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Data Analytics Portfolio

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GAME CO

MARKETING RECOMMENDATIONS FOR 2017

COMPANY OBJECTIVES

- ❑ Fictional company involved in the Videogame industry wanting insights on which games develop for different world markets.
- ❑ The objectives are to analyze past trends in the market and provide insights to make informed marketing budgeted decisions

DATASET

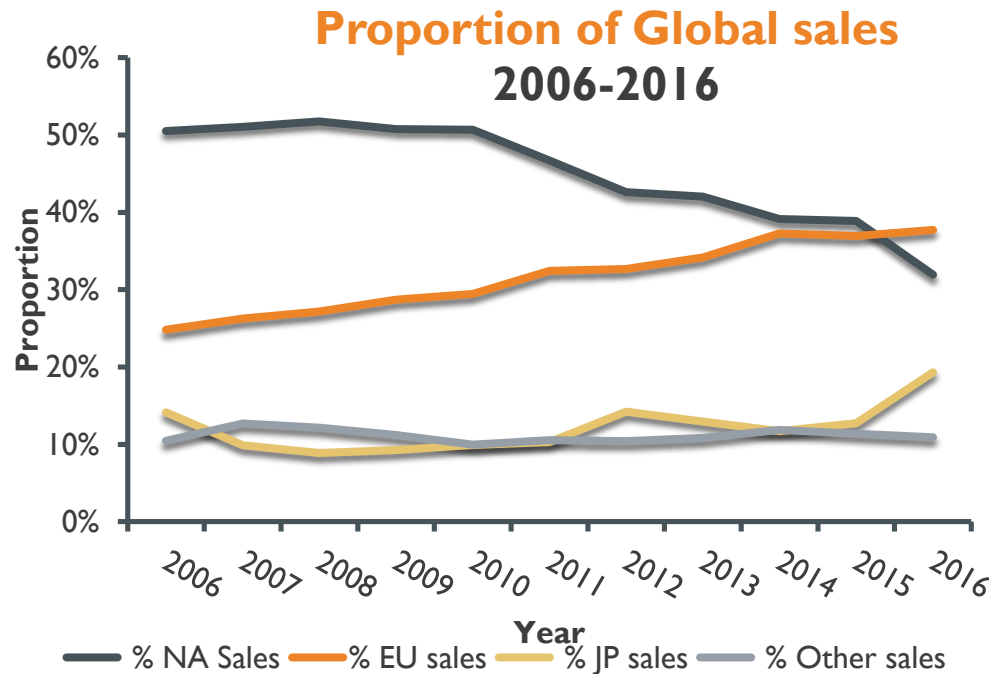
- ❑ Videogames sales from 1980 to 2016. Variables include Publisher, Geographical region, Platform, Genre.

TOOLS / PROCEDURES

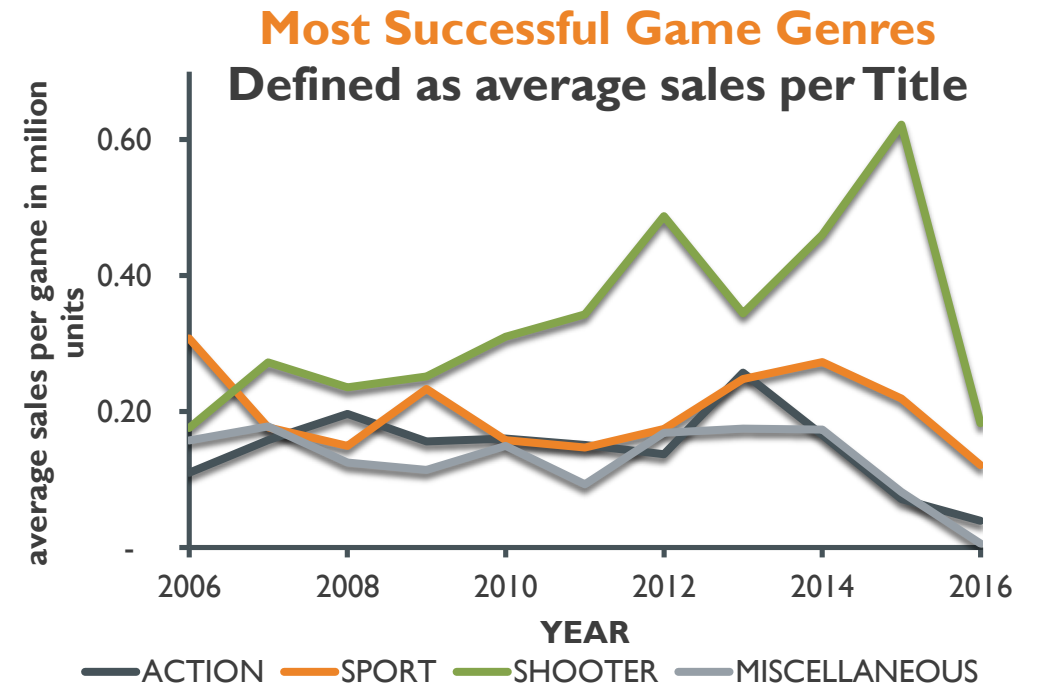
- ❑ Excel
- ❑ Grouping data
- ❑ Summarizing data
- ❑ Descriptive analysis
- ❑ Visualizing results in Excel
- ❑ Presenting results

GAMECO

VISUALIZATIONS I – Global sales by region



- European Market grew 1% in average every year
- North American Market lost 2% on average every year



- Shooter Titles sell on average 2.8 times better than Action Titles.

GAMECO

CONSIDERATIONS AND RECOMMENDATIONS

- ❖ The Market is very dynamic and every aspect of it is evolving.
- ❖ The best game-platform combinations appear to be:
 - Role-Playing games for 3DS for the Japanese Market, and
 - Shooter games for Playstation 4 for the rest of the World.
- ❖ The next generation of platform may reach the Market in the near future.
What would be its effect?

FLU SEASON 2017 (USA)

TEMPORARY STAFF ALLOCATION FOR THE NEXT SEASON

COMPANY OBJECTIVES

- ❑ The analysis done on behalf of a fictional Staff Allocation Company interested in decide allocation policies for the next flu season.
- ❑ Determine where and when temporary staff should be sent to help dealing with the incoming flu season.

DATASET

- ❑ US Census
- ❑ CDC flu-related deaths
- ❑ CDC flu-related patient visits

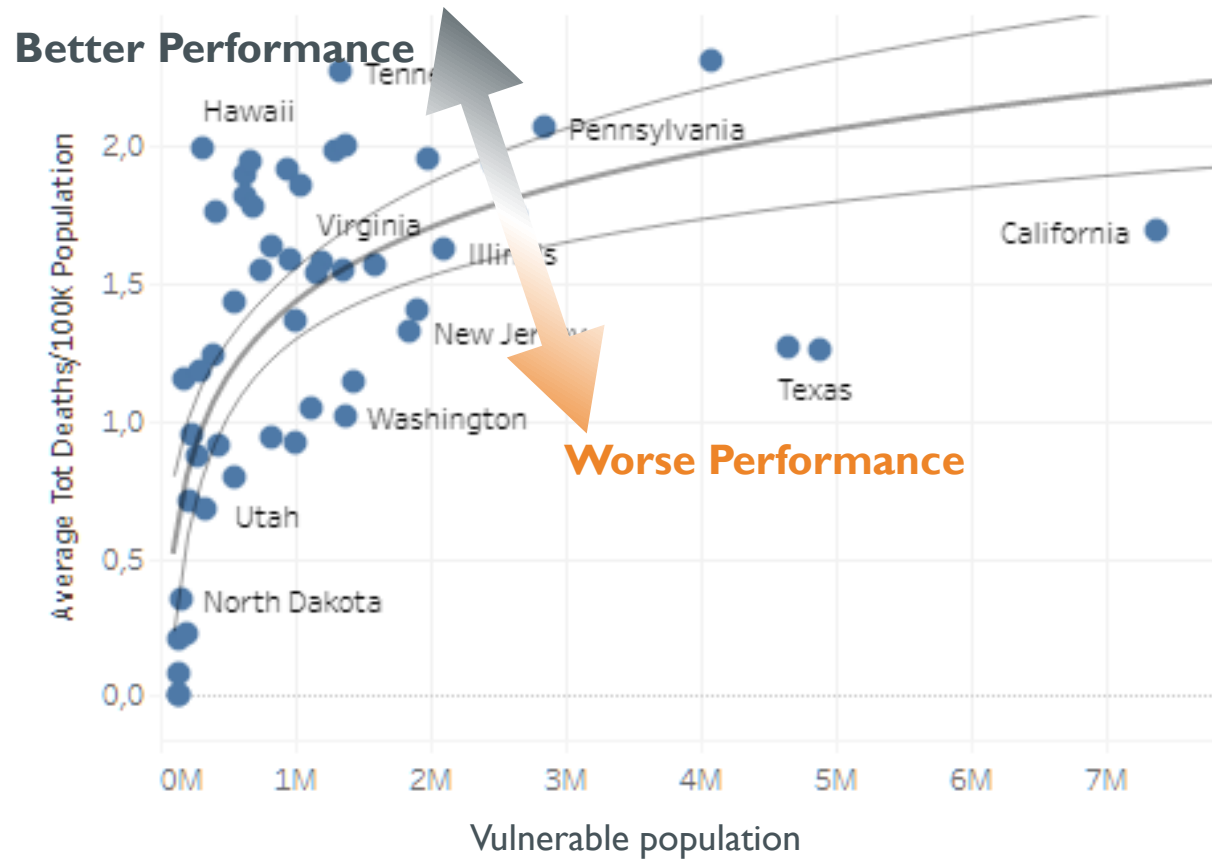
SKILLS / TOOLS / PROCEDURES

- ❑ Excel
- ❑ Translating Business requirements
- ❑ Data Cleaning
- ❑ Data Inegration
- ❑ Data Trasformation
- ❑ Statistical Hypothesis Testing
- ❑ Visual Analysis
- ❑ Forecasting
- ❑ Storytelling in Tableau
- ❑ Presenting Results to an Audience

PREPARING FOR THE NEXT FLU SEASON

VISUALIZATIONS I

Correlation between Deaths and Vulnerable Population



- Define the performance of each State during the Flu season
- Performance based on the values for each State with respect to the σ_1 confidence intervals.
- Performance based on Total Deaths/100 Thousand inhabitants and number of patient visits/100 thousand inhabitants.
- Performance translated into a score system to evaluate the need for extra staff.

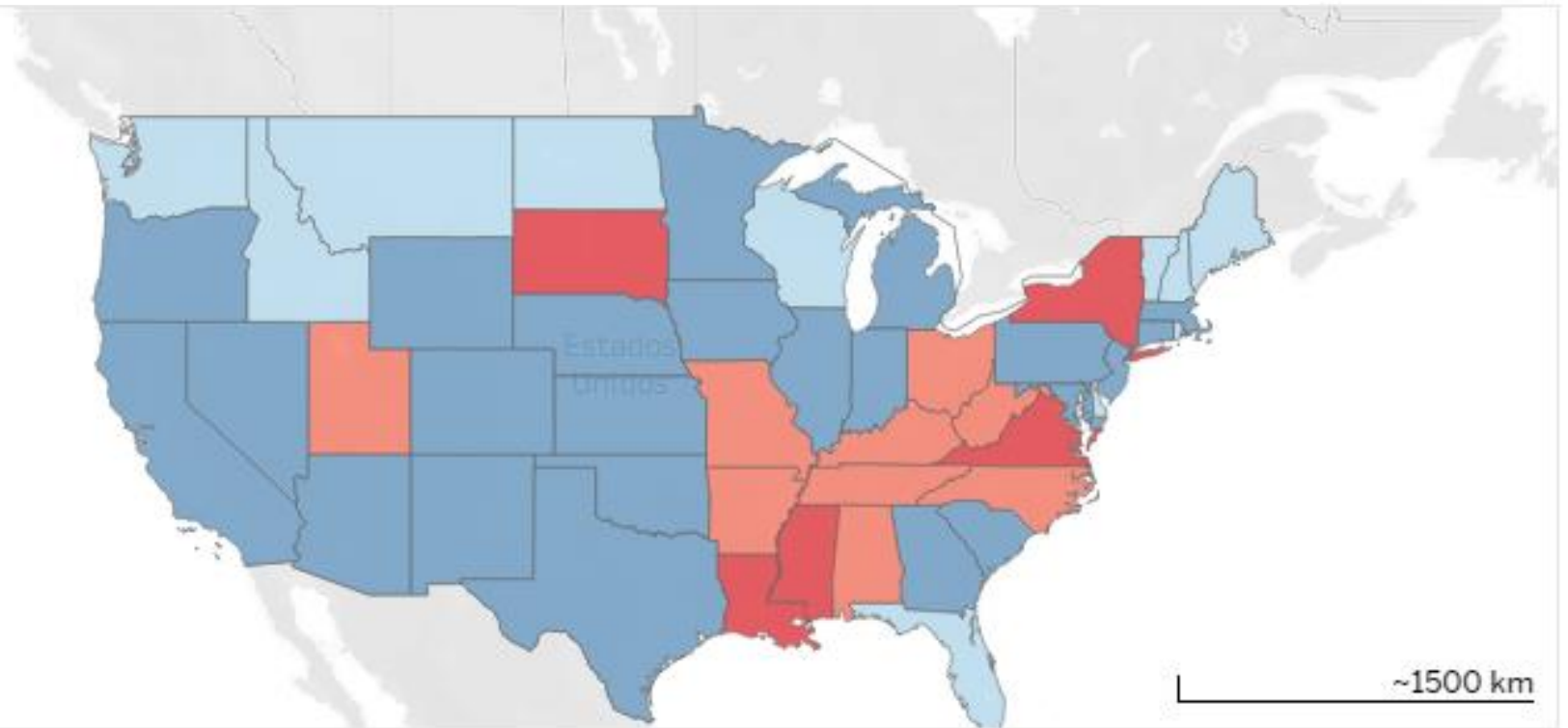
PREPARING FOR THE NEXT FLU SEASON

VISUALIZATIONS I

The Score is used to decide **WHERE** and **WHEN** temporary Staff is required.

Interactive map available at Tableau Public Dashboard

Priority for Temporary Staff Allocation - December



Complete dashboard available at:

https://public.tableau.com/app/profile/daniel.rodelli/viz/CareerF_task2-10/Story

ROCKBUSTER STEALTH

ONLINE SERVICE LAUNCH

COMPANY OBJECTIVES

- ❑ The analysis done on behalf of a fictional Staff Allocation Company interested in decide allocation policies for the next flu season.
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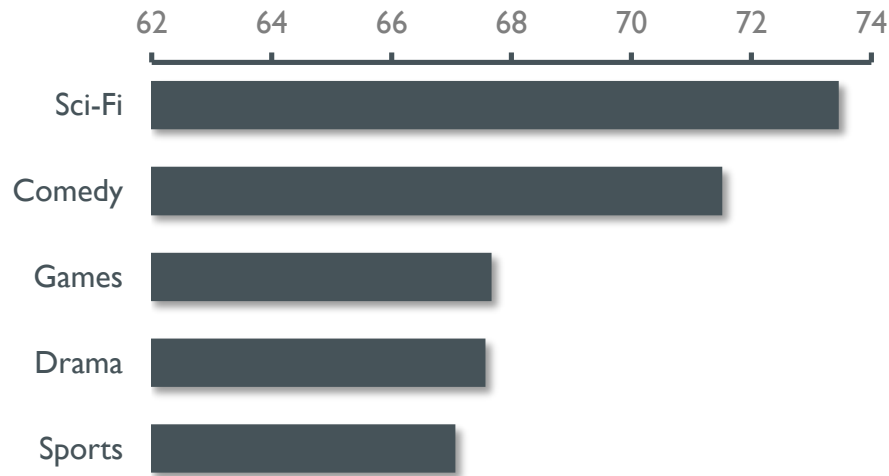
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ROCKBUSTER STEALTH

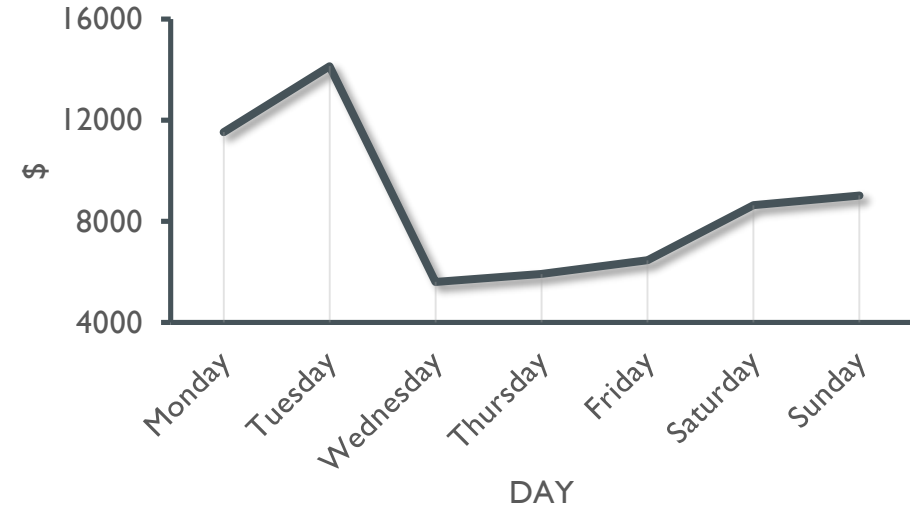
VISUALIZATIONS I

Average Revenue \$



- ❑ Sci-Fi is the most profitable category, but there are only 53 titles in the catalogue. Obtain more licences for new Sci-Fi films.

Revenue by Day of the Week



- ❑ 42% of the revenue from rentals made between Monday and Tuesday. Increasing the rentals during the middle of the week with special deals.

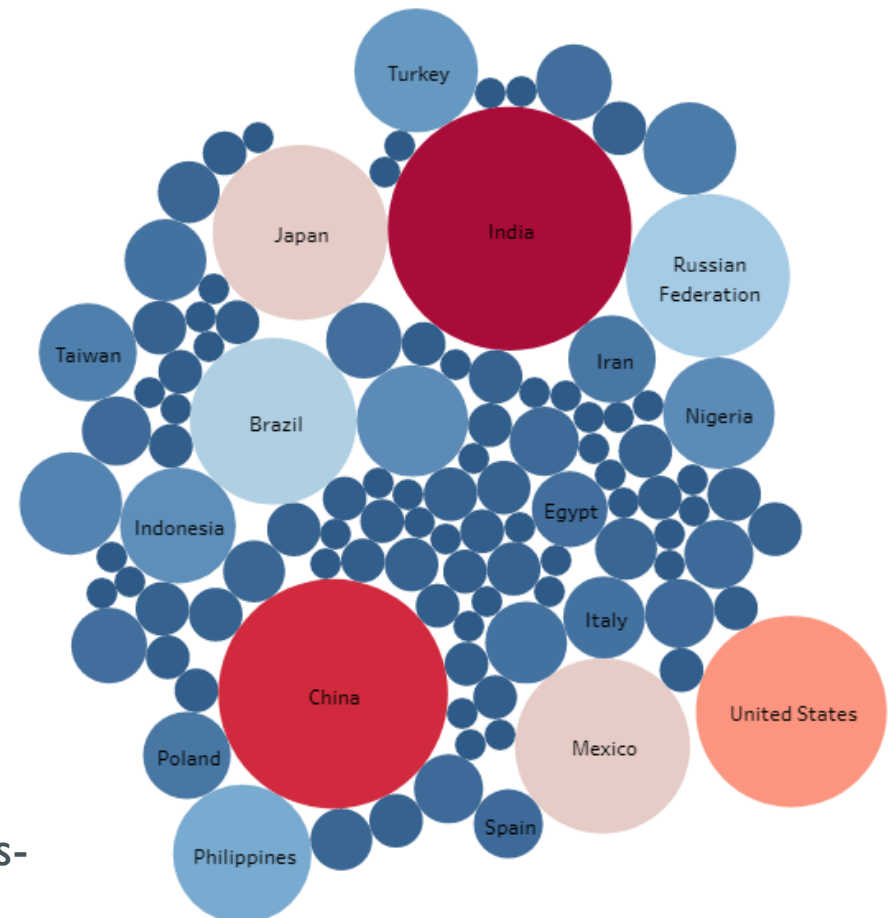
ROCKBUSTER STEALTH

VISUALIZATIONS II AND RECOMMENDATIONS

- ❑ India, China, And USA are the biggest markets. We should start marketing the new product immediately in these Countries, in order not to lose clients to competitors that already offer an online rental service.
- ❑ Focus should be on bringing the new service online as quickly as possible in the TOP Countries first, to take advantage of the high number of customers and receive early feedback on the new service.

Complete Dashboard available at:
https://public.tableau.com/app/profile/daniel.rodelli/viz/RockbusterAnalysis-Task3_I0/HistriaI

Customers Distribution



INSTACART

GROCERY BASKET ANALYSIS

COMPANY OBJECTIVES

- ❑ Instacart is a real-world company operating a business of online grocery delivery.
- ❑ Interested in gaining insights on its customers spending habits, to update its business strategy

DATASET

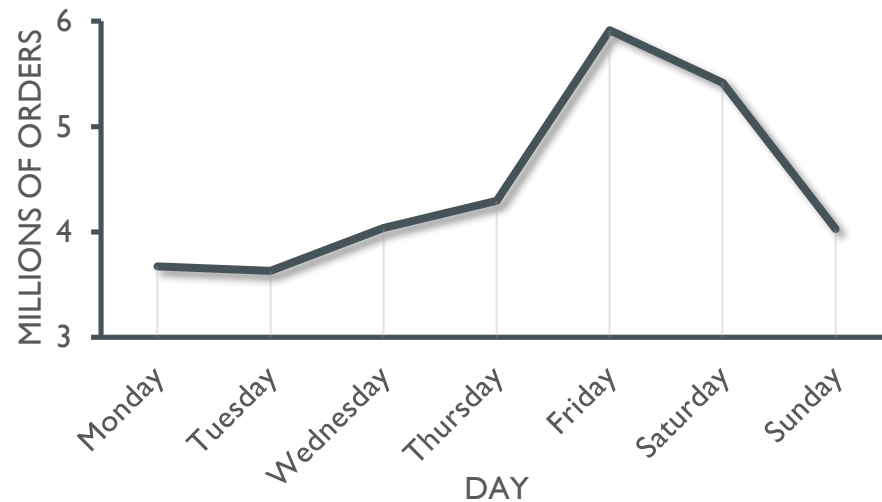
- ❑ Data include ~30 millions entries regarding product sales and customer informations, such as order by hour, by day, prices, customer age, income range, family status, region.

SKILLS / TOOLS / PROCEDURES

- ❑ Python
 - Pandas
 - Numpy
 - Data Wrangling
 - Data Merging
 - Deriving Variables
 - Grouping Data
 - Aggregating Data
- ❑ Reporting in Excel

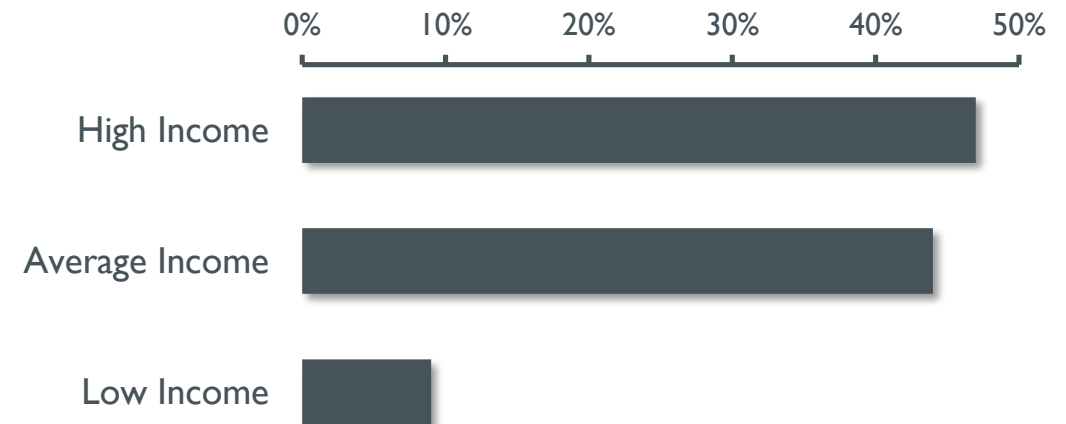
INSTACART VISUALIZATIONS

Orders by Day



- Orders increase by 31% during Friday and Saturday. Customers probably stock groceries for the incoming week.

% of Customer Orders by Income



- 90% of the orders come from Average- to High-income customers (above 50 k\$).

INSTACART

RECCOMENDATIONS

☐ **Surges in orders during peak hours and days**

Invest in marketing campaigns / special offers to shift some of the orders to less busy hours/days.

AND/OR

Reschedule the logistic team working shifts to better respond to surgers in orders

☐ **Prices do not play a role in buying behavior of Average- and High-Income customers**
High-Income customers might be comfortable in spending more if more is offered

Can some products be charged more and still appeal to High-Income customers?

AND/OR

Should new, more expensive products be put to sale?

COVID-19 IN GERMANY

OBJECTIVES

- ❑ Define what role geographical (climate) and demographic (population density, gender, age) differences play in the diffusion of COVID-19
- ❑ Forecast the number of cases for the next wave (September-October 2021).

DATASET

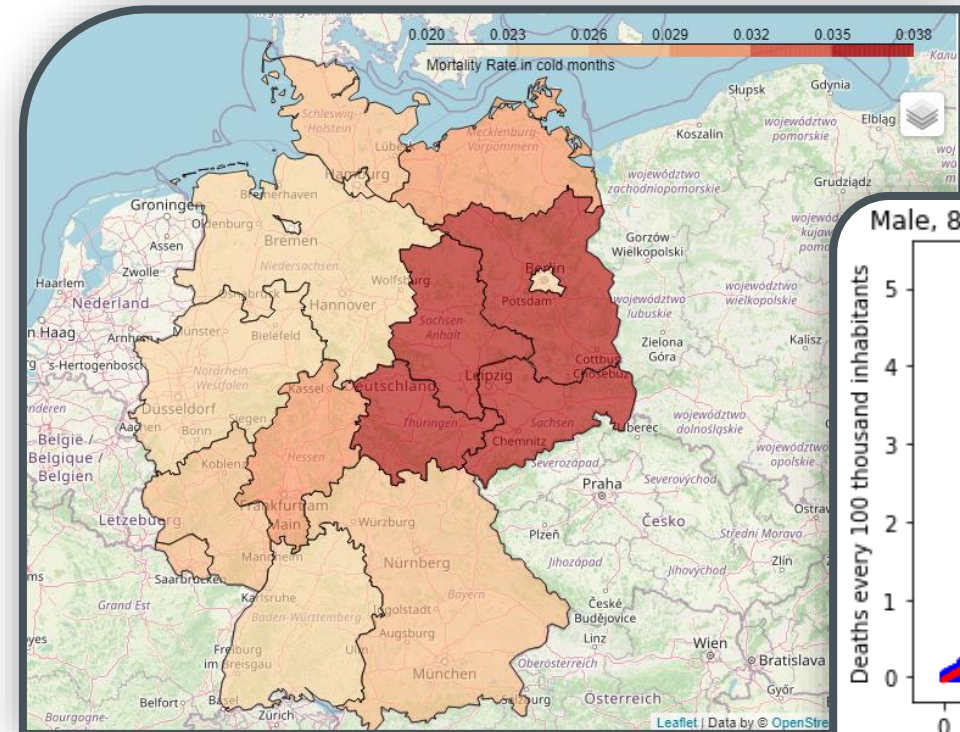
- ❑ Data sourced from the German Federal Institute for Disease Control and Prevention.
- ❑ Information concerns the number of cases, deaths, and recoveries per day since January 2020 for each State and Regional District.

SKILLS / TOOLS / PROCEDURES

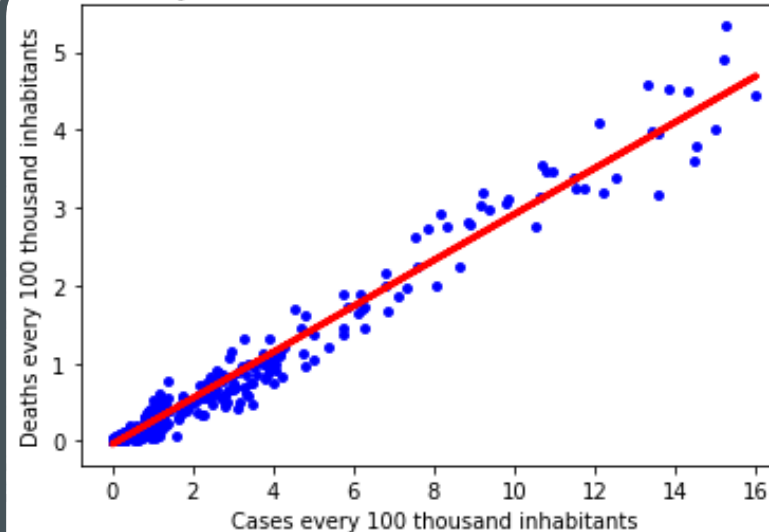
- ❑ Data Sourcing
- ❑ Data cleaning
- ❑ Dataset validation
- ❑ Python
 - Linear Regression
 - Clustering
 - Time-Series Analysis

COVID-19 GERMANY

VISUALIZATIONS



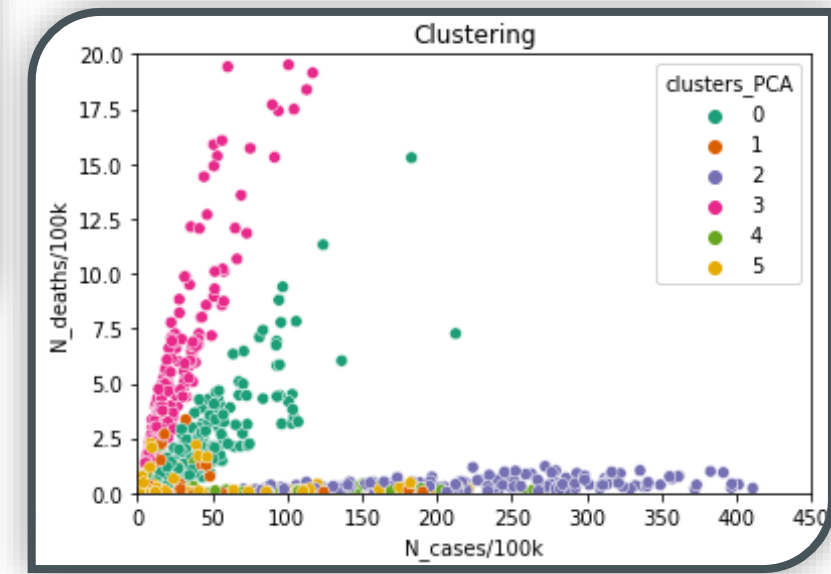
Male, 80+ years old, from Continental climate State (Test set)



Linear Regression
Slope: 0.259
Mean Square Error: 0.026
R2 Score: 0.972

6 Clusters
Based on

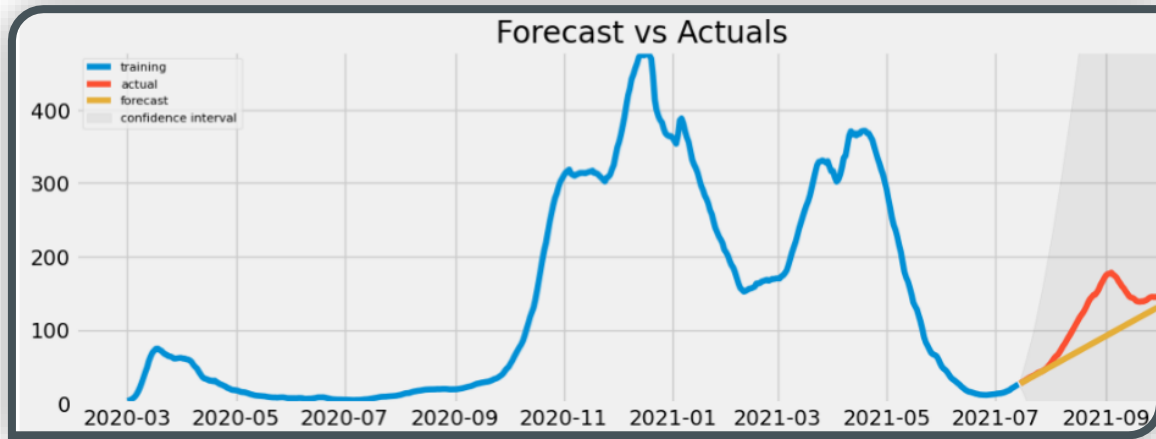
- **Age**
- **Gender**
- **Season of the Year**
- **State Climate**



COVID-19 GERMANY

VISUALIZATIONS

ARIMA modelling



High risk factors for adverse consequences:

- Male
- Over 80 years old
- From States with Continental climate

Recommendations

- Follow-up study to cross the data with vaccinations and lock-down measurements to assess their actual effects.
- Promote focused information campaigns targeted to risky/vulnerable population section.
- Prepare Health care system for the incoming next wave of the pandemic.
- Complete Dashboard at https://public.tableau.com/app/profile/daniel.rodelli/viz/6-7_16370088576180/Histria1#1



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