implement localized promotions and advertising that resonate with regional cultures and trends.
 - e. Regularly review and adjust strategies based on ongoing data analysis and market feedback.
- 7. **Other Necessary Information:**
 - a. We cleaned our data and will be using charts.
 - b. Source we used: https://pandas.pydata.org/docs/user_guide/visualization.html

Charts:

The following are the charts we have created to visualize our data and information. These charts display and reflect our theory.



Conclusion:

In conclusion, our project embodies a comprehensive approach to leveraging geolocation data for enhancing sales volume across different regions. By understanding and adapting to local market dynamics, businesses can implement targeted approaches that resonate with specific consumer bases. Initiatives such as localized marketing, optimized distribution networks, customized products, strategic competitive analysis, dynamic pricing, and focused customer engagement are critical components of this strategy. The project provides insight to companies looking to expand and thrive in diverse markets. This strategic focus not only improves sales but also enhances customer satisfaction and brand loyalty in various geographic locales.