Evaluating Russian regional centers on their potential to open new museums

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Introduction

Russia is a big country with more than 70 regions, which are highly diversified. I've decided to evaluate these regions' cultural background, using Foursquare API. My program is aimed at finding out, how many museums each regional center has and which regions have least museums. This would help find out, which regions need to have more museums to attract tourists and bring money to the region. I think that this issue may be interesting for local government, so that they would improve the economic situation in the region.
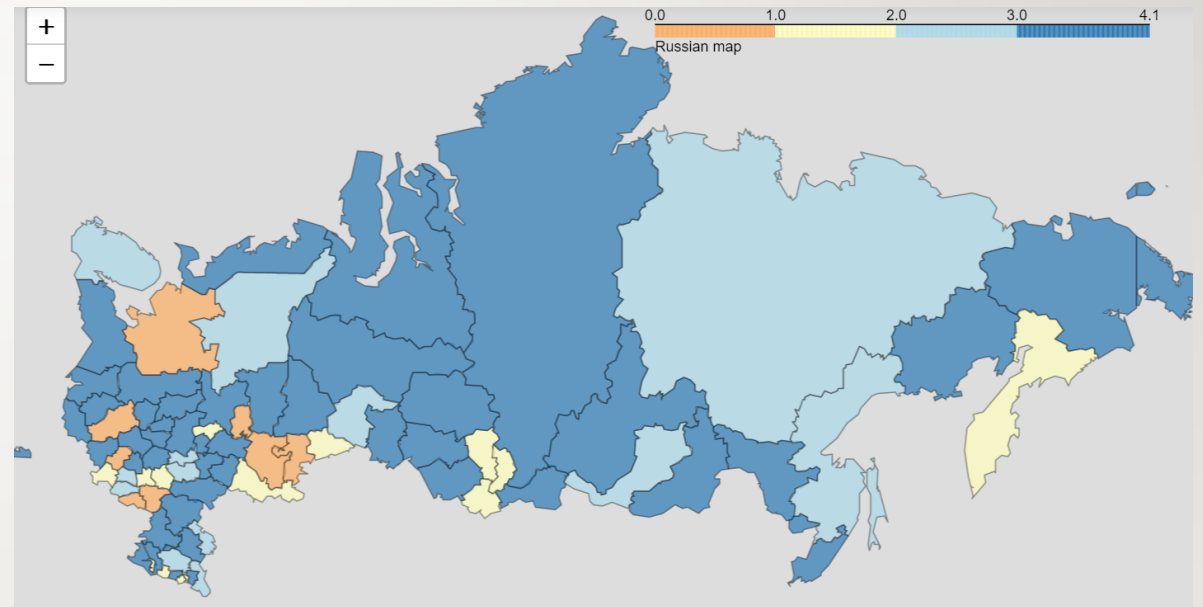
Data

I'm going to use:

- **Location data from Foursquare API**. *CategoryId=4bf58dd8d48988d18194173* (museums). I've written a function, which extracts all the museums for the regional center.

- My own file with **regional centers' coordinates** (regional_stats.xlsx), so that I could use their longitude and latitude to work with API.

- Json **data on regions' borders** (Regions.json) for visualization. I've turned it into GeoJson format, so that I could use folium library.

Methodology

- I've created my own file, where every regional center is associated with the region itself. I've chosen regional centers' statistics as on average there are more museums in central cities.

- Afterwards, I've used Foursquare to create a dataframe, which has all the museums in these cities, and counted the museums, having grouped them by city.

- I've split the cities into 5 clusters, using KMeans method, so that I would find out, which regions are the most problematic in the field of museums and have potential to develop their cultural background.

- I've used the folium library and my own Regions.json file to visualize data. I've finally got the map, where I can see all the problematic regions and their location.

Results

We can clearly see from out[6] that the 4th cluster have the least museums. Then go number 1, 2, 0 and 3 clusters (the most museums are in the 3rd cluster. I would say that there is a point in increasing the number of museums in the clusters number 4 and 1. So we can see that eastern Syberia and middle Russia have potential to develop their museums.

Discussion

I'd suggest to invest in museums in middle Russia and eastern Syberia to rise the cultural level of population there and attract tourists.

Conclusion

This paper **doesn't consider economic factors**, which could affect the recommendations. It's based only on the number of museums in regional centers. I would suggest to broaden the research, taking into account **other big cities** as well as the regional centers. What is more, I would make the model more accurate in further research. For instance, **the regional budget volume could be helpful** to count the precise amount of investments.