MIST 4610E Project #2
Netflix Userbase Dataset

Shreeya Chalasani, Sejal Khanna, Roy Ben-Haim, Akrem Abdulkadir

Description of Dataset

This dataset was pulled from Kaggle and was uploaded by a user named Arnav Jain. It describes the user base for popular video streaming platform, Netflix. It includes User ID, subscription, monthly revenue, subscription date, last payment, country, age, gender, device used, and plan duration for a group of 71 randomly sampled users. We wish to uncover insights about the age and gender distribution as well as subscriptions models preferred by country. This will help Netflix to better understand the target audiences and their consumer behavior to make more informed decisions in the future.

Data Contained

UserID	Monthly Revenue	Join Date	Last Payment Date	Country	Age	Gender	Device	Subscription Type	Plan Duration
Individual distinct number 1-71	Monthly price paid in dollars ($10-$15)	Date joined in MM/DD/YYY format	Last payment date in MM/DD/YYY format	Name of country	Age in years	Male or female	Primary device: Smartphone, Smart TV, Tablet, Laptop	Type of subscription: Basic, Standard, Premium	1 month (monthly for everyone)

Questions & Significance

1. **What are the demographics of users by age and gender?**

   In order to identify the demographic audiences, we will determine categories based on age and gender. This will allow us to identify the main demographic groups currently a part of Netflix's customer base. It will also allow for further research in terms of consumer behavior of the target audience and reach them in a more effective manner through upcoming content produced and marketing campaigns for heightened retention.

2. **What is the top subscription type by country?**

   Identifying the top subscription type by country will be valuable for Netflix. This will allow them to understand which subscription models are preferred by country. After considering external cultural factors that may contribute to these preferences, Netflix can reassess their subscription types offered in each country as needed to increase appeal in different regions.
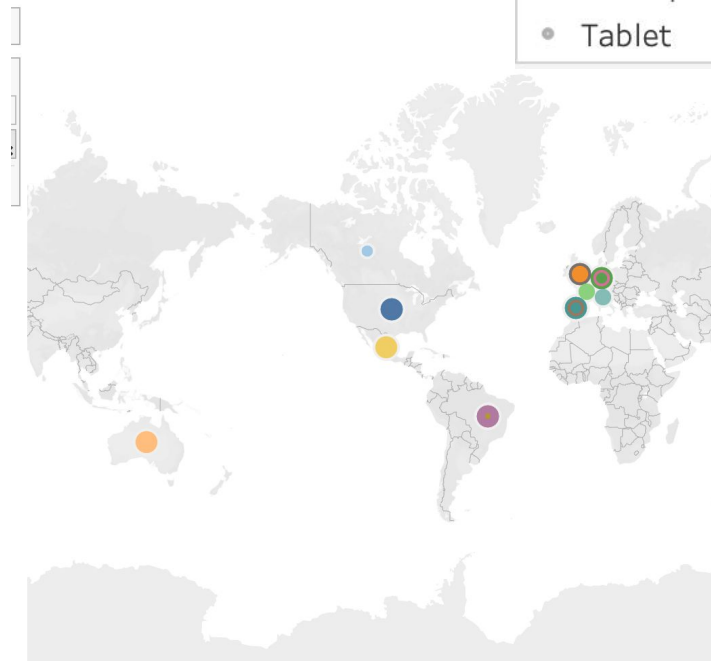
Manipulations

- There was no filtering of null values as the data contained sufficient values for 71 user IDs
- To sort and filter the data, we manipulated the ranges of demographic information such as age into bins set by the size reference of 2.63 in order to group the data
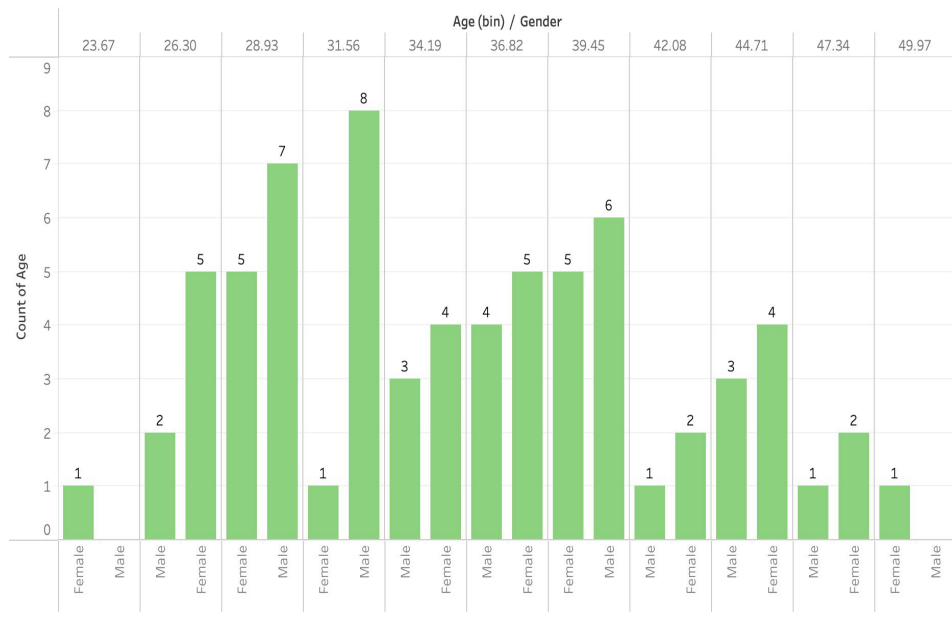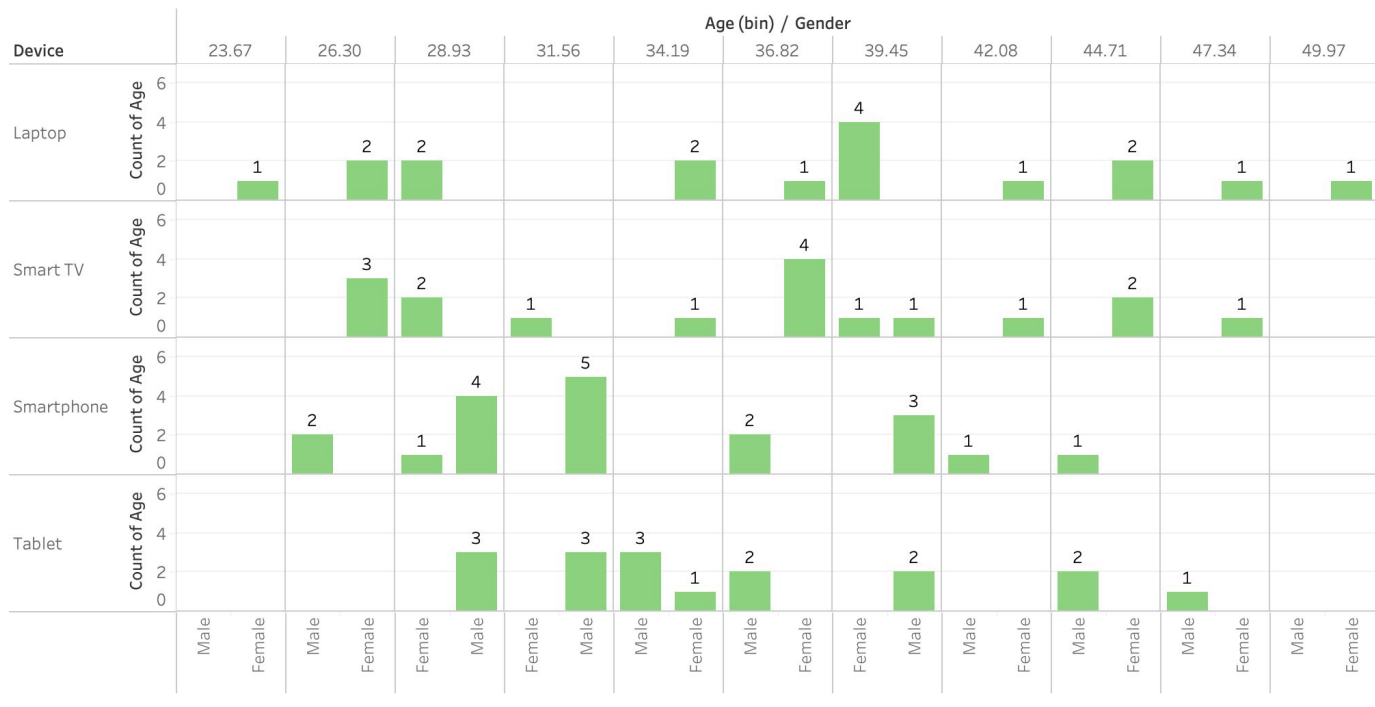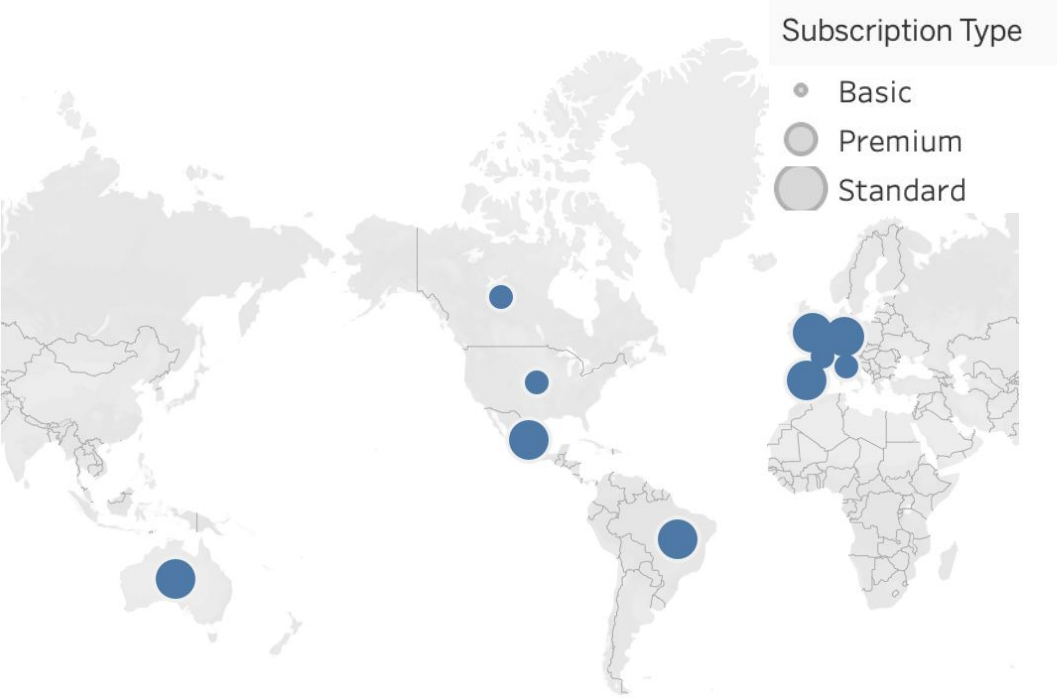
Results- Question 1
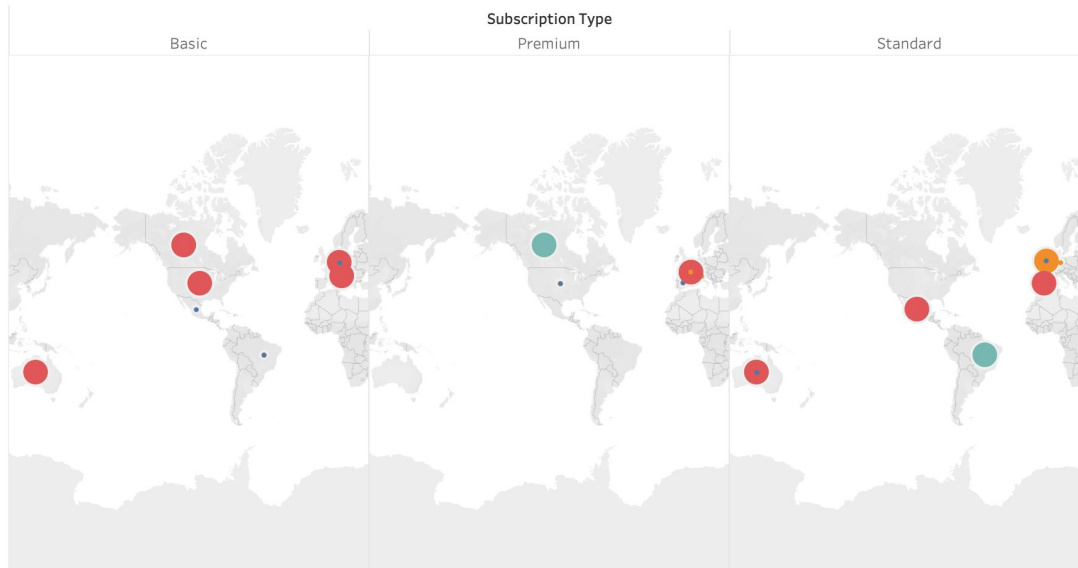
Analysis - Question 1

- The first key point which pops out as soon as you look at the graph is how a considerably larger population of streamers are men rather than women in the early 30's age group. This is insightful for Netflix, as it indicates that they can work to offer movies and TV shows that cater to this gap.
- Additionally, it is evident that the largest group of streamers age group are middle-aged people from ages 28-32. This may be attributed to the fact that families can purchase a family plan and share. However, it can also encourage Netflix to reach a greater audience by making it more accessible and easy to use for older people. They could also offer "roommate plans" or student plans for users studying in university. These options may be more worthwhile than their current initiatives to limit sharing, as sharing and community building seems to boost viewership.
- Further analysis of the Netflix user database demographics reveals that middle-aged men predominantly utilize smartphones and tablets as their preferred devices. On the other hand, a larger proportion of females tend to favor laptops or smart TVs for accessibility. This information is crucial for analytics because it provides insights into user preferences and behaviors. Understanding the user experience and interaction can help tailor marketing strategies. Additionally, Netflix can prioritize the development of user interface and features that cater to specific groups. This demographic-specific analysis allows Netflix to understand their user base and adapt their services to meet the customers needs.
- Lastly, it is shown that the most used streaming device for Netflix is the laptop. This can encourage Netflix to create more features for their users on laptops (such as one we've wanted for a while) like being able to download movies on a laptop. This can also encourage them to ask for customer feedback regarding the other methods of streaming to see if there is any issue with using anything other than a laptop.

Results - Question 2

Country	Subscriptio..	Device			
		Laptop	Smart TV	Smartp..	Tablet
Australia	Basic			Abc	
	Standard	Abc		Abc	Abc
Brazil	Basic	Abc	Abc		
	Standard				Abc
Canada	Basic			Abc	Abc
	Premium				Abc
France	Premium		Abc	Abc	Abc
Germany	Basic	Abc	Abc	Abc	
	Standard		Abc		
Italy	Basic			Abc	Abc
	Premium		Abc		
Mexico	Basic	Abc			
	Standard			Abc	Abc
Spain	Premium	Abc	Abc		
	Standard			Abc	
United Kingdom	Standard	Abc	Abc		
United States	Basic			Abc	
	Premium	Abc	Abc		

Subscription Type

- Basic
- Premium
- Standard

Analysis - Question 2

- For this question, it is important for Netflix to dive deeper into each country and examine where they are selling each subscription type the most and try to understand why. Netflix wants to bring in the most amount of revenue possible, so they have tried to crack down on password sharing. If they can see that some countries have an overwhelming number of people taking advantage of the premium plan and sharing passwords, they can consider increasing the price for premium accounts in those countries. Such activity can be seen in countries like France and Spain where the majority of people own premium accounts. Increasing the price slightly may be a better way to profit from password sharing rather than being the "bad guy" and trying to combat it outwardly.
- Additionally, we can see here which method of streaming is most popular in each country. Netflix can dig deeper into each method and try to understand why it is that way in each country. For example, in Australia and Canada we can see that it is unpopular to use the Smart TV to stream despite being popular among other countries. This can bring up questions such as "Is there an accessibility issue in this country when using Smart TVs?" or "What kind of packages, promotions, and partnerships could help increase Smart TV streaming in these countries?". As devices are the mode of product delivery between Netflix and its customers, further research here would be valuable to retain customers as well as attract new ones.

Conclusion

- The goal of the data analytics research was to determine the most popular subscription kinds per nation as well as the age and gender demographics of Netflix users. Several significant conclusions that emerged from the study of the supplied dataset can help Netflix make decisions that will help them better understand their target audiences and consumer behavior.
- There was a bigger number of male streamers in their early 30s, according to the demographics of users by age and gender. This finding implies that Netflix may be able to create programming that precisely targets this demographic. In addition, the majority of streamers are in the middle age bracket, suggesting a potential market for family plans and the need to improve the platform's usability for senior citizens. For improved audience retention and expansion, Netflix can adjust its content and marketing tactics by having a deeper understanding of the interests and behaviors of various user segments.
- Additionally, the analysis provided information about the preferred devices utilized by various demographic groups. While a bigger percentage of women favor laptops or smart TVs, middle-aged men typically use smartphones and tablets. Netflix may use this information to improve the user experience and interface design. Netflix can prioritize the development of features and options that cater to particular groups by studying user preferences and behaviors, increasing consumer satisfaction and engagement.
- With regard to the most popular subscription kinds by nation, Netflix can use this data to review the subscription choices available in each area. Understanding consumer preferences and adoption rates for various subscription models can help Netflix modify its tactics to broaden its appeal and boost profits. For instance, price modifications may be made for regions where premium accounts and password sharing are more common, allowing Netflix to profit from this activity rather than making an effort to stop it. Additionally, examining the level of use of various streaming platforms in each nation can reveal potential accessibility difficulties or chances for marketing campaigns and collaborations to increase consumption.
- In conclusion, Netflix may be able to better understand its user base, customize its content and marketing methods, and enhance its subscription services thanks to the insightful findings. Netflix may use these insights to inform data-driven decisions that raise consumer satisfaction, increase user experience, and spur market expansion.
- Further research can include considering additional data such as the language proficiencies of the user base as well as use of closed captions.