Consumer Price Changes Analysis for Organizing a Furniture Event at 2022 in Saudi Arabia

Abeer Almdani

Abstract

The goal of this project was to use exploratory data analysis approach to predict the best month to orgnaize furnishings, household equipment event in Saudi Arabia that has the highest consumer prices for furniture and highest arithmetic average over two years in order to help improve event revenues. I worked with data provided by Saudi General Authority for Statistics and Ministry of Finance. After refining aproach, I made a presentation that has 5 charts to visualize and communicate my results using Matplotlib and Seaborn.

Design

This project originates from SDAIA Camps T5 (data science). The data is provided by Saudi General Authority for Statistics and Ministry of Finance and presents Percent Change Average of Furniture Price Per Month In 2019-2020. Determining the month that usually has the highest and positive Percent Change Average of Furniture Consumption Price would enable the Furniture Events organizers to take action to improve event revenue

Data

The dataset contains monthly and annually prices changes, Index numbers per month and general index during 2019 and 2020.

Algorithms

The general features of EDA approach are:
1. Collecting data from multiple excel sheets
2. Exploratory data analysis in pandas
3. Delete duplicated and unnecessary data
4. Checking if there is inconsistent text
5. Checking if there is missing data and handle it
6. Filtering data

7. Determining max value of Furniture Prices Changes per month
8. Determining average of Furniture Prices Changes during 2019-2020
9. Visualizing data and result

Result:
What is the best month to hold the event?
July achieved:
- Highest consumer prices for furniture in 2019
- Highest consumer prices for furniture in 2020
- Highest arithmetic average over two years.

Tools

- Numpy and Pandas for data manipulation
- Matplotlib and Seaborn for plotting
- SQLite and DB browser for SQLite
- Statistics library
- Python
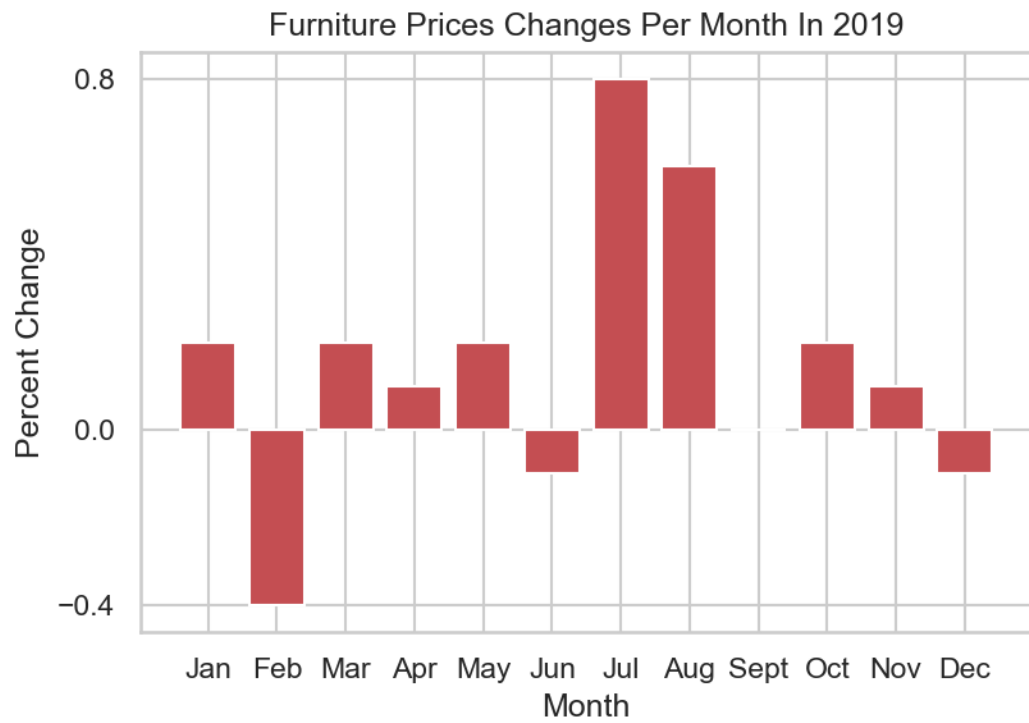- Anaconda and -jupyter notebook
- Canva

Communication

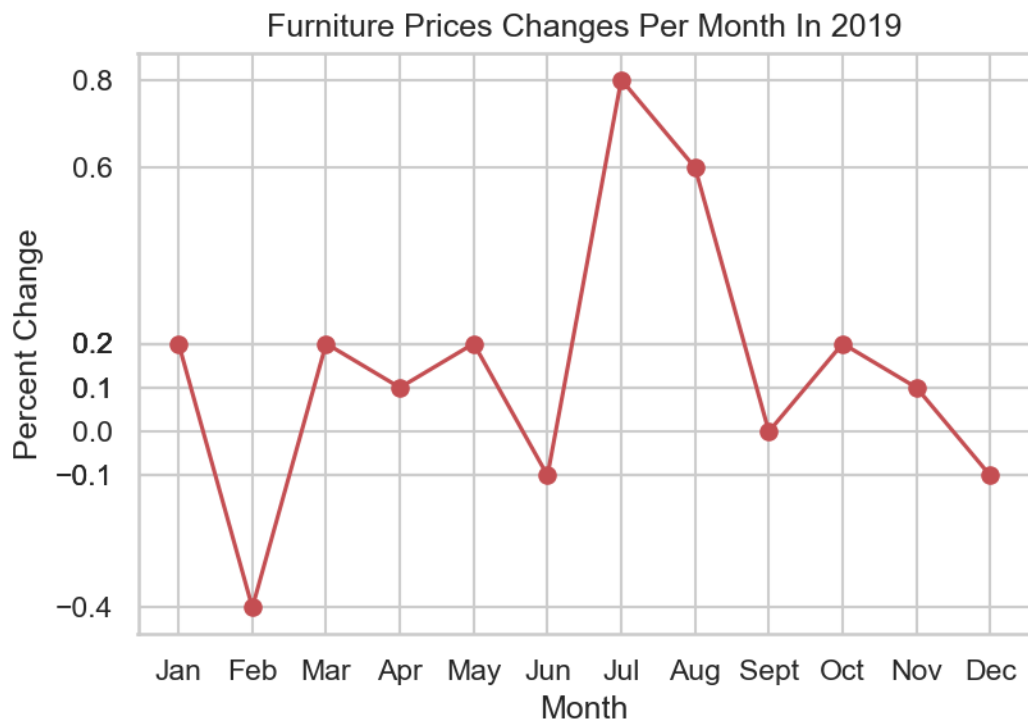**Figure 1:** Bar Chart of Furniture Prices Changes Per Month In 2019 In Saudi Arabia

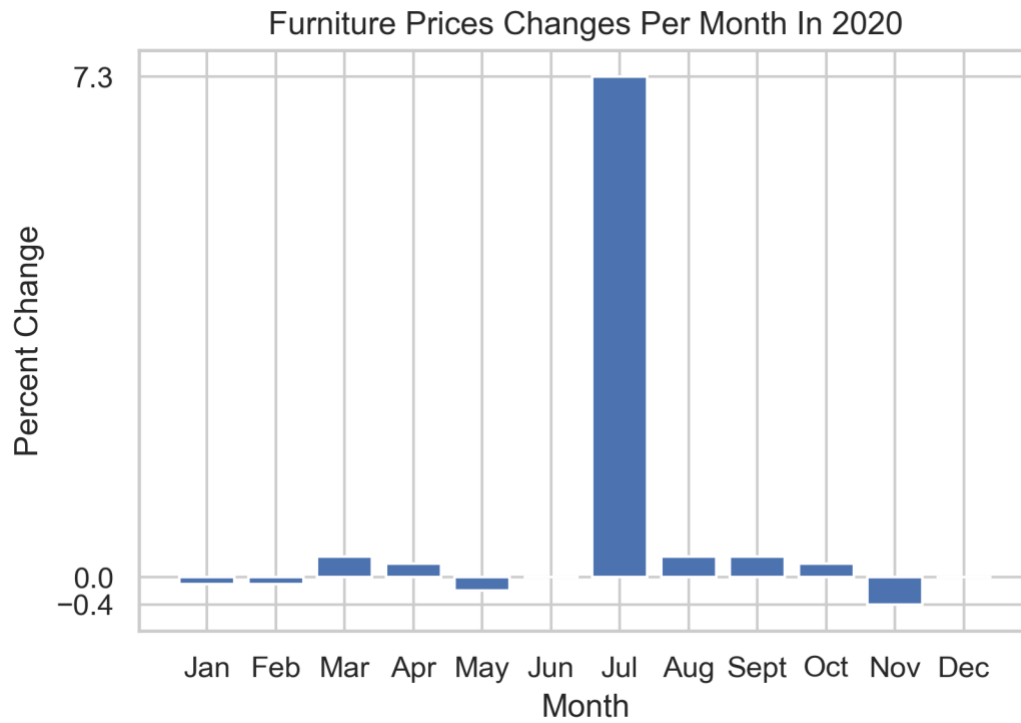**Figure 2:** Plot and Scatter Charts of Furniture Prices Changes Per Month In 2019 In Saudi Arabia

Furniture Prices Changes Per Month In 2020

Figure 3: Bar Chart of Furniture Prices Changes Per Month In 2020 In Saudi Arabia
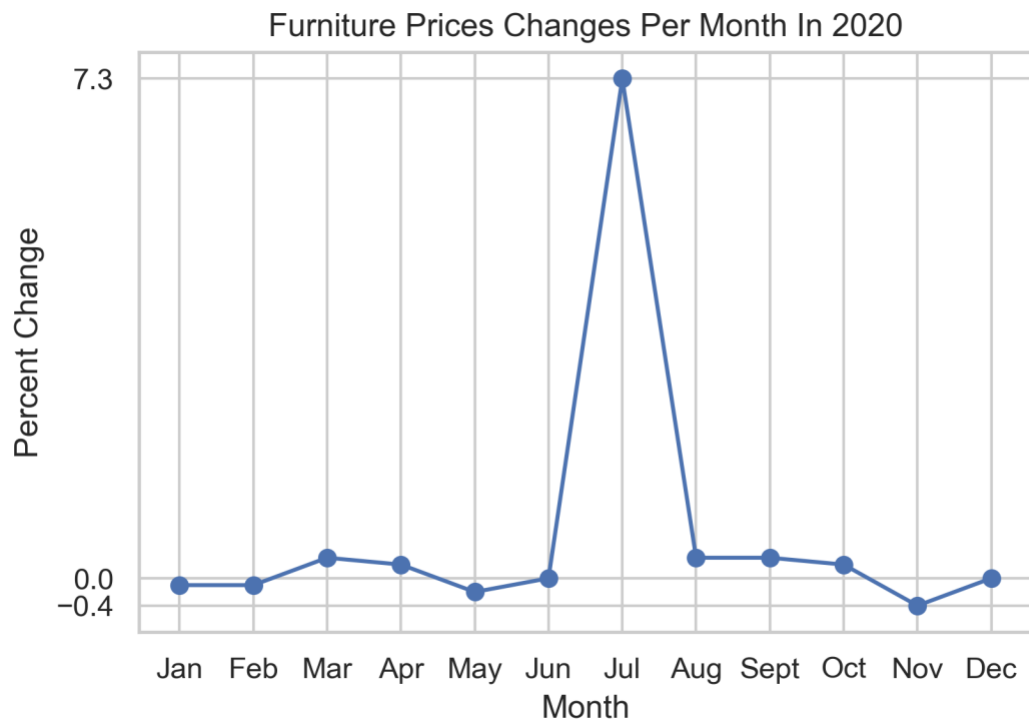
Figure 4: Plot and Scatter Charts of Furniture Prices Changes Per Month In 2020
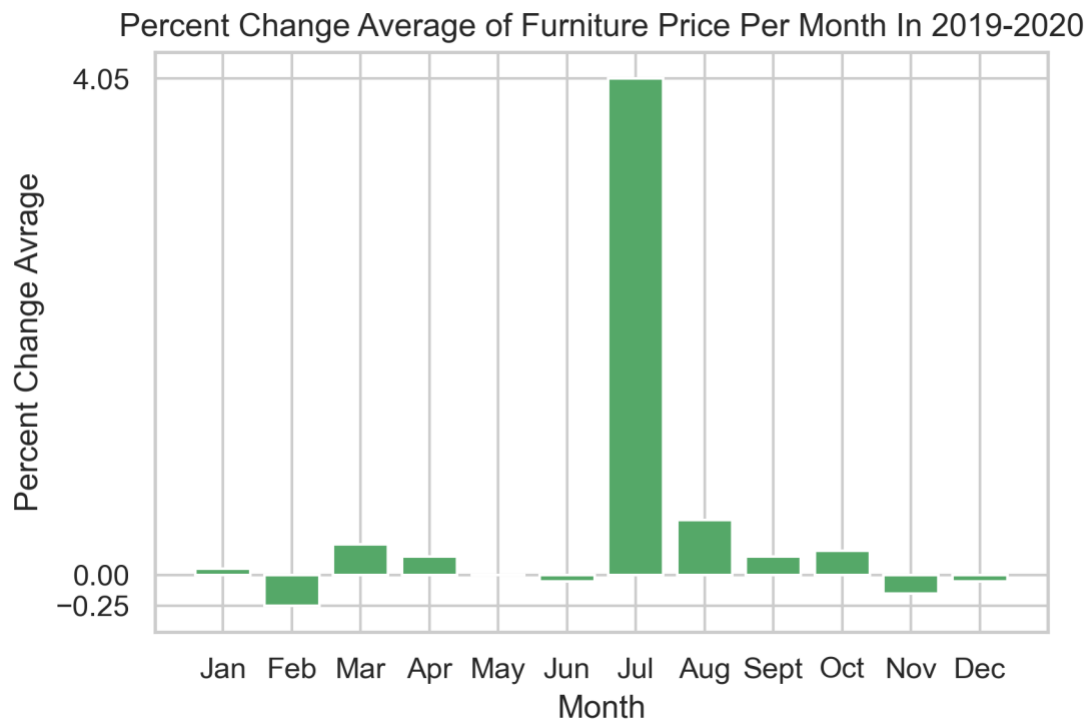In Saudi Arabia

Figure 5: Bar Chart of Prices Phanges Averages Per Month During 2019-2020