Development of a reference method for market exploration targeting to sell food and drink ingredients

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OUTLINE

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EXECUTIVE SUMMARY

- A reference method was developed after an assignment from a multinational company
- The interest of the customer is selling food and drink ingredients in Hungarian towns
- Our methods gives an initial insight into the market conditions in potential Hungarian target tows
- In case of customer satisfaction a next discussion will be organized to continue the project in much bigger volume

INTRODUCTION

- Market exploration is always a hot topic for customers who are involved in sales and marketing
- Data science oriented technologies has a large amount of application possibilities on this field
- Finding the appropriate data sources and data evaluation tools the hidden information can be extracted from raw data to gain market value
- This report shows a significant case

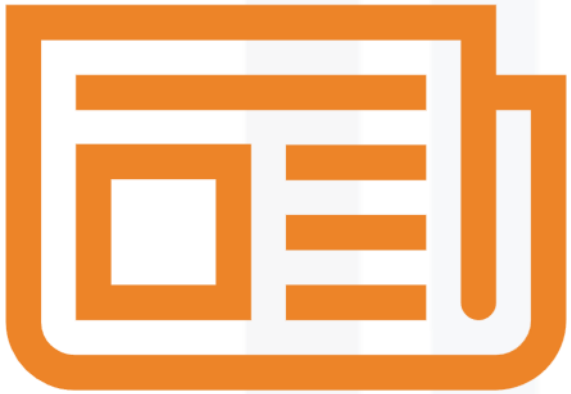
Data collection

- Foursquare API was used to explore circle area samples of 8 Hungarian towns with 500 m radius
- The necessary coordinates were collected using GeoPy python library

GeoPy

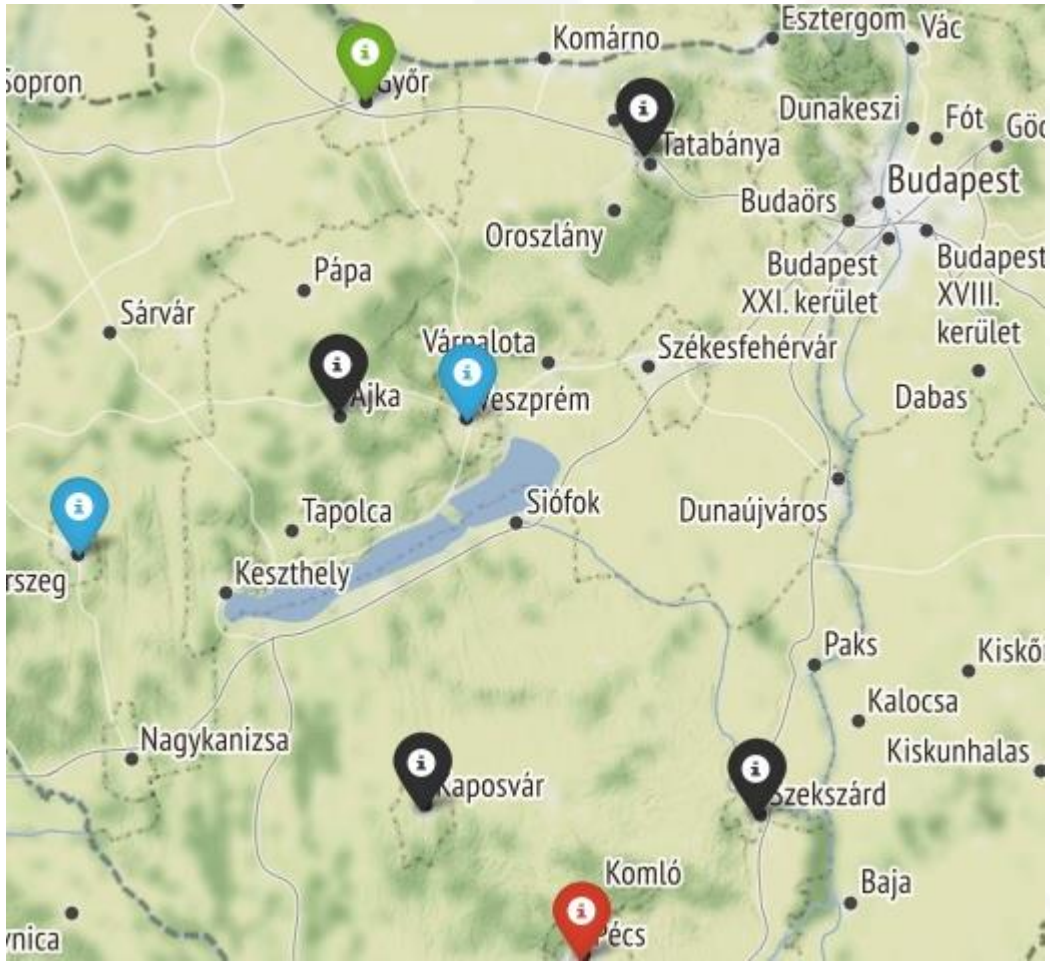
FOURSQUARE

METHODOLOGY

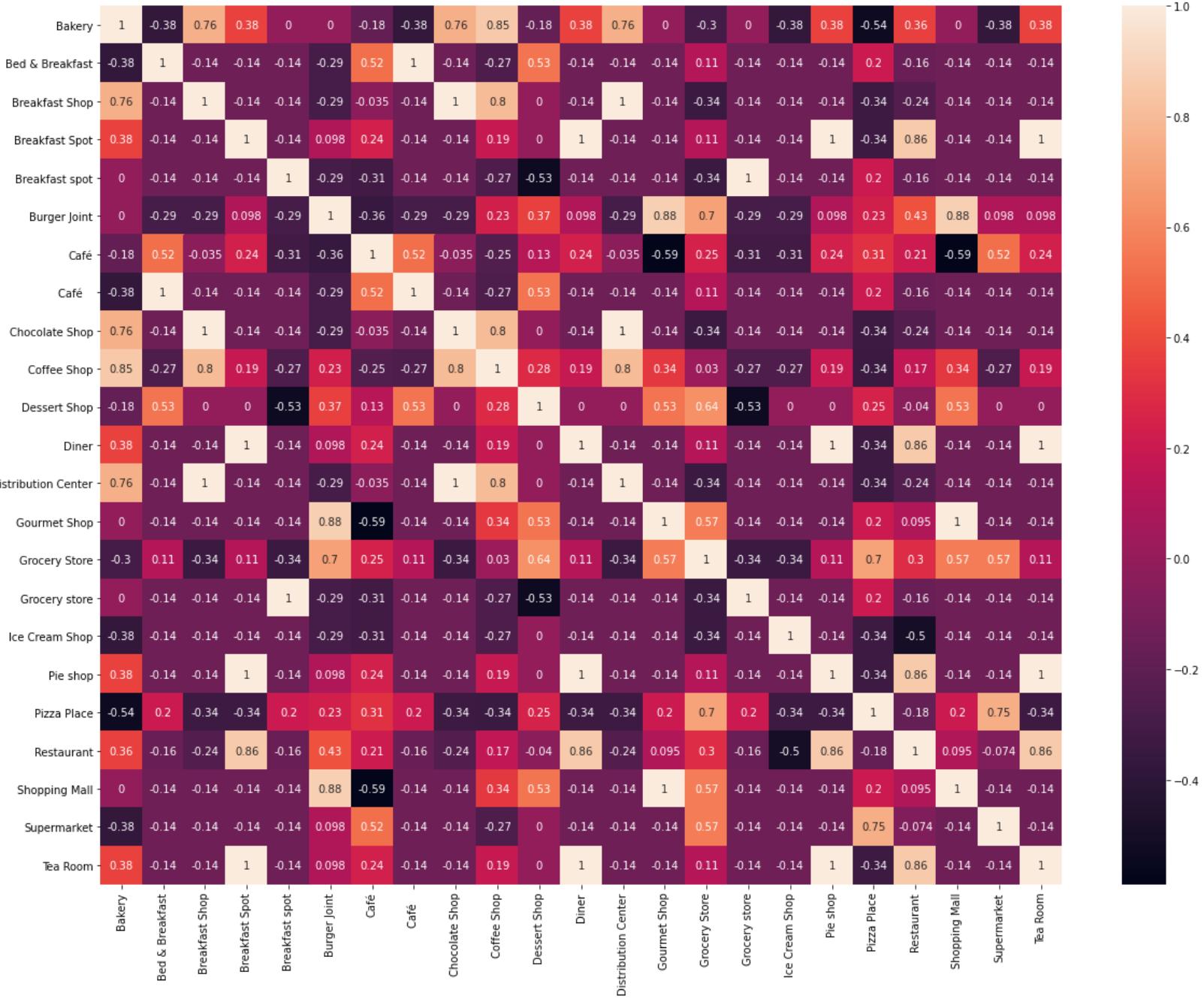


- K-Means Clustering was applied as a modelling method to select the investigated cities into for clusters.
- Exploratory data analysis was used used to revel further hidden information
- For instance correlation matrix/heatmap was visualized to find further hidden information

Results - Clustering



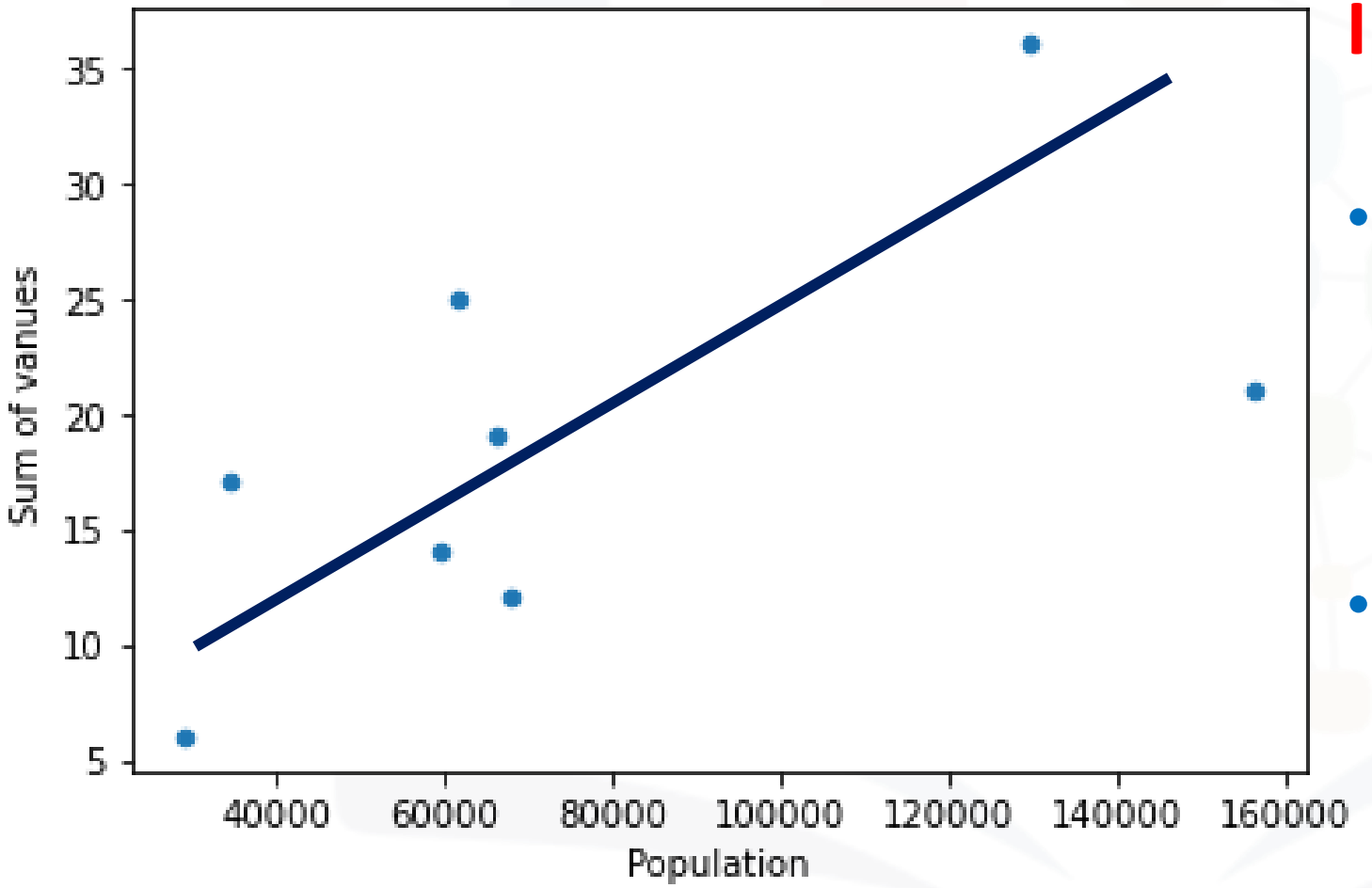
- The 8 towns were selected into 8 different clusters (different colored markers)
- They represent different selling potentials



Results – Heatmap

- A correlation heatmap can reveal further connections between the vebues of the towns
- This can be used to plan as precise marketing campaigns as possible.

Results – further correlations example



Implications

- Linear correlation can be guessed from plot of the sum of values in the dependence of the population of the town.
- This can act as a starting point of a linear regression model in the future.

CONCLUSION

- A reference project was successfully carried out targeting market exploration
- The obtained results shows market value
- Depending on the decision of the customer the work can be continued to explore whole towns

Future prospects

- Extending our datasets and capacities can result in much deeper market anilysis
- More AI focused techniques can be applied (e. g. deep learning)
- Everythings depends on the future plans of the customer

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coursera

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Thank you for your
attention.