Data Science Capstone: Population to Production

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Introduction/Business Problem:

Manufacturers send products all over the world. Though the world isn't evenly populated, so what happens when their clients sell out? In this project I will look at the cities in the most populated state to determine the stores that this is most prone to happen. By determining what stores lie in a heavy populated area it can tell manufacturers might need to send a little bit more inventory to that store over others and how frequently to send more inventory to them.

Data:

To determine the most populated state: https://www.worldatlas.com/articles/us-states-by-population.html To determine the population of the cities within that state: <https://en.wikipedia.org/wiki/List_of_largest_California_cities_by_population>

Methodology:

We determined California is the most populated state, and Los Angeles is the most populated city within. The tables of data were arranged in descending order to rank the largest at top. Then we looked at how many national store chains there were and multiplied each branch by 3 to get a minimum amount of how national chains should be within a reasonable distance of LA.

Results:

After dividing the LA population by three times the number of national chains the result was about 142, 517 people per store every 3 weeks.

Discussion:

This was our final solution due to a majority of reports of residents in LA, CA saying there were few stores in the LA area. Based on these I would recommend having a minimum amount of inventory of 140% times the result with re-stocking when necessary to keep the minimum.

Conclusion:

Majority of food being sent to California is used in Los Angeles so more shipments or faster asset turnover is recommended to keep up with the food usage, waste, etc.