“FAST-FOOD RESTAURANTS IN THE US ANALYSIS”

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Week 8 Final Project

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Youtube Presentation:

**INTRODUCTION:**

For this final project, I will analyze a data set about the fast-food restaurant in the US, a data set from Kaggle website.

The data set was in a study by Datafiniti with over 10,000 fast food restaurants across the US.

**TERMINOLOGY:**

In this analysis, there is a feature name “categories” which contains information about the types of restaurant such as: American food, Mexican food, Asian food, Sandwich, Ice cream, etc. There are more than 50 unique values of this feature, so I decide to simplify it as below rules:

* ﻿ ﻿group 1: fast food, burger, sandwich, pizza, & others -> Fast Food
* group 2: Fast-food + American food -> American Food
* group 3: Fast-food + Mexican, taco -> Mexican food
* group 4: Fast-food + gas station, convenient, mall store -> Gas, Convenient, Mall
* group 5: Fast-food + ice cream shop -> Ice-cream
* group 6: Fast-food + Asian, Chinese, sushi -> Asian Food

**METHODOLOGY:**

* The purpose of the dataset is to have an analysis about fast-food restaurants in the US. I will use geopandas, matplotlib, plotly, and pandas for the analysis.
* I used Spyder as the main coding software and Jupyter Notebook as the supportive software.
* In Spyder, I can’t export the choropleth map to image, so I exported it by Jupyter Notebook.

**RESEARCH QUESTIONS:**

I focused on understanding the fast food industry in the US, so I would love to answer these below questions:

* US is well known as the country of fast-food, so if the ‘fast-food’ type is the biggest type of restaurant?
* Where are they most located?
* And which brands are overwhelming the industry?

**ANALYSIS:**

Firstly, to have an overview about the number of store by categories to answer my number 1 question: If fast-food type is the biggest type of restaurant.?

And in this chart, we can see that there are 9678 fast-food restaurants while only 196 Mexican food restaurants, 80 American Food restaurants, 33 Ice cream shops, 11 Asian Food, and only 2 Convenient/Gas/Mall.

A picture containing chart

Description automatically generated

This fact shows that the fast-food restaurant system provides many options for people who want to grab a quick meal and make their lives easier.

Next, checking on the number of store by sates, there is a huge gap between the most crowded state and the least one:

Chart, histogram

Description automatically generated

* California has 1201 stores while Alaska has only 6.
* California, Texas, Florida are known as the top active and crowded states, that’s why restaurants are mostly located here.

Now, let’s see them in the map to have a better visualization about the location intension:

Map

Description automatically generated with medium confidence

We can see that restaurants are more at crowded, warm and coastal states such as: CA, TX, FL, OH, AZ. And cold, inland states have much less restaurants.

Now, let’s check who is the big boss in this industry with the below chart:

Chart, histogram

Description automatically generated

* In the top 20 fastfood brand chart, we can see that the top 5 big players are McDonald’s, Taco Bell, Burger King, Subway, and Arby’s.
* With 1898 stores and mostly distributed in all the states of the US, McDonald’s is considered as the market leader in fast-food industry in the US.

The follow map will help us to have a better view in how strong the top 5 brand are. Their restaurant systems are really well operated with widen distribution across all the states of the US.

Map

Description automatically generated

**CONCLUSION:**

These charts illustrate the reality about the fast-food industry in the US that help we have an overview about how popular the fastfood restaurants are.

We can confirm that fast-food is the most popular type of restaurant in the US with 9678 stores across the country.

California, Texas, Florida are known as the top active and crowded states, that’s why restaurants are mostly located here. Restaurants are clustered in crowded, warm, and coastal states such as: CA, TX, FL, OH, AZ

In this fast-food industry, McDonald’s is considered as the market leader with 1898 stores distributed at all the states in the US. Taco Bell and Burger King are also big players when having country-widen store systems but not dense as McDonald’s.