Best Next Move Location

Introduction

- Many businesses try to find growth in different countries
- Countries have different culture and economic performance
- Forming the right strategy when expanding a business to a new country is essential

Introduction

- Using data on related businesses in a target location can be a great tool to help form the right strategy

- Combining economic measures with the related businesses data can improve our tool

Introduction

- In this work take a point of view of a mid price range restaurant chain
- The chain's location is in the US
- The chain wants to expand to a location in another country
- The goal is to categories the potential locations so a suitable strategy can be formed

Introduction

Our main goal…

Forming a tool to categories potential locations so we can form a suitable strategy for a target location

Data Description

Data essential to form our strategy tool:

- Countries to explore:

  ⇒North, Central and South America countries

  ⇒European countries

- Focus on each country's capital city (from Wikipedia)

Data Description

Data essential to form our strategy tool:

- Top venues per location using the Foursquare API
- Coordinates of explored location (by using Nominatim)

Data Description

Data essential to form our strategy tool:

- The World Bank economic measures:

  ⇒GDP per capita

Data Description

Data essential to form our strategy tool:

- "Doing Business" indicators (The World Bank):

  ⇒Ease of Doing Business

  ⇒Getting Credit

  ⇒Enforcing Contracts

  ⇒Starting a Business

A quick glance at our data

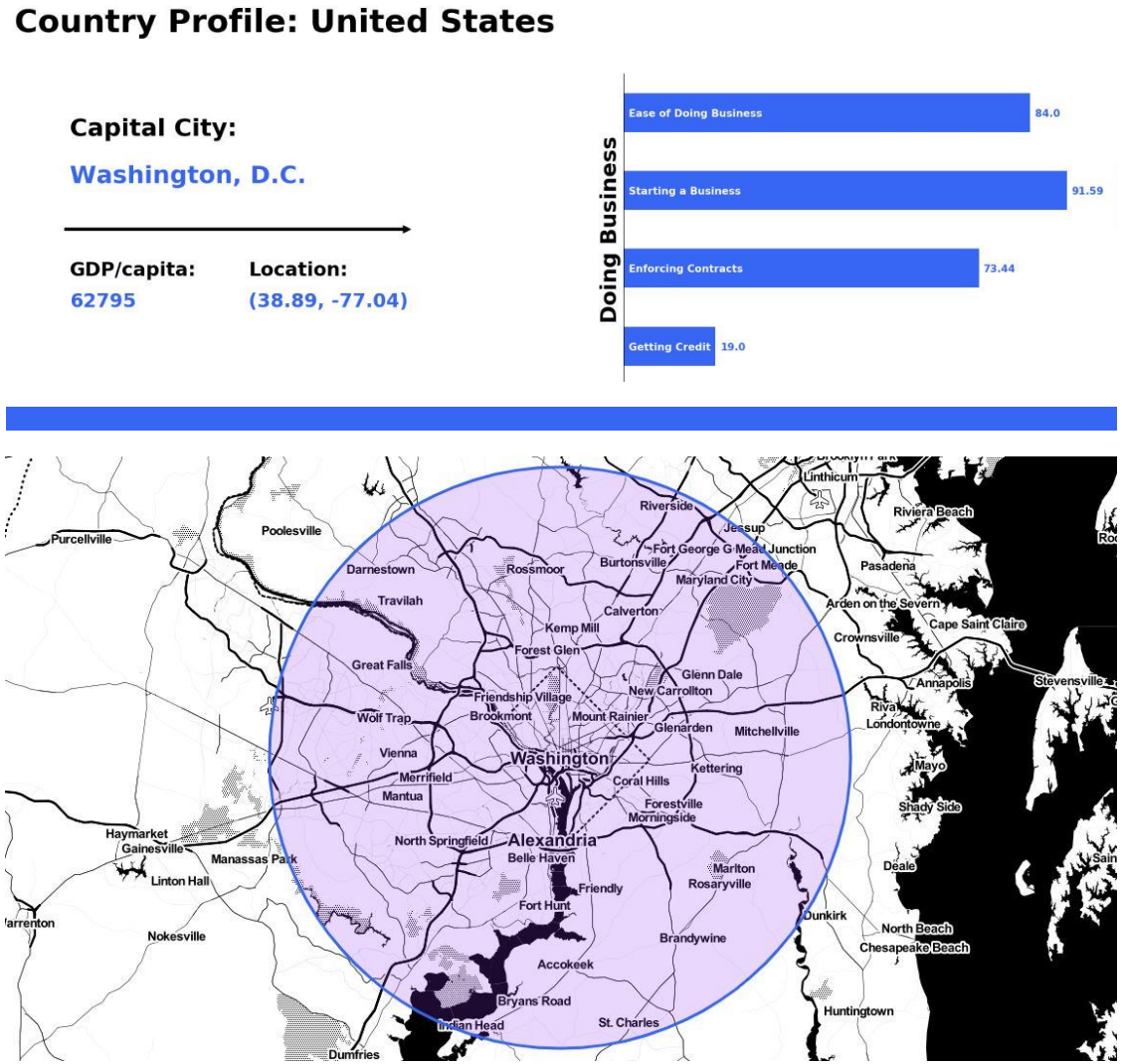
- 1 economic measure for economic performance
- 4 selected "Doing Business" indicators
- 74 countries in the data set

Note: coordinate data collection we are left with 68 countries

Table 1 - Country data summary statistics

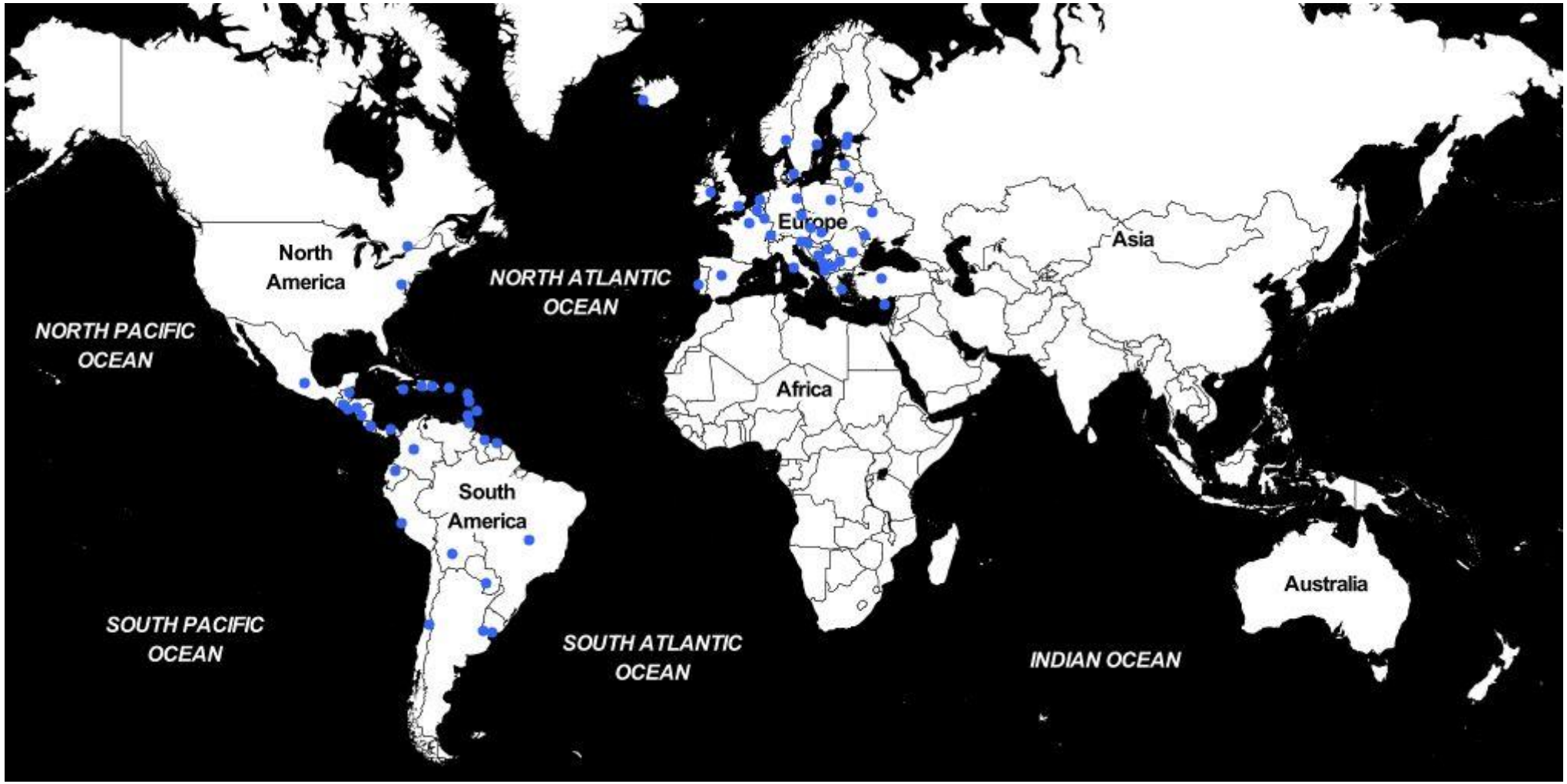
	Getting Credit	Enforcing Contracts	Starting a Business	Ease of Doing Business	GDP/capita
mean	12.5	61.6	86.9	70.3	22,346
std	4.0	11.3	10.0	9.8	24,036
min	2.0	25.9	36.4	40.7	827
max	20.0	81.3	99.6	85.3	116,640
25%	10.0	55.8	84.1	61.8	6,071
50%	13.0	63.6	88.8	73.1	12,164
75%	15.8	70.1	93.2	76.8	29,818
count	74				

Figure 1



United States county profile based on our data set

Figure 2 – Plot of capital cities of the countries in the data set

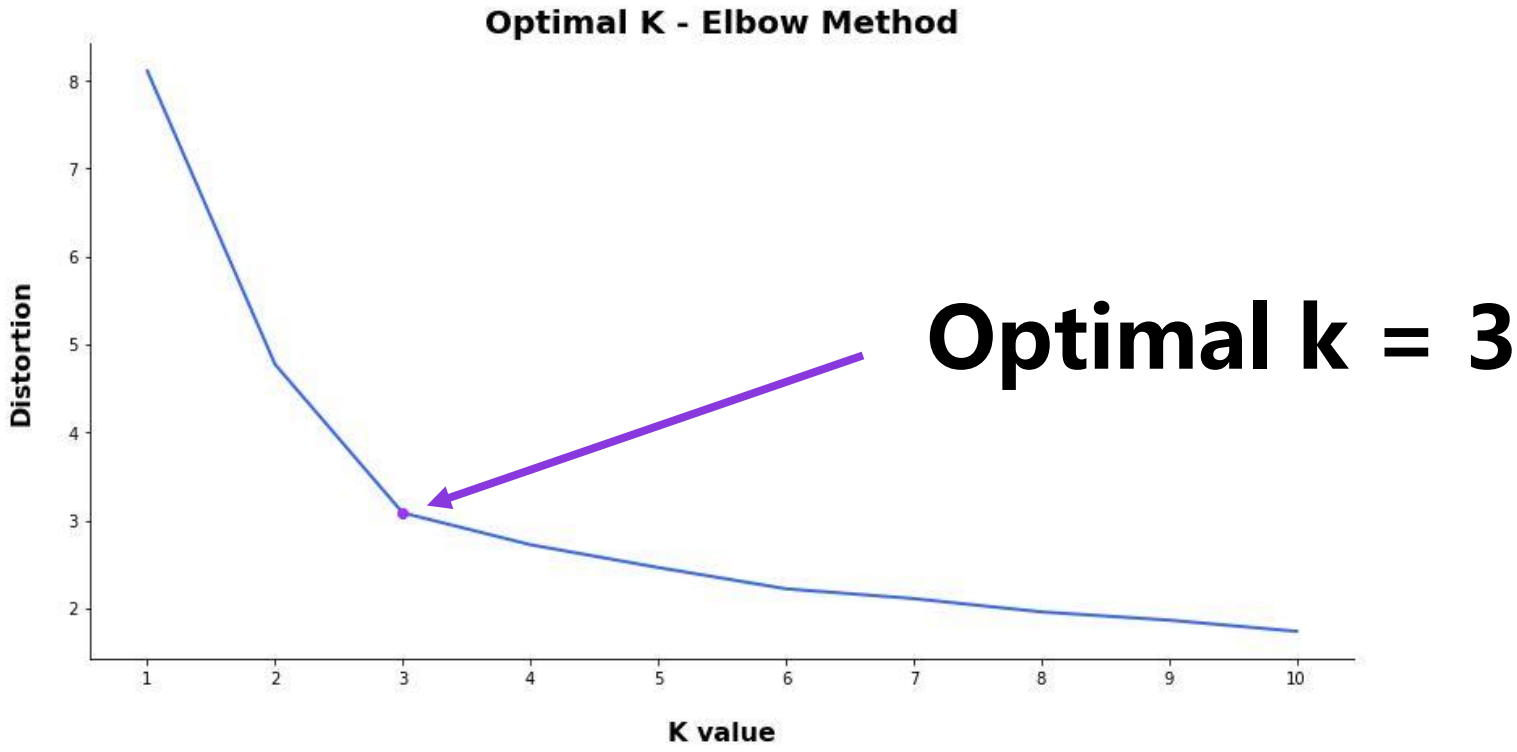


Methodology

- Clustering method ⟹ k-means
- All data is normalized for scale
- “Ease of Doing Business” is the only “Doing Business used for clustering ⟹ as it is a simple average of all the doing business indicators

Finding the optimal K value

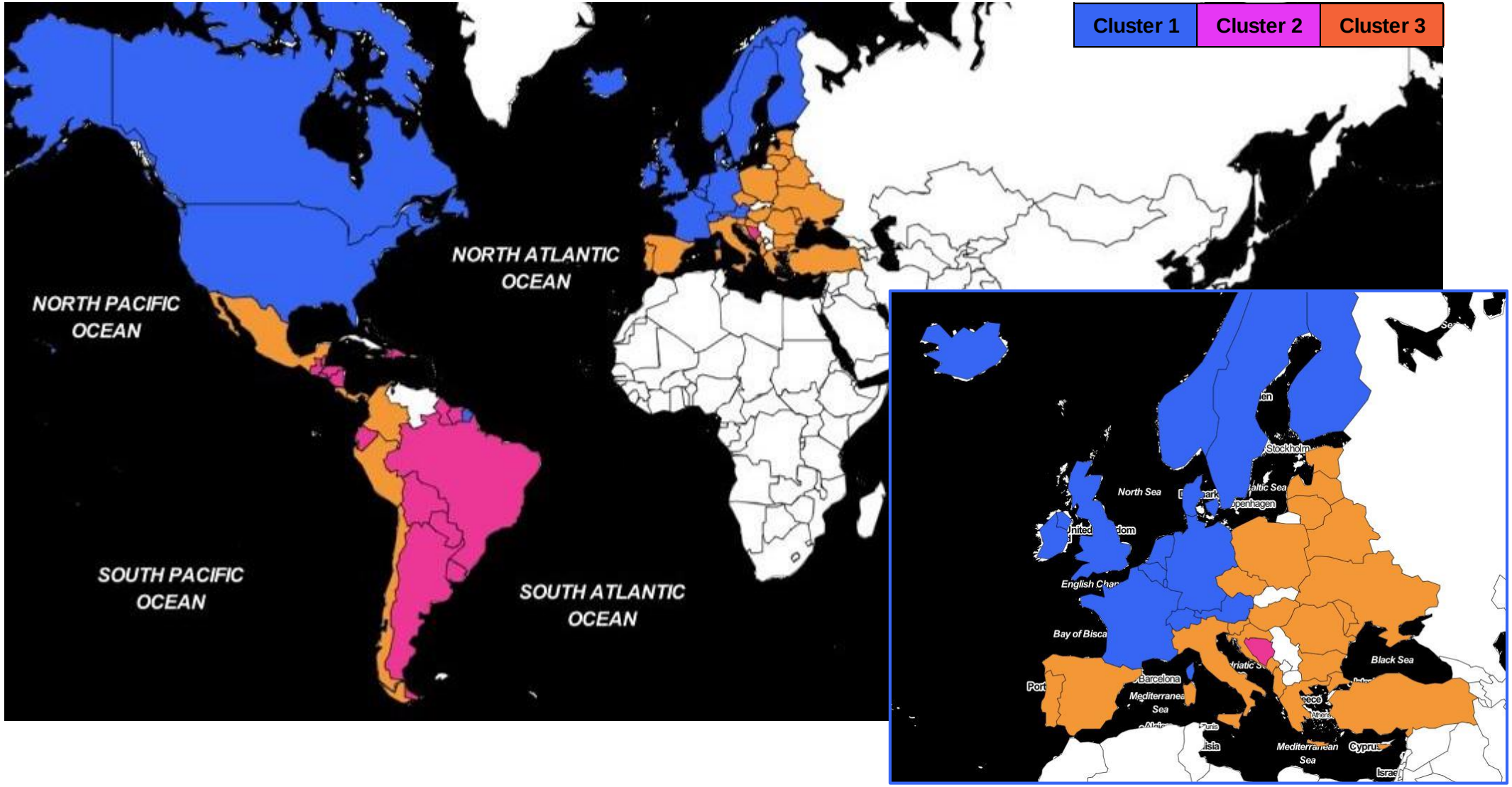
Figure 3



Results

- Countries were clustered into 3 groups
- Each cluster has its top venues characteristics
- Each cluster has its economic characteristics

Figure 4 – Countries by cluster



Countries within each cluster

Table 2 - Countries by cluster					
Cluster 1		**Cluster 2**		**Cluster 3**	
Austria		Antigua and Barbuda	Nicaragua	Albania	Mexico
Belgium		Argentina	Paraguay	Belarus	Moldova
Canada		Barbados	Suriname	Bulgaria	Montenegro
Denmark		Belize	Trinidad and Tobago	Chile	North Macedonia
Finland		Bolivia	Uruguay	Colombia	Panama
France		Bosnia and Herzegovina		Costa Rica	Peru
Germany		Brazil		Croatia	Poland
Iceland		Dominica		Cyprus	Portugal
Ireland		Dominican Republic		Czech Republic	Puerto Rico
Luxembourg		Ecuador		Estonia	Romania
Netherlands		El Salvador		Greece	Serbia
Norway		Grenada		Hungary	Slovenia
Sweden		Guatemala		Italy	Spain
Switzerland		Guyana		Jamaica	Turkey
United Kingdom		Haiti		Latvia	Ukraine
United States		Honduras		Lithuania	

Top venues by cluster

Table 3 - Top venues by cluster			
Rank	**Cluster 1**	**Cluster 2**	**Cluster 3**
1st	Hotel	Café	Hotel
2nd	Coffee Shop	Restaurant	Café
3rd	Café	Hotel	Coffee Shop
4th	Bar	Bar	Bar
5th	Plaza	Pizza Place	Restaurant
6th	Restaurant	Coffee Shop	Plaza
7th	Scandinavian Restaurant	Bakery	Italian Restaurant
8th	Cocktail Bar	Italian Restaurant	Theater
9th	Italian Restaurant	Ice Cream Shop	Cocktail Bar
10th	Park	Fast Food Restaurant	Ice Cream Shop

Similar types of venues

But…

Different order

Cluster 1 – "Premium" Cluster

- High ranking on economic measures
- High ranking on 3 our of 4 "doing business indicators
- Ranks second on "Getting Credit"

Table 4 - Cluster 1 summary statistics

	Getting Credit	Enforcing Contracts	Starting a Business	Ease of Doing Business	GDP/capita
mean	12.4	68.8	91.7	79.3	62,018
std	3.6	6.8	4.0	3.9	20,086
min	3.0	57.1	83.3	69.6	41,464
max	19.0	81.3	98.2	85.3	116,640
25%	11.0	64.2	90.2	76.8	47,582
50%	12.5	68.9	92.9	79.6	53,816
75%	14.0	73.6	94.3	82.1	74,595
count	16				

Cluster 1 – "Premium" Cluster

Strategy – offer a premium version of the chain's restaurants

- Higher economic performance can lead to higher potential profit

- Higher "Doing Business" indicators may lead to reduced risk

Cluster 2 – "Low-Cost" Cluster

- Low ranking on all measures

Table 5 - Cluster 2 summary statistics

	Getting Credit	Enforcing Contracts	Starting a Business	Ease of Doing Business	GDP/capita
mean	9.4	52.2	77.0	57.4	7,998
std	4.1	10.7	12.9	5.8	5,307
min	2.0	25.9	36.4	40.7	868
max	17.0	68.1	89.6	65.4	17,949
25%	6.0	50.1	71.4	55.5	4,549
50%	9.0	56.3	80.4	59.0	6,234
75%	12.0	57.9	86.4	60.6	10,640
count	21				

Cluster 2 – "Low-Cost" Cluster

Strategy – offer a low-cost version of the chain's restaurants

- Lower economic performance can lead to low profits
- Lower "Doing Business" indicators may lead higher risk
- Can still be profitable under the right adjustments

Cluster 3 – "Business as Usual" Cluster

- Ranked second on economic measures
- Ranked first on "Getting Credit"

Table 6 - Cluster 3 summary statistics

	Getting Credit	Enforcing Contracts	Starting a Business	Ease of Doing Business	GDP/capita
mean	14.0	62.4	89.4	73.7	15,082
std	2.9	9.8	4.5	4.0	8,973
min	9.0	34.3	79.9	66.6	3,095
max	19.0	78.8	97.4	81.6	34,483
25%	12.0	55.0	86.7	70.1	7,094
50%	14.0	64.4	89.3	73.4	14,910
75%	16.0	69.3	92.5	76.4	21,702
count	31				

Cluster 3 – "Business as Usual" Cluster

Strategy – offer a regular version of the chain's restaurants

- Reminder: the chain offers mid price range restaurants
- Most "comfortable" cluster – minimum adjustments needed

Conclusion

- The 74
- The analysis this work offers a handy tool for business looking to expand overseas

- Data specific per case can improve the model

Conclusion

- This tool can be also used by private individuals before moving to a new location

- This method can be adjuster to analyze locations within a smaller area – a city for example

Thanks!