

ROBERT RIEMER

Data Analytics
Portfolio

AGENDA

01 Medical Staff Relocation Plan

02 Video Game Descriptive Analysis

03 Movie Rental Business Analysis

04 Online Grocery Store Business Analysis

05 Anti-Money-Laundering Project

06 Basketball Shooting Analysis

07 Project in Progress



MEDICAL STAFF RELOCATION PLAN



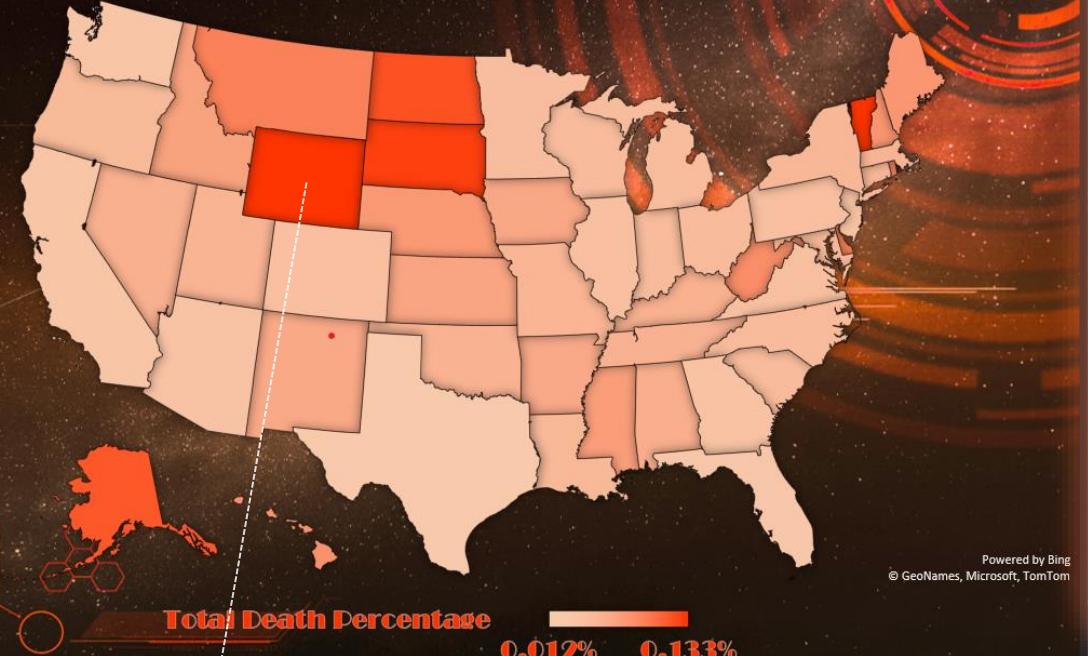
A medical staffing agency that provides temporary workers to clinics and hospitals on an as-needed basis needs to plan for the upcoming influenza season. The analysis will help plan where the most staff will need to be sent by investigating different factors that put a state at risk of the virus.

INFLUENZA DEATHS ANALYSIS AT A GLANCE

Influenza Death Rates

Top 10 Deadliest States

1. Wyoming
2. Vermont
3. North Dakota
4. South Dakota
5. District of Columbia
6. Alaska
7. Montana
8. Delaware
9. Rhode Island
10. Hawaii



Wyoming is the deadliest state with 1,248 deaths per 1 million people in their population.

Determining the risk level of a state depends on three things. The total number of deaths, the death rate, and the number of residents in the vulnerable population.

Influenza Deaths Across the USA



From 2009 – 2017, more than 650,000 people were killed by the influenza virus.

CONCLUSION & RECOMMENDATIONS

VULNERABLE POPULATION

- The <5-year-old and 65+ age groups are the most at risk of dying from the influenza virus. They form what can be considered the vulnerable population.
- Residents in the US over 85 years old make up 2% of the total population but account for 35% of all influenza deaths.

AT RISK STATES

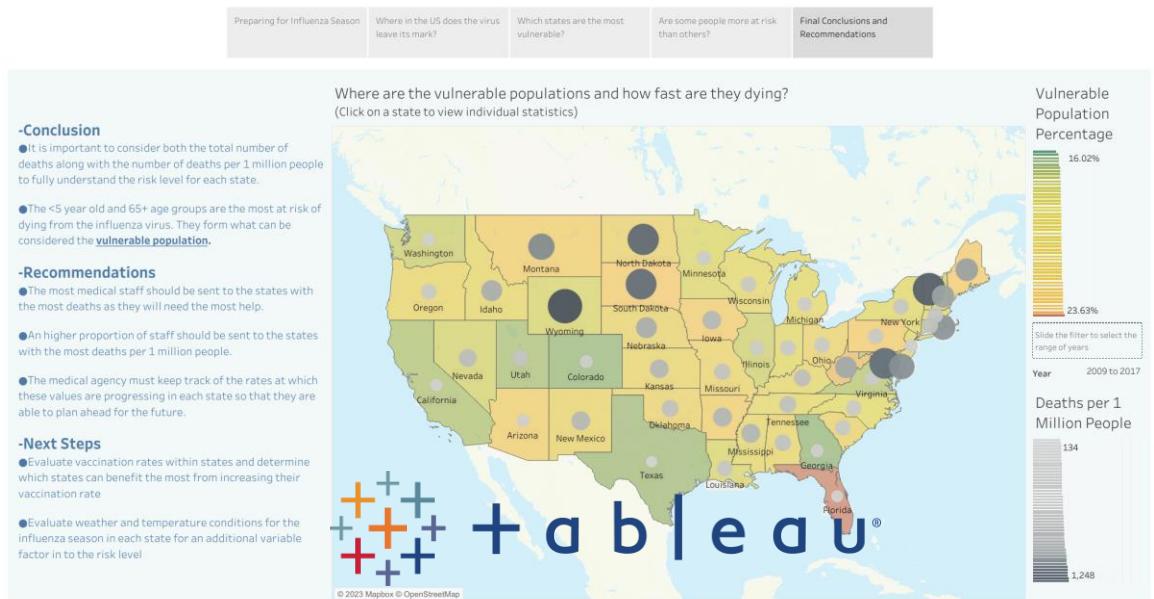
- California, New York, & Texas have the most total deaths.
- Wyoming, Vermont, & North Dakota have the highest death rate.
- Florida has the largest proportion of residents in the vulnerable population and a linear regression model predicts the state to see an increase in deaths

NEXT STEPS

- Incorporate vaccination data to determine a more accurate risk level for states and determine the areas that could benefit most from an increased vaccination rate.
- Evaluate weather and temperature conditions for the influenza season for an additional risk factor.

VIEW THE FULL PROJECT ON TABLEAU

Influenza Across the USA (2009-2016)



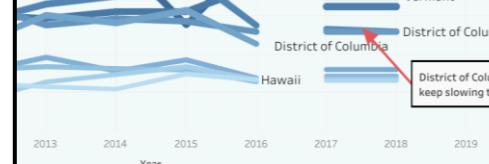
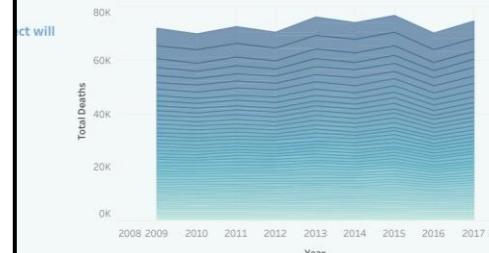
Click here

are the most
vulnerable?
Are some people more at risk
than others?
Final Conclusions and
Recommendations

Preparing for Influenza Season



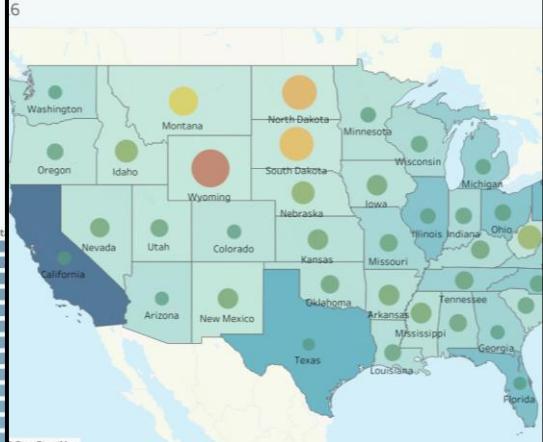
Influenza Deaths by Year Across the USA



e USA (2009-2016)

Preparing for Influenza Season | Where in the US does the virus leave its mark? | Which states are the most vulnerable?

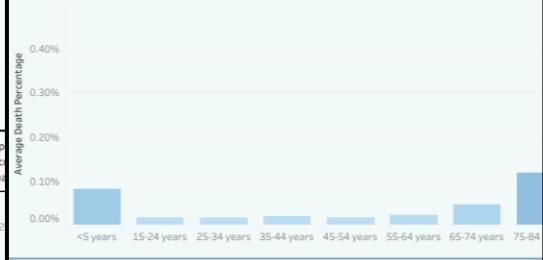
Deaths by Average Total Influenza Deaths and Average Death Percentage of States



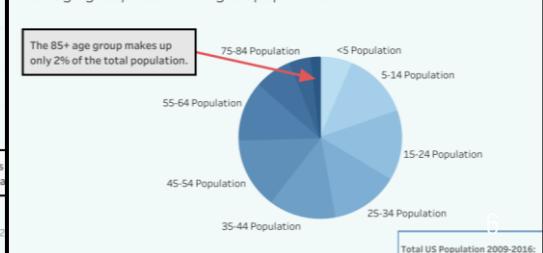
Influenza Across the USA (2009-2016)

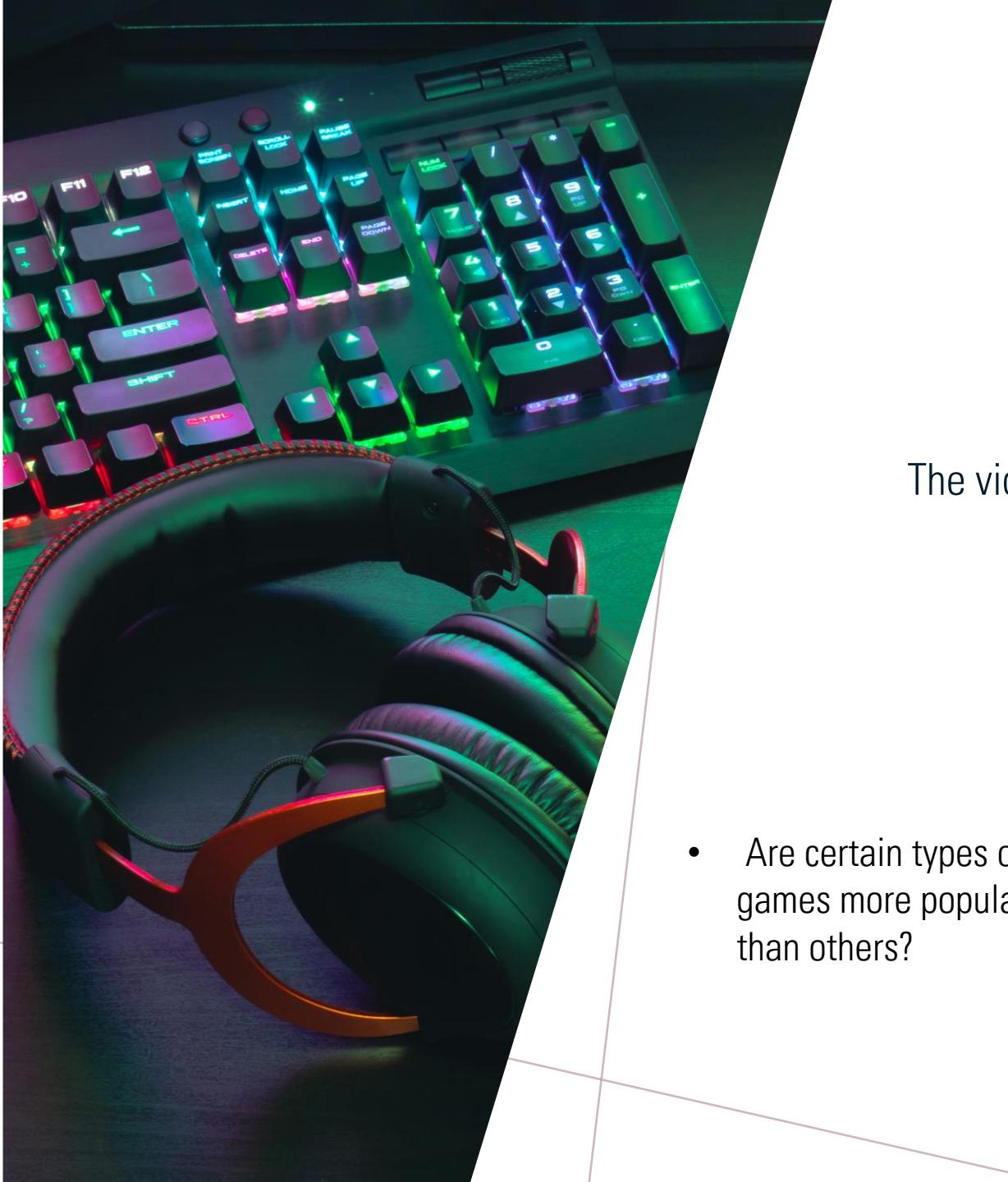
Preparing for Influenza Season | Where in the US does the virus leave its mark?

What age group is most likely to die from the virus?



What age group has the largest population?





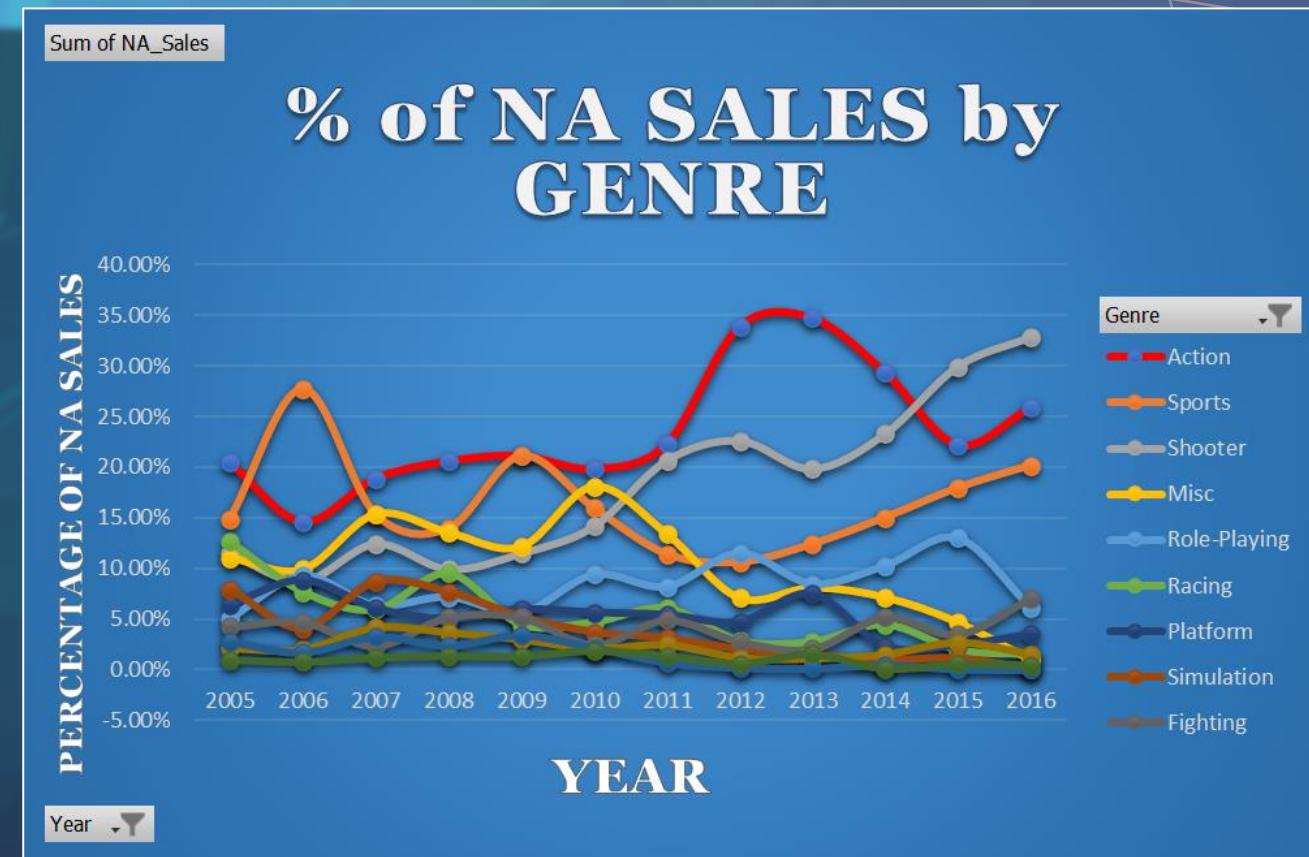
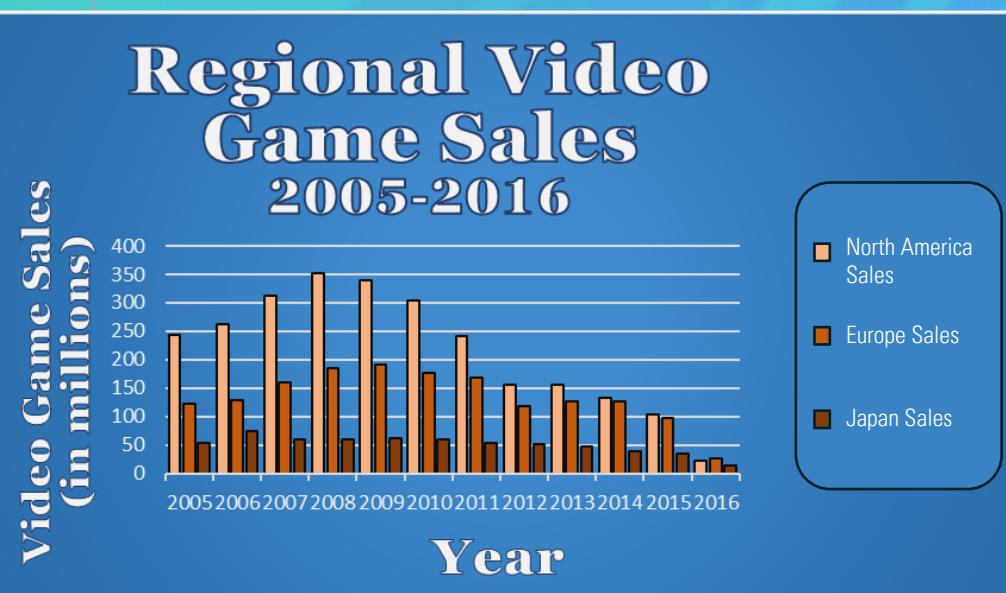
VIDEO GAME DESCRIPTIVE ANALYSIS

The video game company GameCo wants to conduct an analysis to determine the course of their game development.

Key Questions

- Are certain types of games more popular than others?
- How has the popularity of different genres changed over time?
- How do different regions of the world compare in their spending habits?

VIDEO GAME SALES ANALYSIS



In North America, action games are the most popular while strategy games are the least

Sum of NA_Sales	Column Labels	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Grand Total
Row Labels	Action	20.45%	14.58%	18.88%	20.60%	21.13%	19.83%	22.29%	33.89%	34.75%	29.35%	22.20%	25.90%	22.08%
Action	14.86%	27.71%	15.31%	13.92%	21.09%	15.96%	11.39%	10.58%	12.39%	15.02%	17.95%	20.17%	16.47%	
Sports	11.47%	8.76%	12.46%	9.94%	11.51%	14.17%	20.67%	22.63%	19.84%	23.28%	29.95%	32.83%	14.93%	
Shooter	11.05%	9.90%	15.35%	13.55%	12.13%	18.07%	13.40%	7.09%	8.10%	7.15%	4.68%	0.97%	12.01%	
Misc	5.05%	9.27%	6.35%	7.18%	5.62%	9.38%	8.21%	11.52%	8.46%	10.28%	12.98%	6.13%	7.95%	
Role-Playing	12.67%	7.71%	5.92%	9.53%	4.44%	4.69%	6.06%	2.83%	2.72%	4.44%	1.92%	1.46%	6.24%	
Racing	6.42%	8.86%	6.10%	5.00%	5.98%	5.64%	5.42%	4.72%	7.51%	2.29%	2.43%	3.49%	5.77%	
Platform	7.94%	4.05%	8.67%	7.67%	5.21%	3.69%	3.11%	1.99%	1.46%	0.92%	1.10%	0.00%	4.89%	
Simulation	4.26%	4.74%	2.35%	5.19%	5.18%	2.45%	4.93%	2.80%	2.05%	5.22%	3.50%	7.06%	4.00%	
Fighting	2.10%	1.96%	4.19%	3.70%	2.99%	2.07%	2.44%	1.15%	1.05%	1.47%	2.68%	1.50%	2.56%	
Adventure	2.70%	1.67%	3.21%	2.33%	3.35%	2.15%	0.70%	0.19%	0.12%	0.47%	0.05%	0.00%	1.90%	
Puzzle	1.01%	0.79%	1.22%	1.38%	1.36%	1.90%	1.39%	1.54%	0.12%	0.55%	0.49%	1.19%		
Strategy	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Grand Total														

Every region has experienced a decline in sales starting in 2009. This decline has continued until 2016 where they all experienced their lowest selling year.



FINAL CONCLUSIONS

North America

- Top 3 game genres are Action, Shooter, & Sports
- Accounted for more than half of all global video game sales in 2005 but has fallen to 30% in 2016

Europe

- Top 3 game genres are Sports, Shooter, & Racing
- In 2016, Europe accounted for more video game sales than North America for the first time

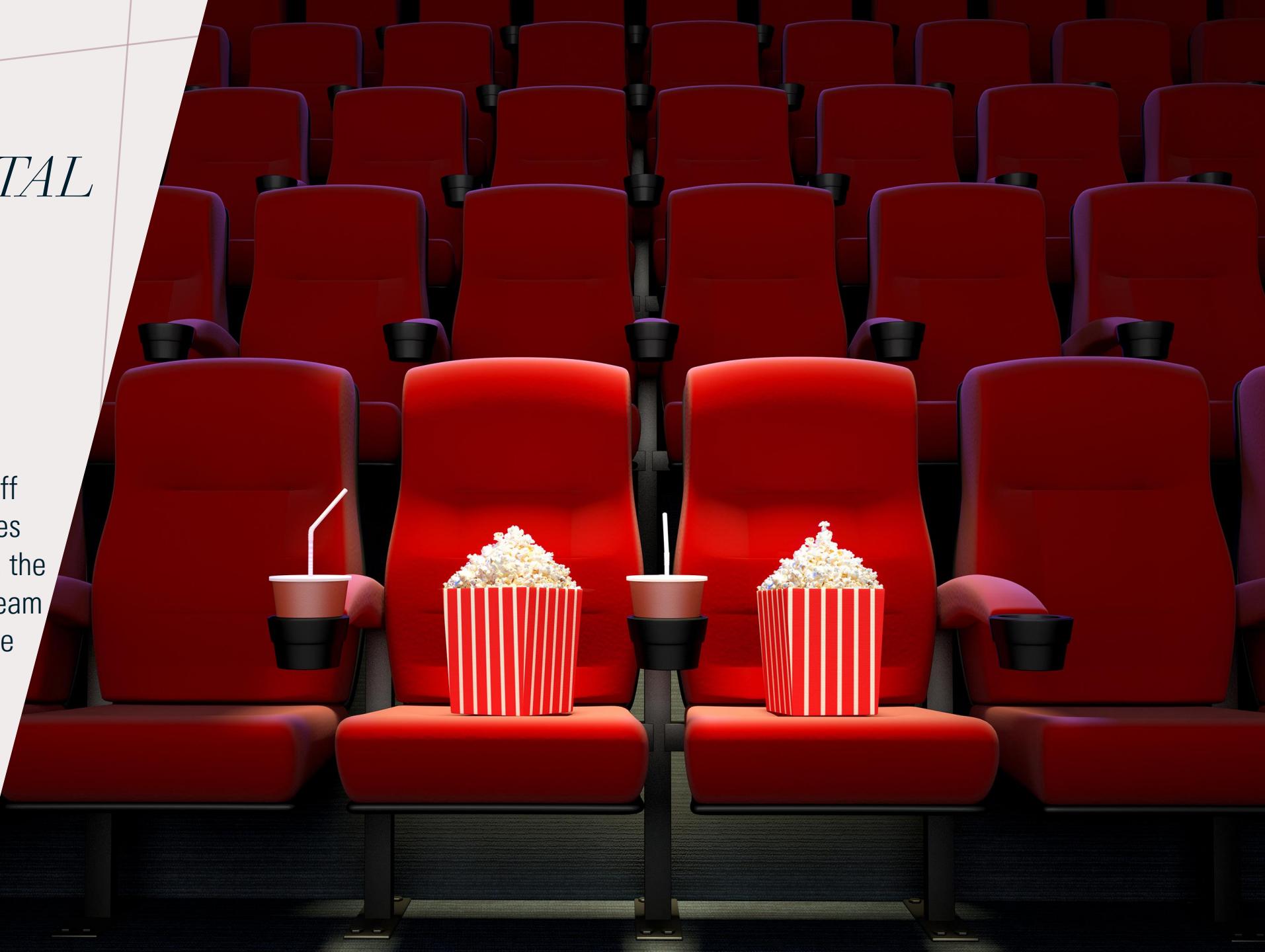
Japan

- Top 3 game genres are Role-playing, Action, & Sports
- Has had the most consistent video game market out of the 3 regions
- In 2016, Action games accounted for 42% of Japan's video game sales

[Click here for full report](#)

MOVIE RENTAL BUSINESS ANALYSIS

Rockbuster Stealth LLC is a movie rental company that used to have stores around the world. Facing stiff competition from streaming services such as Netflix and Amazon Prime, the Rockbuster Stealth management team is planning to use its existing movie licenses to launch an online video rental service in order to stay competitive.



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MAIN QUESTIONS

- What movies contributed most/least to revenue gain?
- What was the average rental duration for all videos?
- What countries are Rockbuster customers based in?
- Where are customers with a high lifetime value based?
- Do sales figures vary between geographic regions?

3

DATA OVERVIEW

Average Money Spent by a Rockbuster Customer

\$102.36

Most Popular Movie Genre

Sports

Country with Most Rockbuster Customers

India

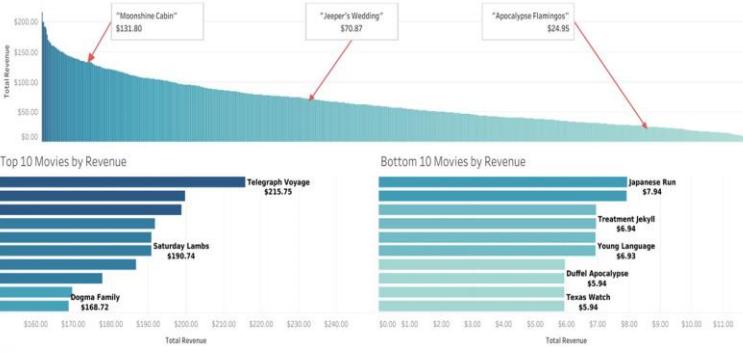
Average Rockbuster Movie Length

115 Minutes

Most Common Rockbuster Movie Rating

PG-13

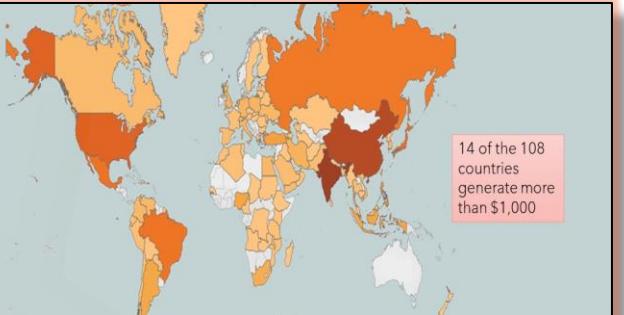
ROCKBUSTER MOVIES BY TOTAL REVENUE

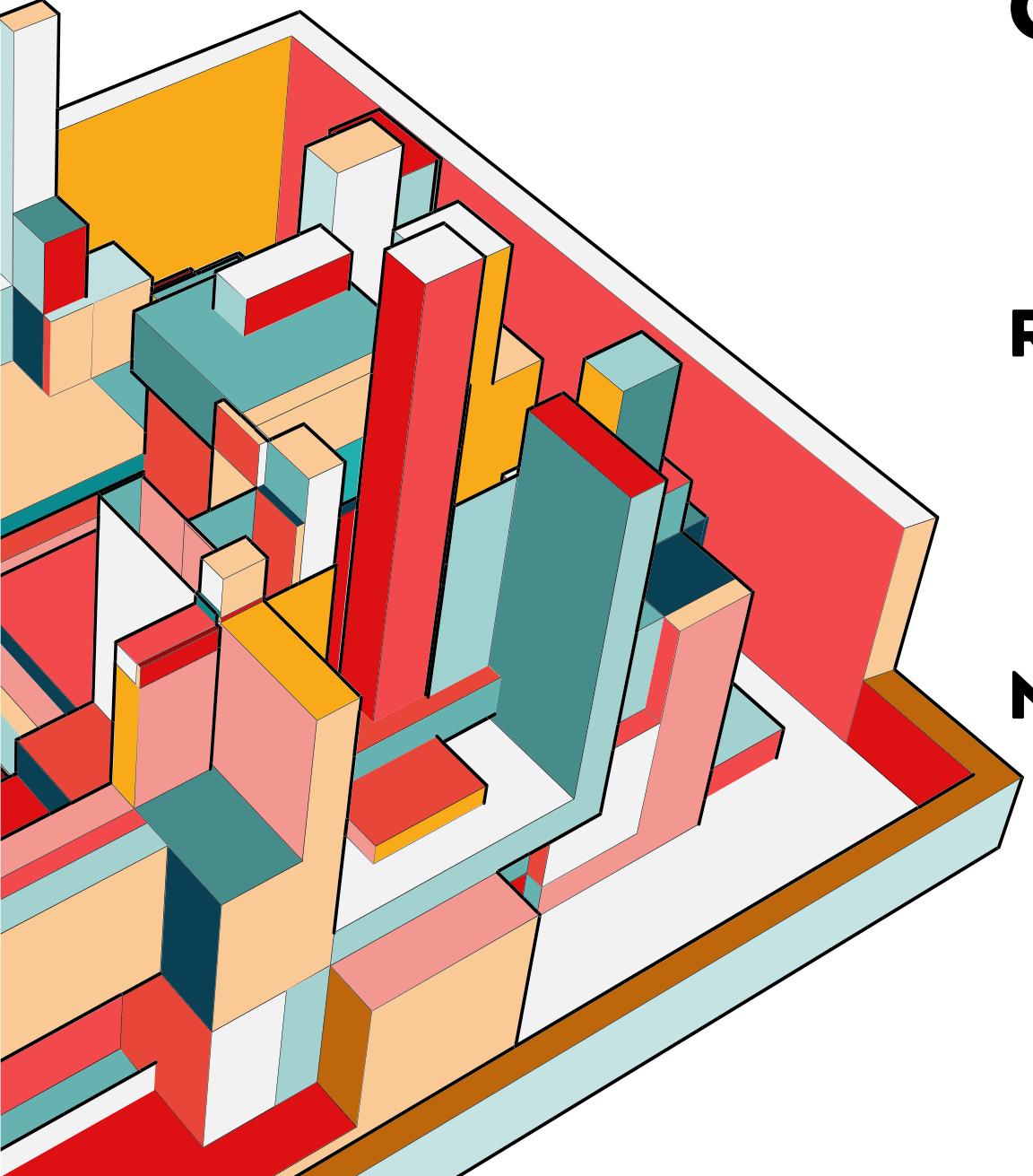


500+ Rockbuster Customers Worldwide!

The top 10 countries generate 52% of all revenue

Countries by Rockbuster Revenue Generated (Minimum \$150)





CONCLUSION

- The top countries generate more than half of all revenue.
- India has the most customers and generated revenue.
- The average customer spends \$102 and rents about 24 movies.

RECOMMENDATIONS

- Sports movies are the most popular genre so have plenty of sports movies in stock.
- Don't renew the licenses for the least popular movies.
- Implement a loyalty system that rewards top customers for their business.

NEXT STEPS

- Input more staff member data into the database.
- Remove least popular movies from stores and buy new movie licenses to keep selections fresh.
- Keep track of customer and country data to stay up to date on current trends and populations.

[Click here for full project](#)

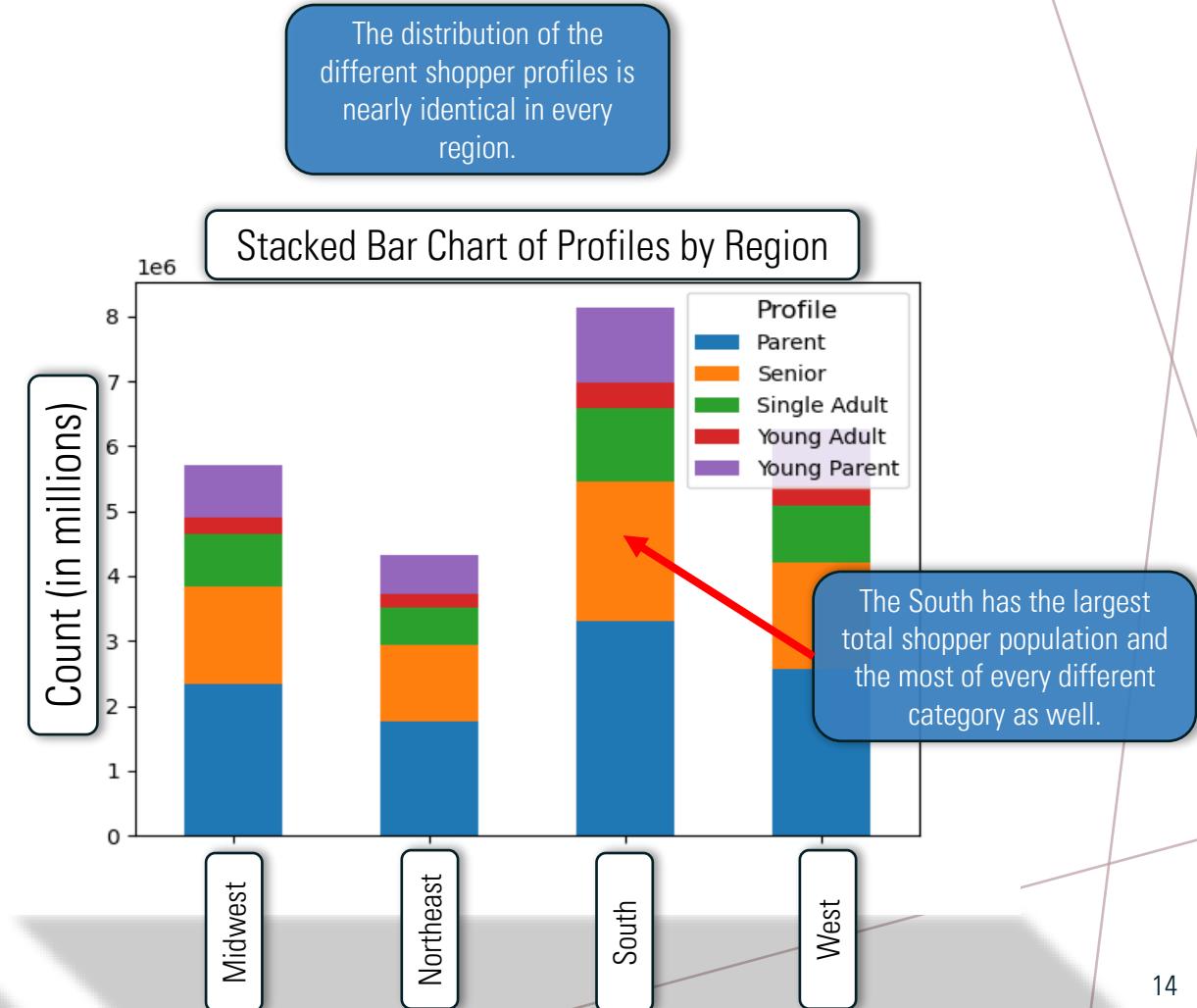
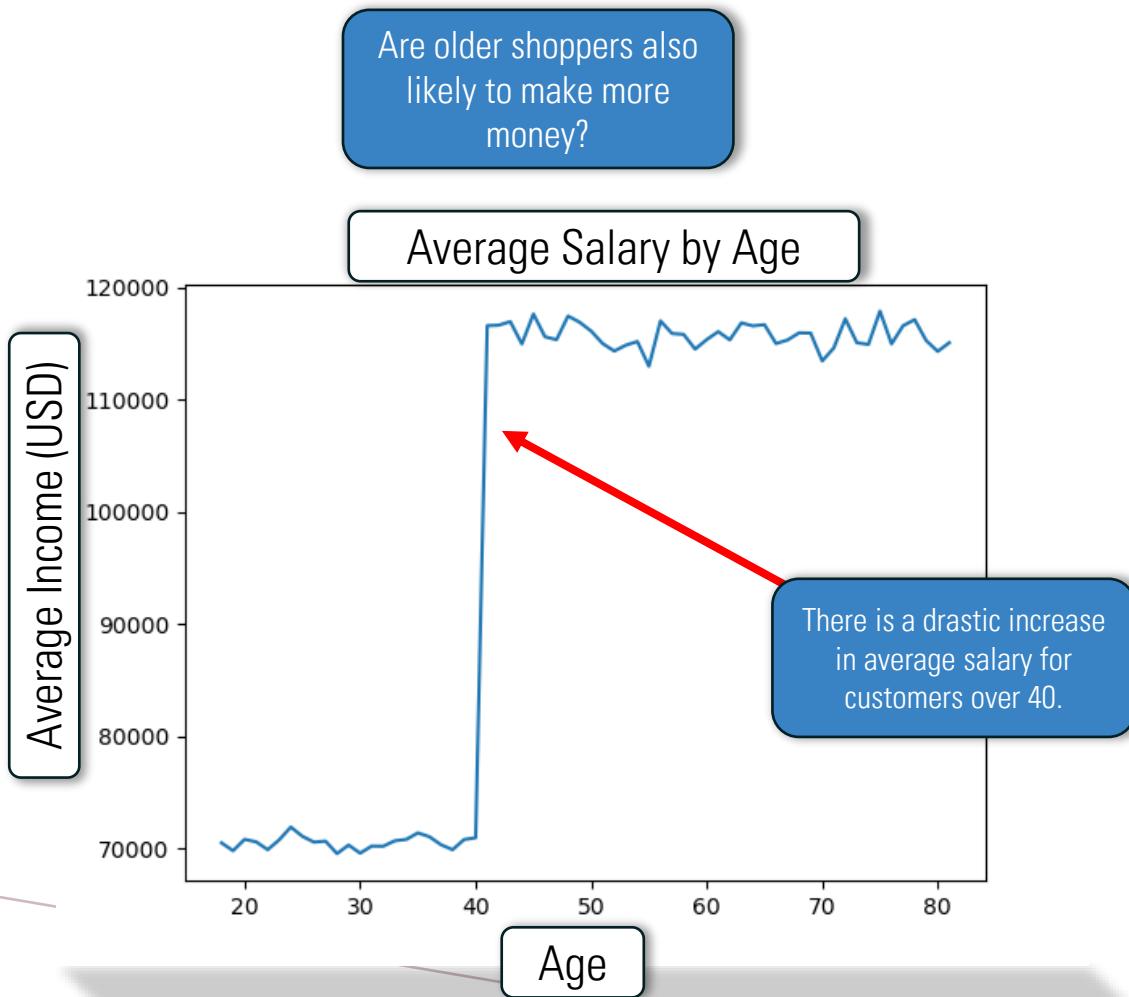


ONLINE GROCERY STORE BUSINESS ANALYSIS



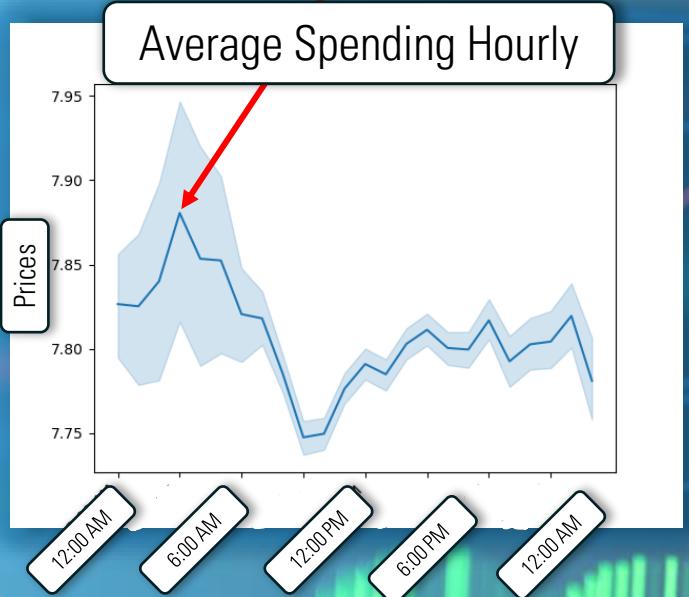
The company Instacart is an online grocery store that operates through an app. Instacart already has very good sales, but they want to uncover more information about their sales patterns. The task at hand is to perform an initial data and exploratory analysis of some of their data to derive insights and suggest strategies for better segmentation based on the provided criteria.

CUSTOMER ANALYSIS

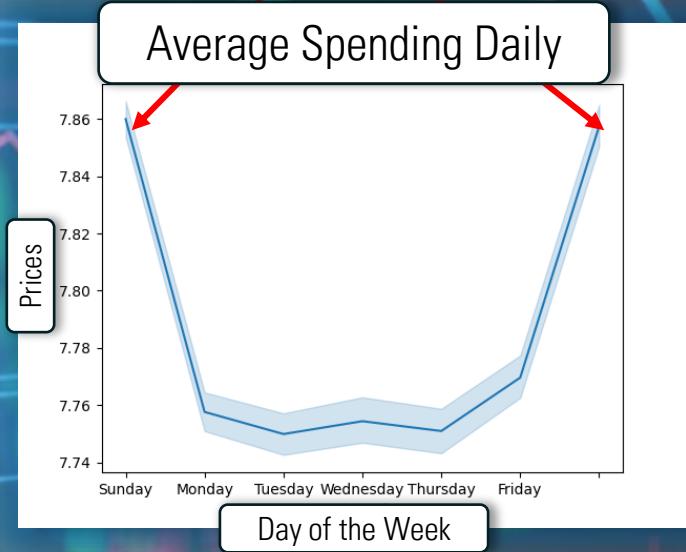


STORE ANALYSIS

The hour of the day that sees the largest revenue gain is at 3:00AM



The most popular shopping days are on the weekends.



The vast majority of items sold by Instacart are under \$15.



ANTI-MONEY-LAUNDERING PROJECT

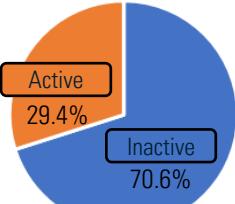
Provide analytical support to a global bank's anti-money-laundering compliance department. Undergo a variety of data-related projects that help the bank assess client risk and transaction risk, as well as reporting on metrics. Help build and optimize models that assist the bank in running their compliance program more efficiently.



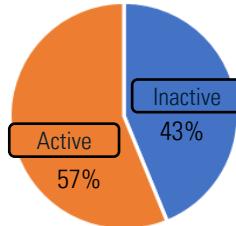
PREDICTING IF A CUSTOMER WILL LEAVE

ARE THEY ACTIVE?

Former Customers



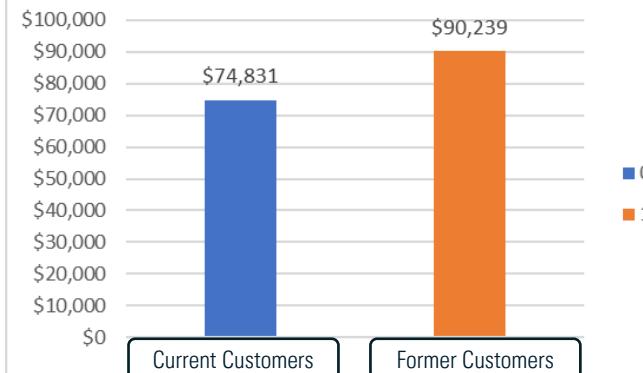
Current Customers



The blue section of the pie chart shows Inactive customers. Of all customers who have left, 70.6% of them were labeled inactive. Compare this to current users where only 43% are inactive.

WHAT'S THEIR CURRENT BALANCE?

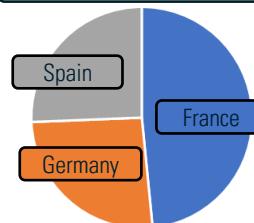
Current vs Former Customer Account Balance



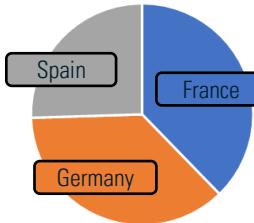
There is a significant difference in the account balances of customers who are current and who have left. Customers who have left (orange bar) have on average 20.5% more money in their accounts.

ARE GERMANS MORE LIKELY TO LEAVE?

All Customers by Country



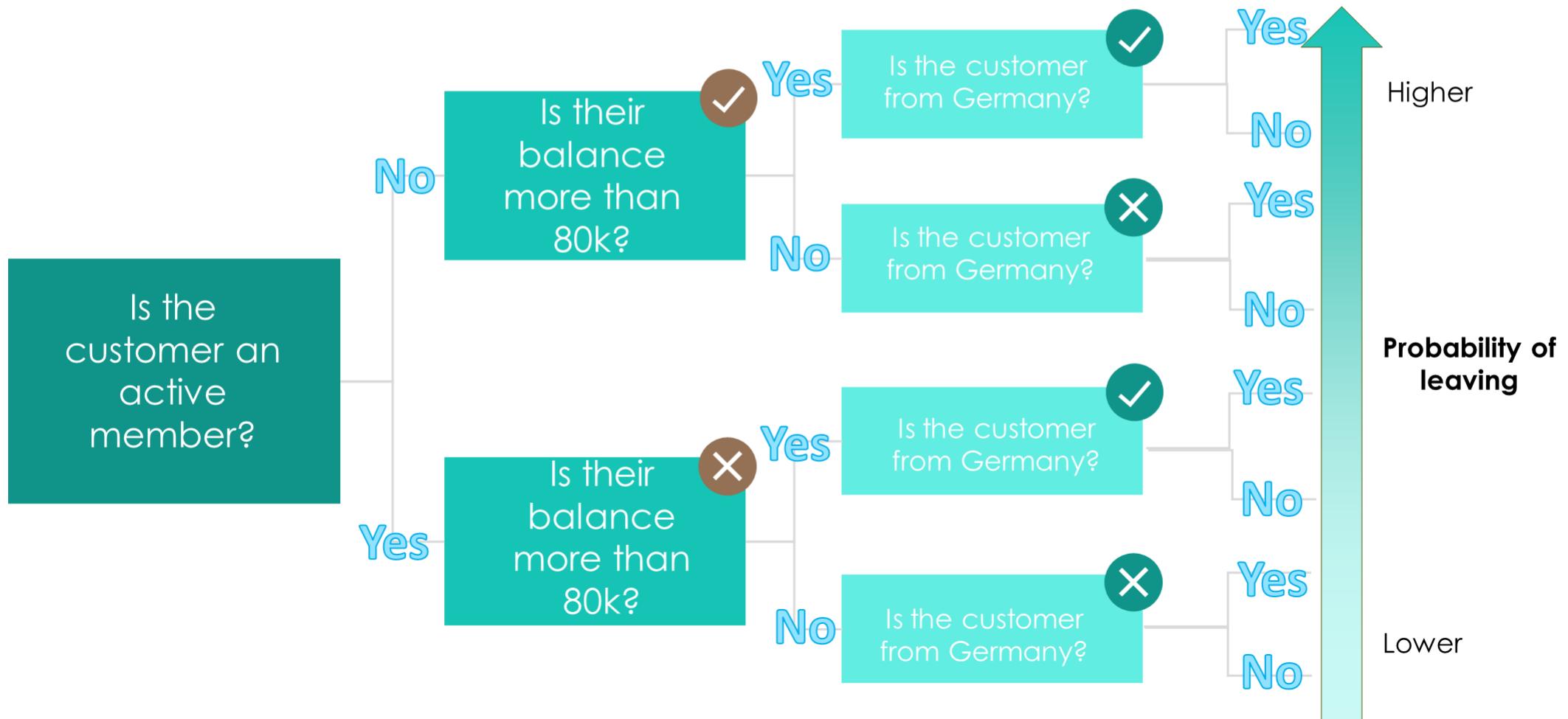
Former Customers by Country



This was interesting to discover but customers from Germany (orange slice) are more likely to leave than customers from Spain or France. The Germans make up for 25.9% of all customers but account for 36.8% of customers who have left. This increase is large enough to be significant in our analysis.

Decision Tree

Marketing is the study and management of exchange relationships. Marketing is the business process of creating relationships with and satisfying customers.





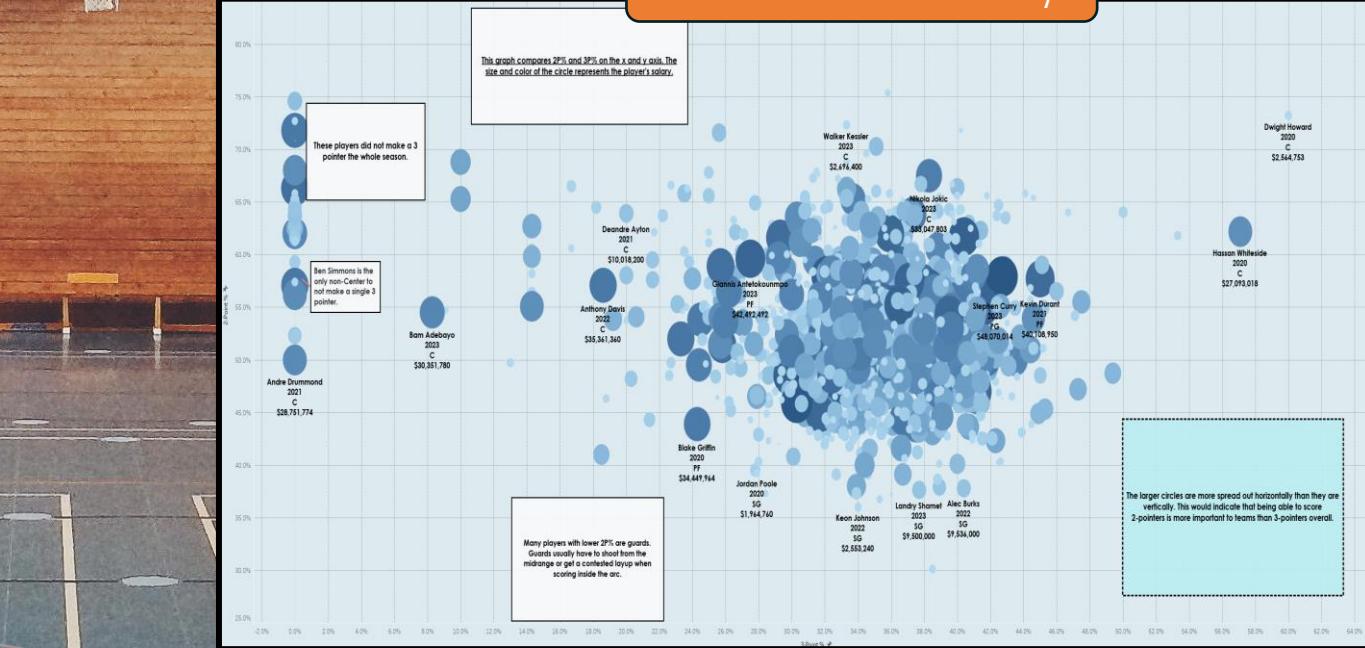
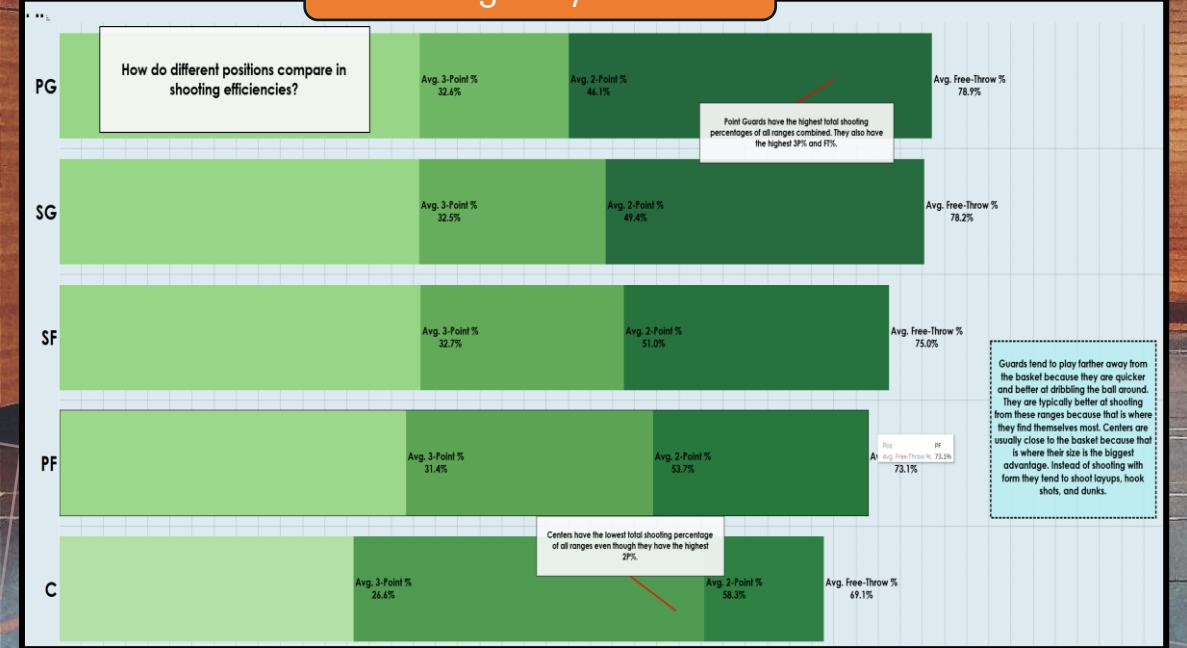
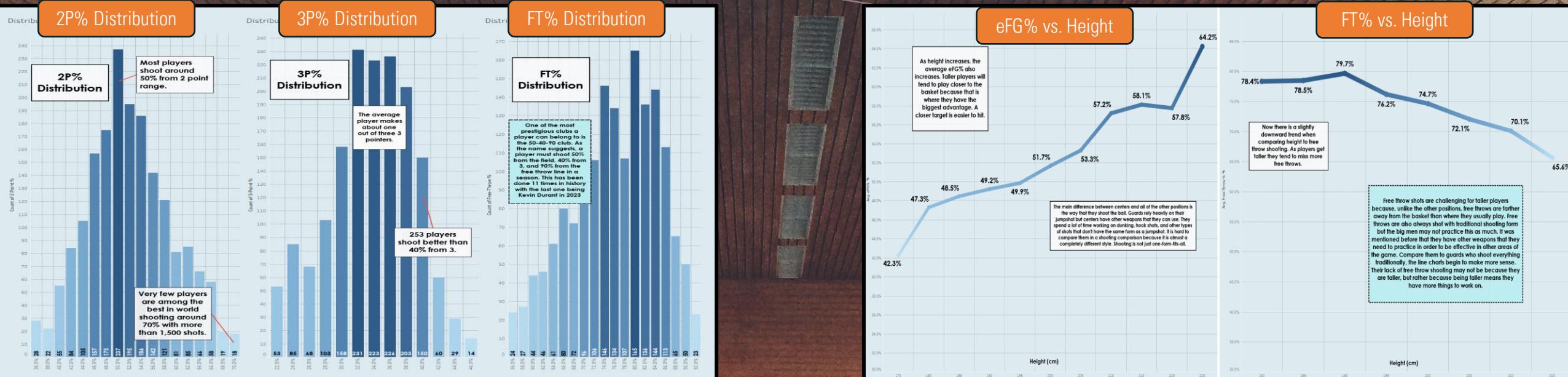
BASKETBALL ANALYSIS: WHAT MAKES A GOOD SHOOTER?

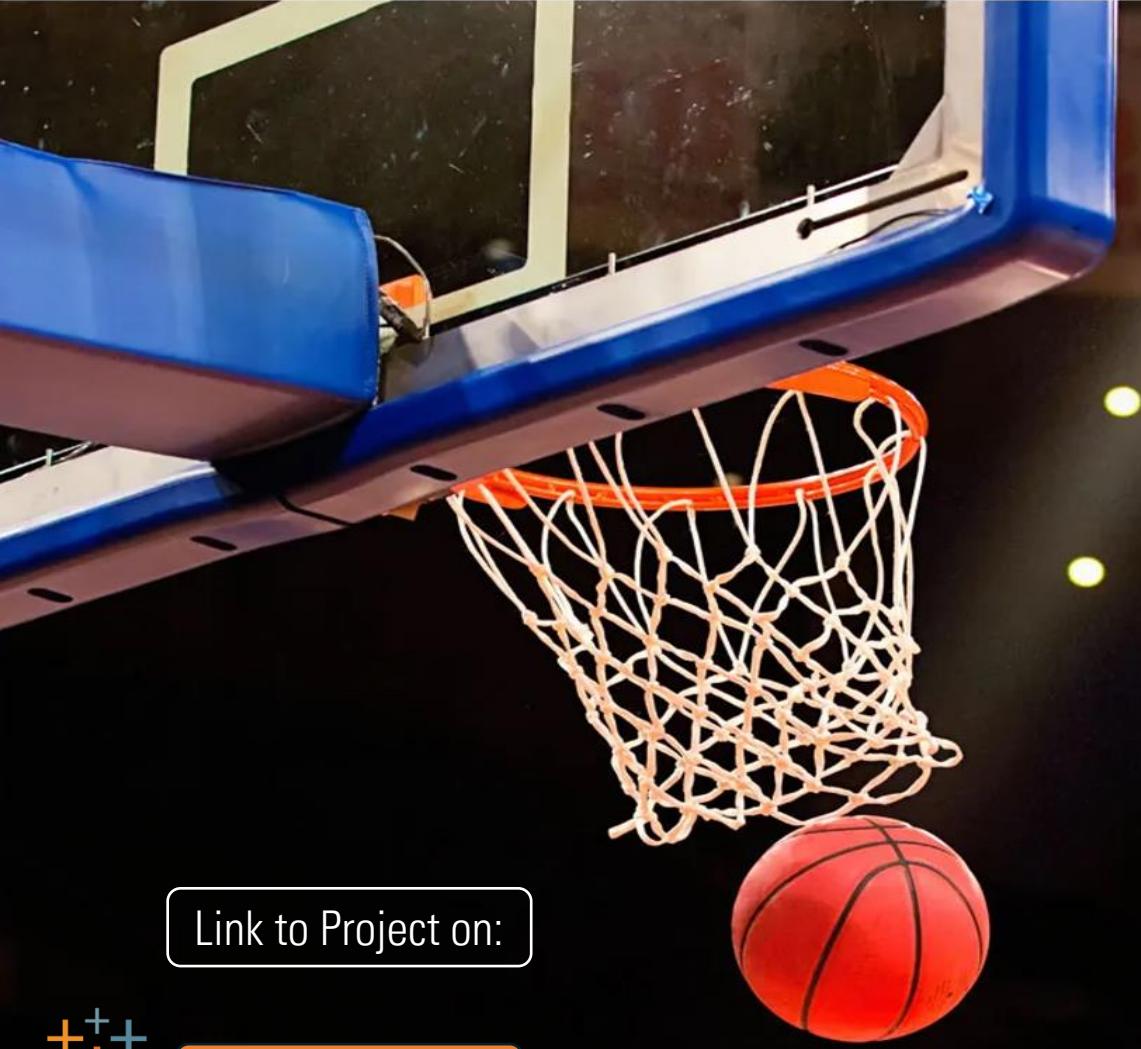


There are over 100 million websites, articles, and videos that can be found on the internet discussing the proper way to shoot a basketball. This analysis takes data from the NBA sourced from Sports Reference to see if there are any similar traits that are shared between some of the world's best shooters.



NBA¹⁹





Link to Project on:

Tableau

Github

Conclusion

There does not appear to be a single indicator that determines if a player will be good at shooting but rather a collection of different variables that all play an effect.

Smaller players like guards practice their jumpshot more than anything else so they excel in areas like 3-point and free-throw shooting.

Taller players like centers have different types of shots they must practice other than jumpshots to give them an advantage closer to the hoop. They are better at things like dunking and hook shots next to the basket so they have a better 2-point percentage.

The reason that some of the best players in the world are as good of shooters as they are is because they spend a lot of time practicing their technique relentlessly which is the most important factor of all.

Next Steps

When discussing this project to a coworker who has played collegiate basketball, he mentioned that hand size is another factor that impacts shooting ability. If a player has unusually large or small hands, that can definitely have an effect on the way that they both handle and shoot the basketball. The next step of this project is to search for a database that has hand size data and run further analysis to determine how much hand size matters for shooting.

*NEXT PROJECT
IN PROGRESS...*



A close-up photograph of a person's hand interacting with a futuristic, glowing interface on a screen. The interface displays a complex, colorful, abstract pattern of light trails and nodes, suggesting a data visualization or a game. The hand is positioned as if pointing or selecting something on the screen.

GET IN TOUCH

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