MGTA602

Assignment II

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Part I – Segmenting Consumers of Bath Soap

Question 1:

Older customers are more likely to exhibit brand loyalty (See Appendix I.1.A). Older consumers may be more set in their purchasing habits and less likely to try new products, or they may have developed a strong preference for a particular brand over time. Medium-high socio-economic status may be more likely to exhibit brand loyalty (See Appendix I.1.B). Consumers with a higher income may be more likely to be able to afford to purchase higher-quality, more expensive brands of bath soap, which they may be more likely to stick with over time. Pure vegetarians have the highest average number of brand runs of purchasing the same brand (See Appendix I.1.C). Pure vegetarians may be more focused on using products that are free of animal by-products, and they may be more likely to stick with a brand that they know to be vegan or vegetarian friendly. We can see that as the household size increases, the average number of brand runs also increases (See Appendix I.1.E). Larger households may be more likely to go through bath soap at a faster rate, and they may be more likely to stick with a brand that they know and trust to save time and hassle when making their purchases. Households with children up to age 6 only have the highest average brand runs and those with no children have the least (See Appendix I.1.F). Parents of young children may be particularly concerned about the safety and effectiveness of the products they use, and they may be more likely to stick with a brand of bath soap that they know to be gentle and effective.

I believe that all the above loyalty measures mentioned should be used for targeted promotions. By considering factors such as age, socio-economic status, food eating habits, household size, and the presence of young children in the household, we can create promotions that are tailored to the specific needs and preferences of different segments of your target audience.

Question 2:

I considered the maximum percent of volume purchased of the brand of all the brands to consider the instance where one customer is just as loyal to brand A as another to brand B. From this I was able to adjust for different values of brand loyalty. First, I looked at 95% brand loyalty, meaning the maximum percent volume purchased of one brand by that customer was 95% (See Appendix I.2.A). Here I saw that most customers were still below the 95% threshold but there was a good amount that can be considered 95% loyal to one single brand. When the brand loyalty is adjusted to 85% and 75%, we can see that more and more customers are classified as loyal (See Appendix I.2.B and I.2.C). Consumers typically have a range of different preferences and needs, and they may be interested in trying out different products to find the ones that best suit their needs. Additionally, the presence of multiple competing brands in the market may make it more difficult for any one brand to achieve high levels of brand loyalty among consumers but it is still interesting to see that there are multiple customers who are above the 95% loyalty threshold, and they would only buy from one brand.

Question 3:

The average price was calculated by taking the total value of each purchase and dividing it by the total volume of each purchase for each household. We see a positive trend with average price and number of runs of purchasing the same brand (See Appendix I.3.A). It is not surprising to see a positive trend between the average price of a product and the number of runs of purchasing the same brand as consumers are more likely to exhibit brand loyalty when purchasing more expensive products. Average price and maximum percentage of purchases of 1 brand has a slight negative trend (See Appendix I.3.B). This may be due to the presence of competing brands in the market. Consumers may be more likely to try out different brands and compare prices to find the best value for their money.

For the average volume per transaction, we see the opposite trend as average price. As the number of runs of purchasing the same brand increases, the average volume per transaction

decreases (See Appendix I.3.C). Consumers who exhibit high levels of brand loyalty may be more likely to purchase the product in smaller quantities more frequently as they are more likely to trust the quality and reliability of the product, and they may be more willing to make frequent purchases to ensure that they always have a fresh supply on hand. As the maximum percentage of purchases of one brand increases, the average volume per transaction increases (See Appendix 1.3.D). Consumers who exhibit high levels of brand loyalty may be more likely to have a higher disposable income, which could make them more willing to make larger purchases to save money in the long run.

Question 4:

It appears that targeting older customers, those with young kids, pure vegetarians, Punjabi speakers, and consumers with medium-high socio-economic status could be a effective strategy for segmenting your target audience and promoting your brand of bath soap. These groups of consumers all exhibit high levels of brand loyalty, which means that they are more likely to stick with your brand and make repeated purchases over time. Additionally, targeting existing customers who have a high number of brand runs and whose maximum percentage of brand runs of a single brand is our brand is likely to be an effective strategy for promoting our brand of bath soap. These customers are already loyal to our brand, and they are more likely to be receptive to our promotions and to make repeated purchases in the future. By targeting these customers, we can focus our efforts on retaining and building upon the loyalty of our existing customer base, which can be a more cost-effective and efficient way to grow the brand compared to trying to attract new customers from scratch.

Part II – Pharmaceutical Industry

Question 1:

I chose to look at the clusters formed between return on equity by return on assets, estimated revenue growth by return on assets, and beta and asset turnover. These metrics are commonly

used to evaluate the financial performance of a company. By grouping companies using each of these metrics, I can identify the trends and patterns within the data that may not be apparent when looking at the data as a whole. Clustering allows us to group data points based on multiple variables, which can provide a more nuanced understanding of the data. Clustering can also identify outliers and anomalies in the data, which can be useful for further analysis and investigation.

Question 2:

There are 3 clusters formed by ROA and ROE: the first is when both ROA and ROE are low, second is when both ROA and ROE are in the middle, and third is when both ROA and ROE are high. This makes sense as ROE is determined using ROA so it would have a positive relationship (See Appendix II.1.A). So, if a company has low ROA, it will have low ROE and vice versa.

There are 4 clusters formed by ROA and revenue growth: the first is when revenue growth is low and ROA is low, second is when revenue growth is low and ROA is high, third is when revenue growth is high and ROA is low, and fourth is when both revenue growth and ROA are high (See Appendix II.1.B). In the pharmaceutical industry a company with high ROA may invest more in research and development which can lead to creation of new high-demand products and lead to high revenue growth but if a company has low ROA, it may not be able to invest as much. Still, it is possible to have high ROA with low revenue growth and vice versa.

There are 3 clusters formed by beta and asset turnover: the first is when beta is low and asset turnover is between 0.5 and 0.7, the second is when beta is between 0.35 and 0.65 and asset turnover is high, and the third is when beta is high and asset turnover is 0.3 or 0.6 (See Appendix II.1.C). In the pharmaceutical industry, these two metrics may be related in the sense that companies with higher asset turnover may be able to generate more revenue from their assets, which can potentially lead to higher stock prices and lower volatility (lower beta).

However, the relationship between beta and asset turnover can vary depending on the specific circumstances of a company.

Question 3:

For ROA and ROE, there is a pattern with the exchange. From Appendix II.2.A, most of the clusters fall into the NYSE exchange and even within that we see the same trend mentioned above. The only clusters that fall into the AMEX and NASDAQ are those with both low ROA and ROE.

For revenue growth and ROA, there is a pattern with exchange. From Appendix II.2.B, most of the clusters fall into the US and within the US we see the same trend mentioned above. The UK has the second greatest number of points and most of those falls in the high revenue growth and ROA cluster.

For beta and asset turnover, there is a pattern with median recommendation. From Appendix II.2.C, most of the clusters fall into the hold and moderate buy. Again, the pattern from above is also seen in these two median recommendations.

Question 4:

ROA and ROE

- Cluster 1 = high ROA and ROE
- Cluster 2 = medium ROA and ROE
- Cluster 3 = low ROA and ROE

ROA and Revenue Growth

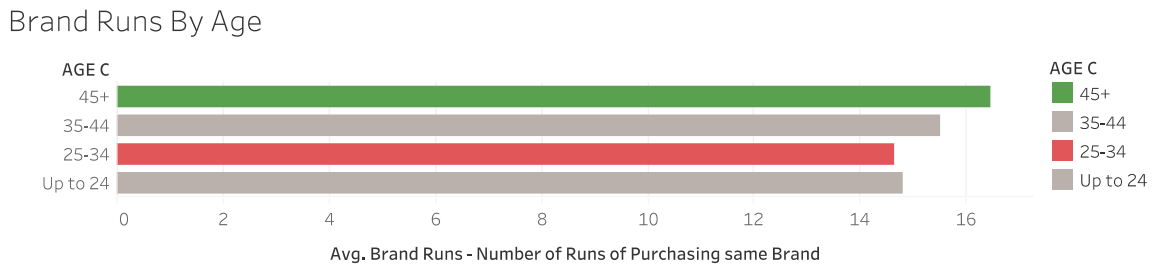
- Cluster 1 = low revenue growth and high ROA
- Cluster 2 = high revenue growth and high ROA
- Cluster 3 = low revenue growth and low ROA
- Cluster 4 = high revenue growth and low ROA

Beta and Asset Turnover

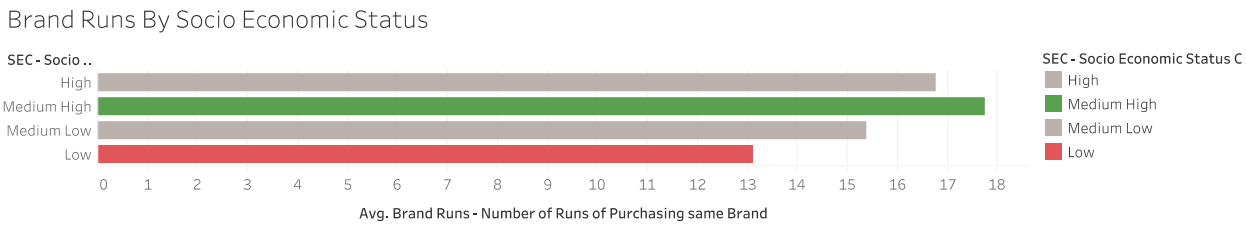
- Cluster 1 = Beta > 0.6 and Asset Turnover 0.3 or 0.6
- Cluster 2 = Beta < 0.5 and Asset Turnover between 0.5 and 0.7
- Cluster 3 = Beta between 0.35 and 0.65 and Asset Turnover > 0.8

Appendix Part 1

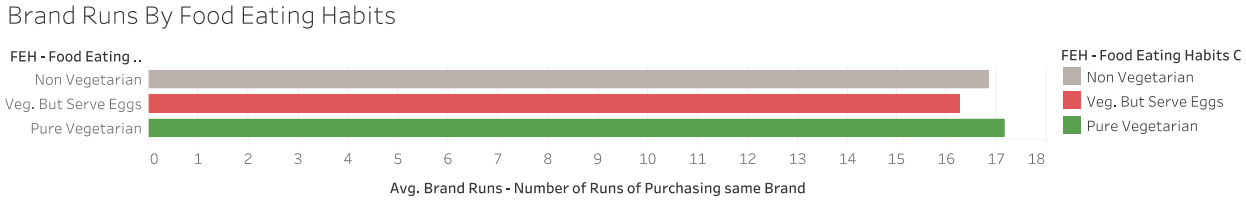
Appendix I.1.A



Appendix I.1.B

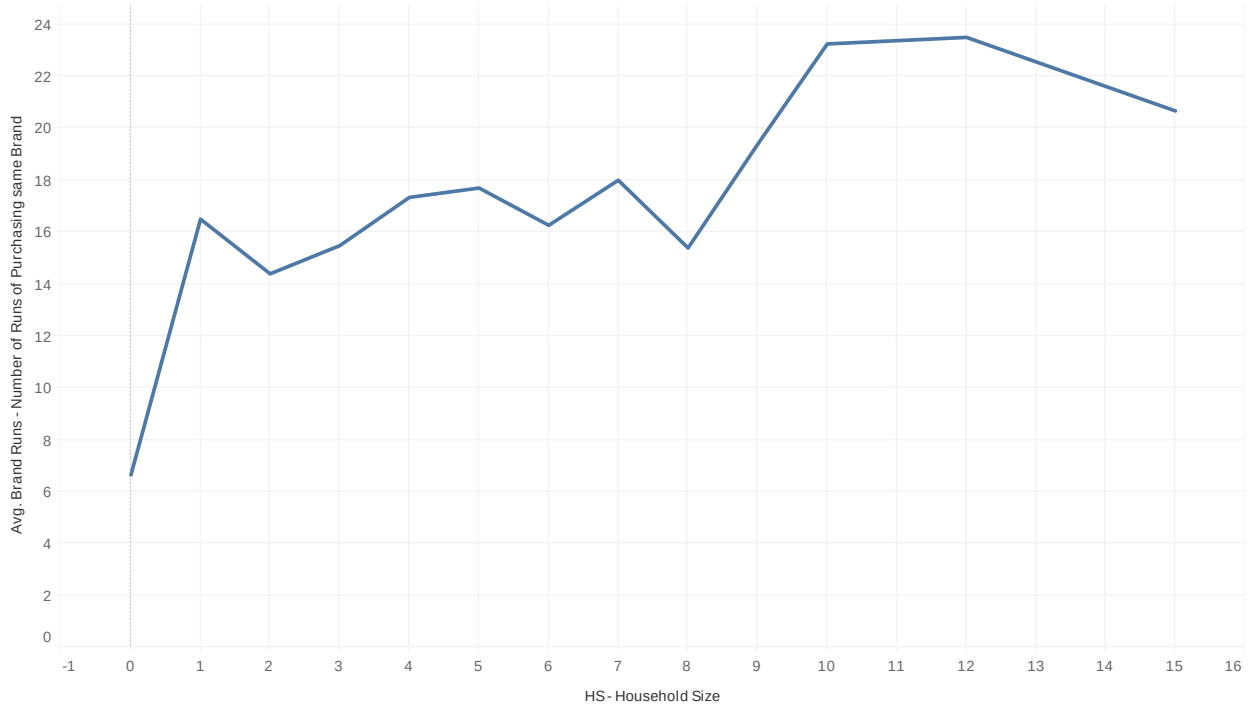


Appendix I.1.C



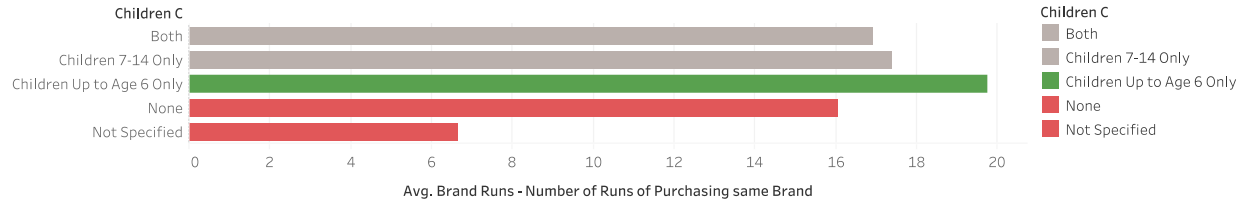
Appendix I.1.E

Brand Runs By Household Size

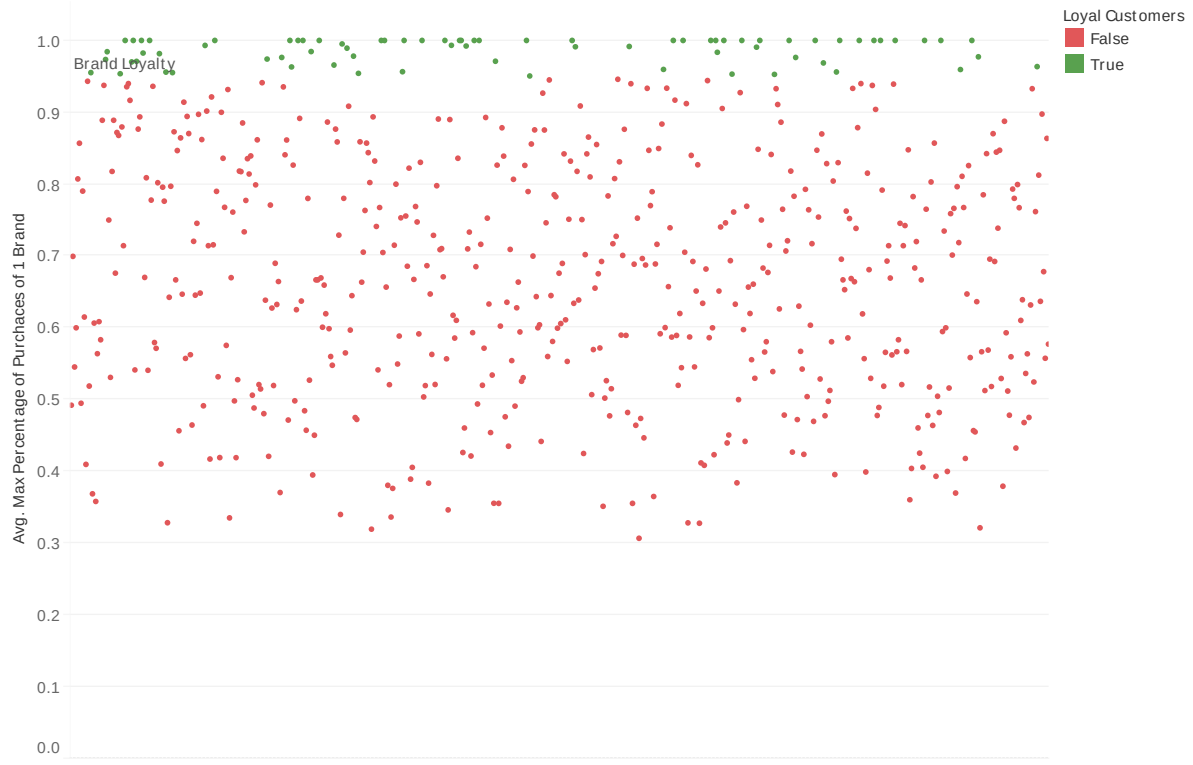


Appendix I.1.F

Brand Runs By Children In Household

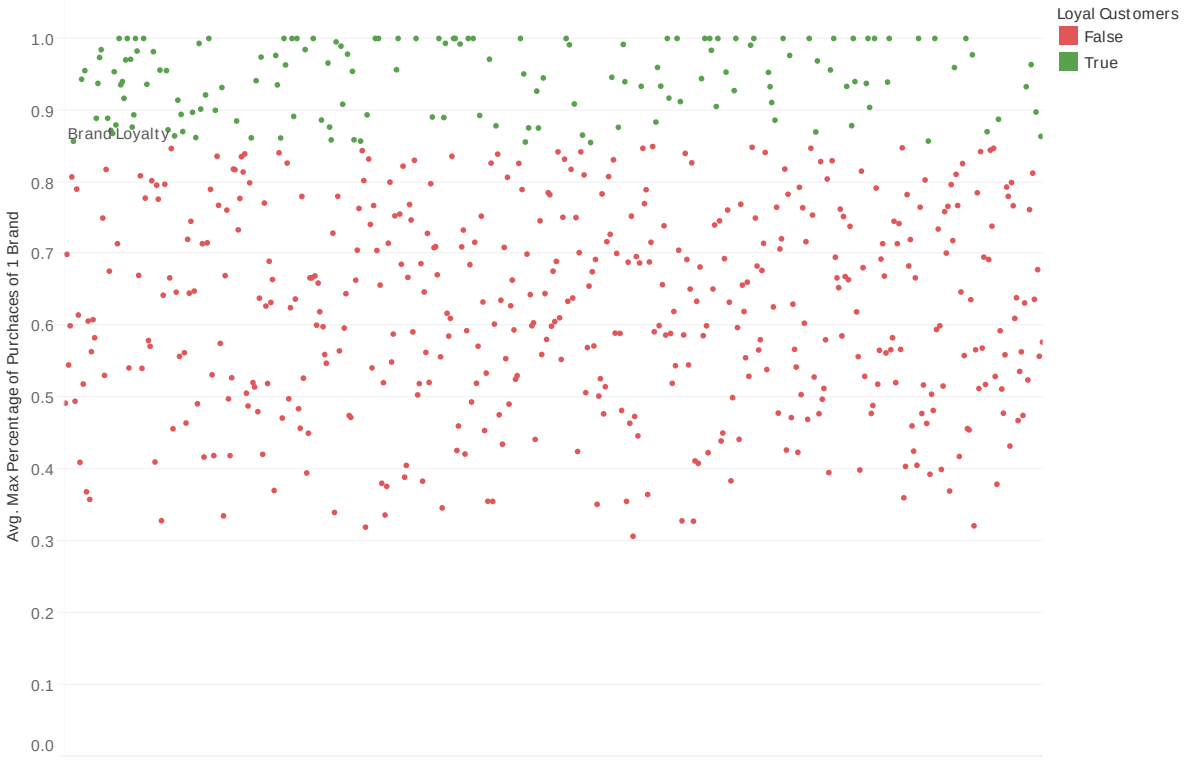


Appendix I.2.A



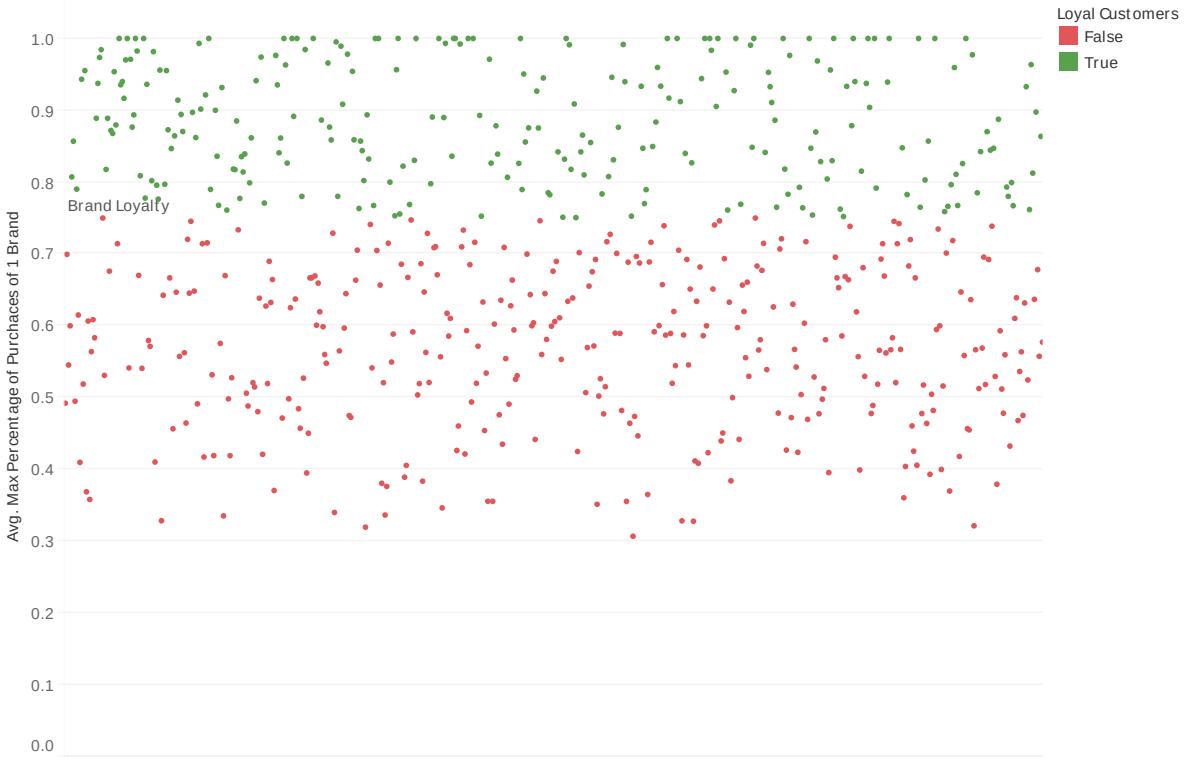
Appendix I.2.B

Maximum Percentage of Total Purchases of 1 Brand: 85%



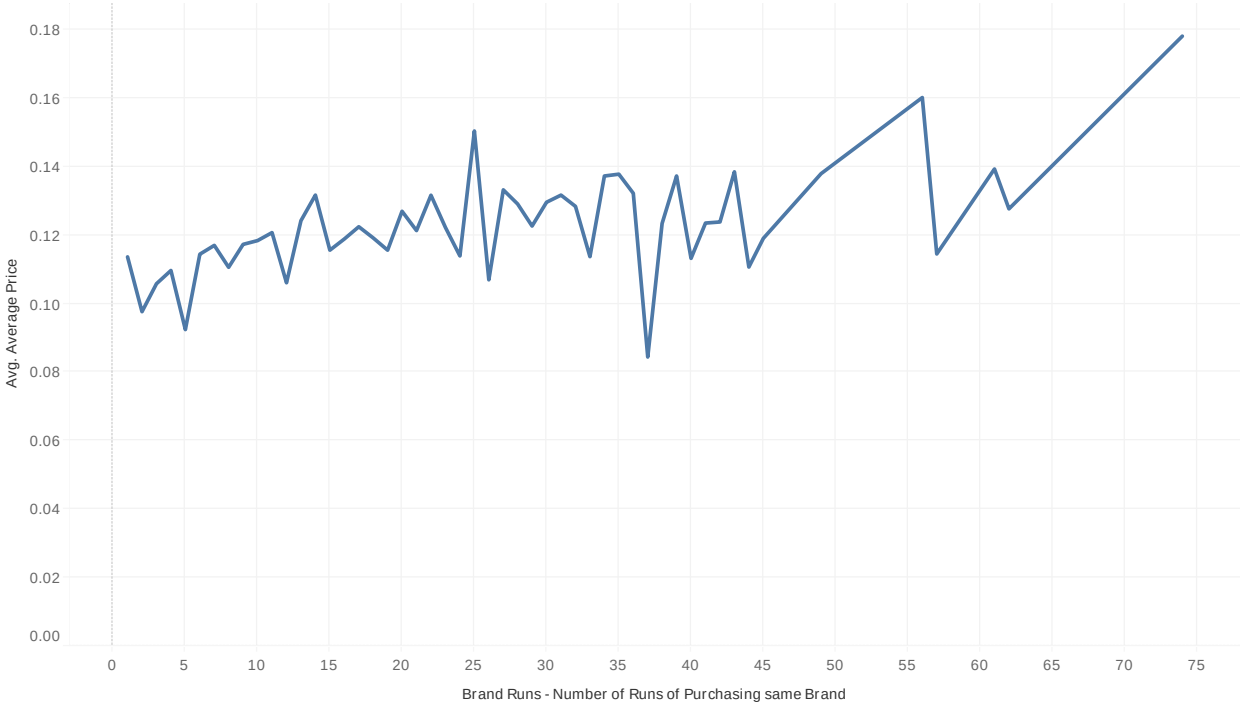
Appendix I.2.C

Maximum Percentage of Total Purchases of 1 Brand: 75%



Appendix I.3.A

Average Price by Brand Runs



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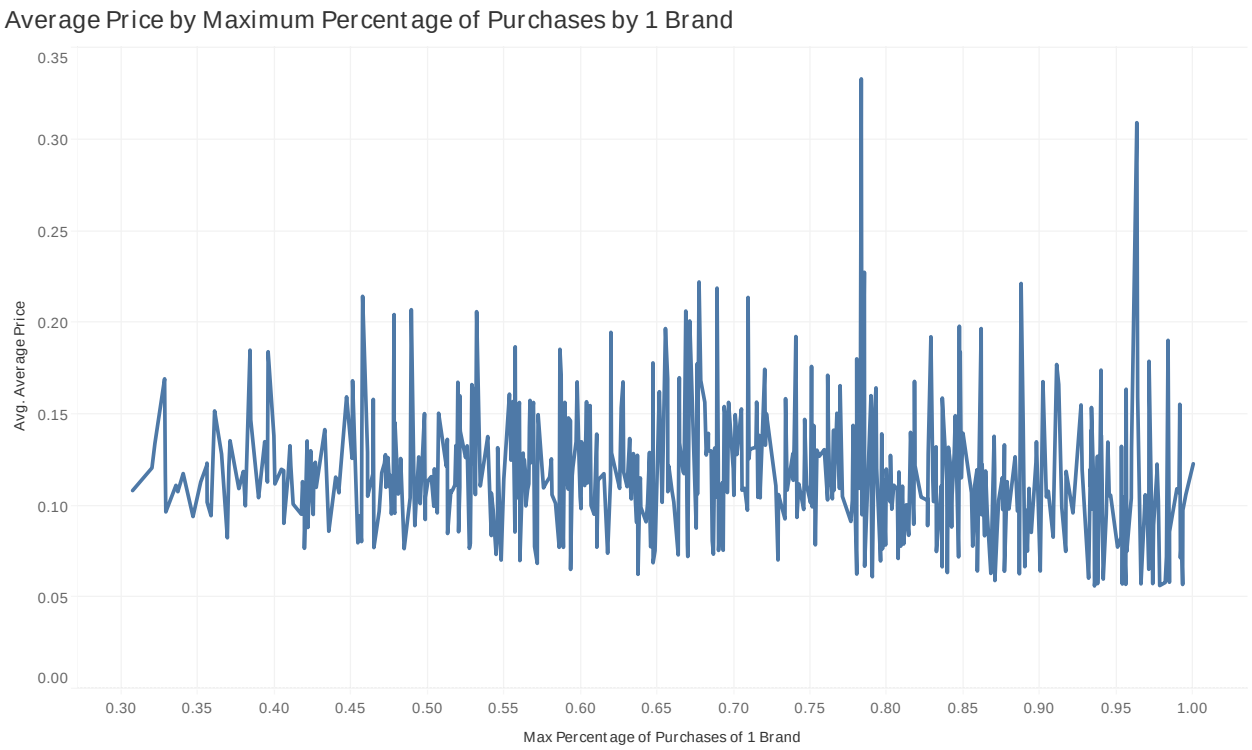

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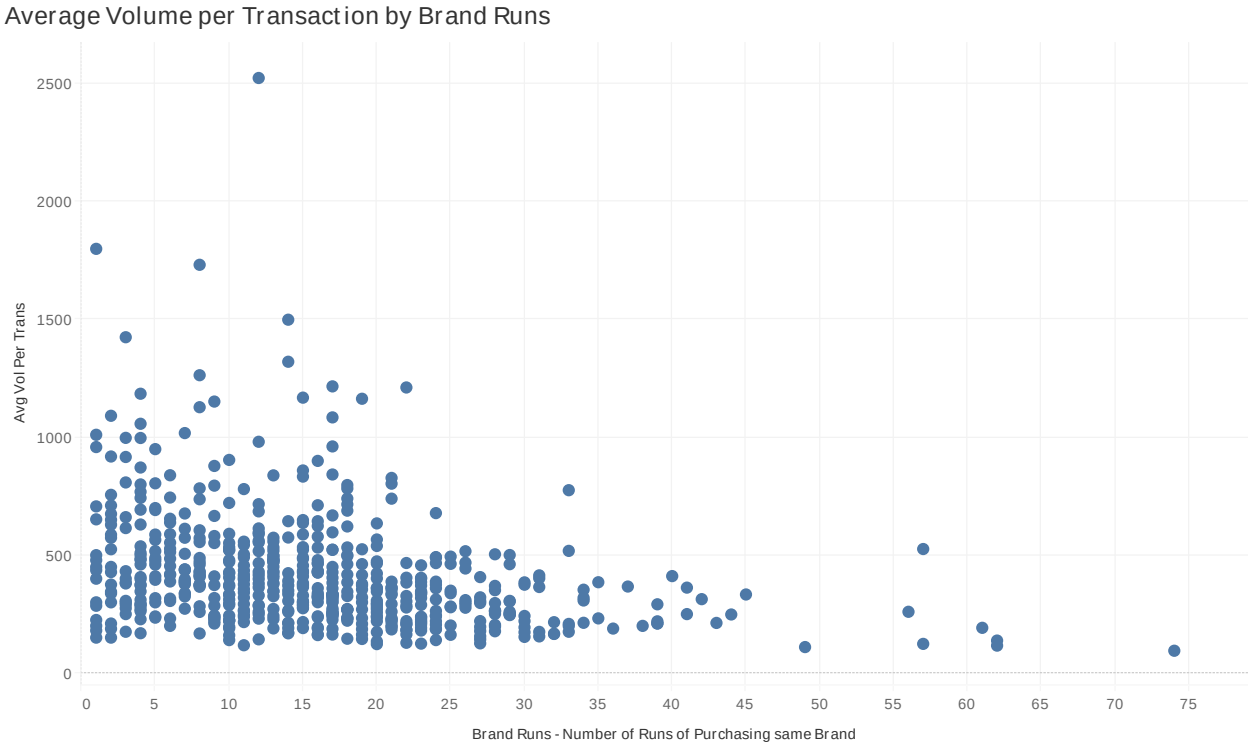

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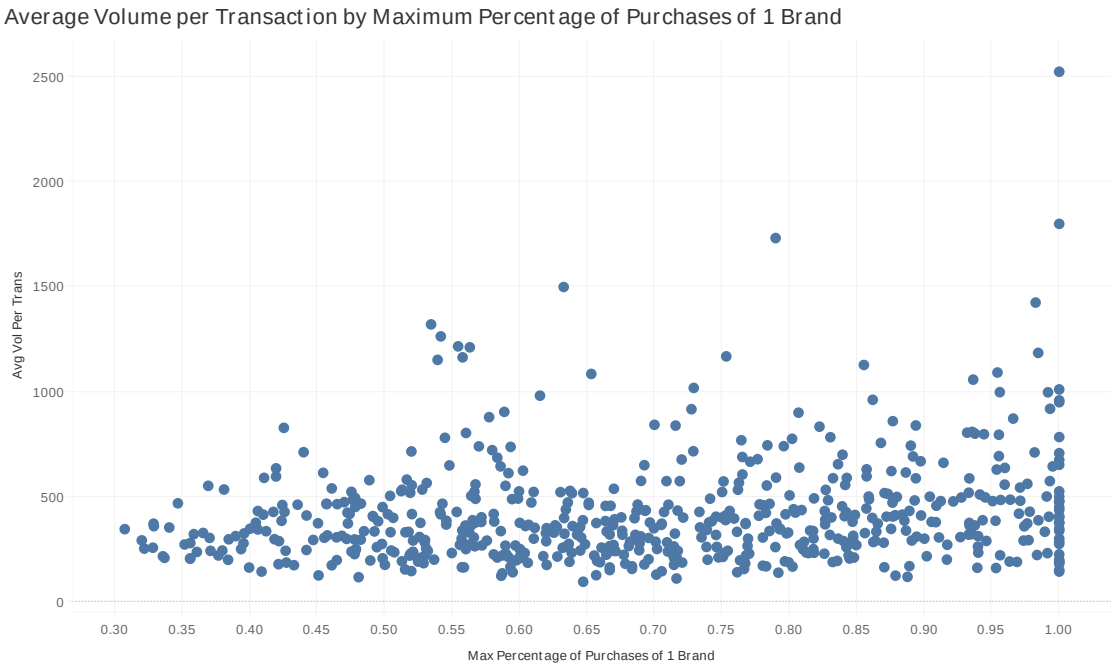
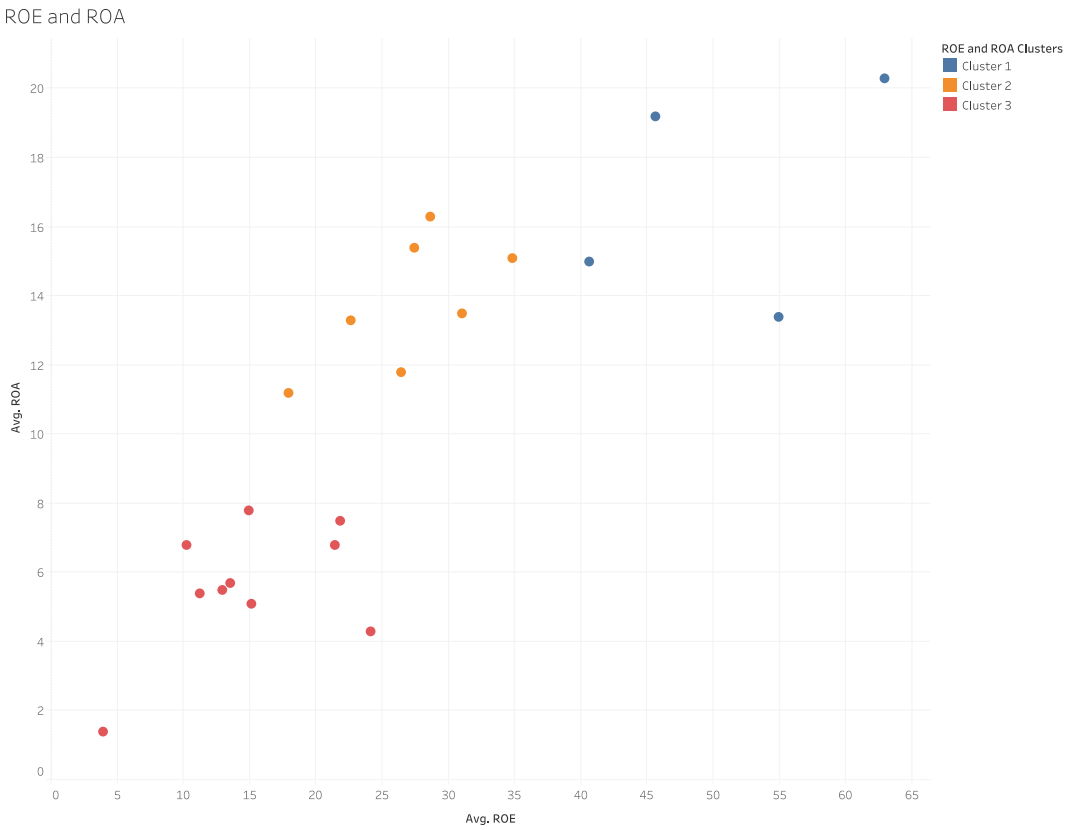


Appendix Part II

Appendix II.1.A



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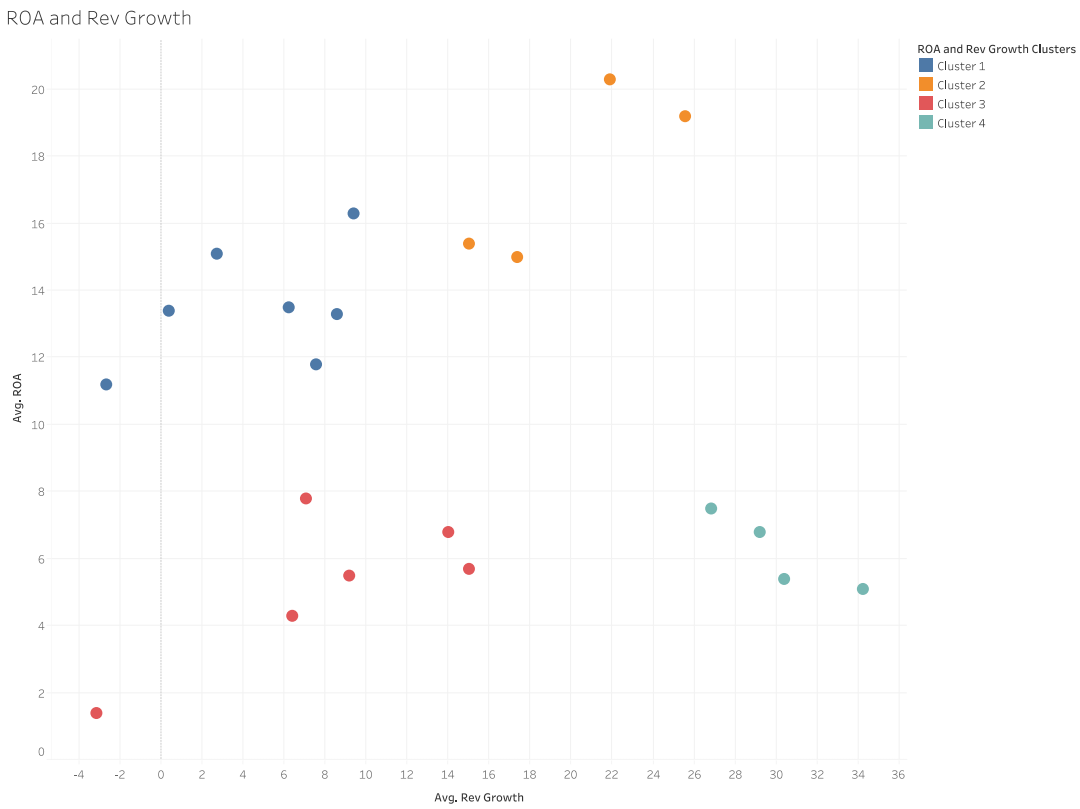
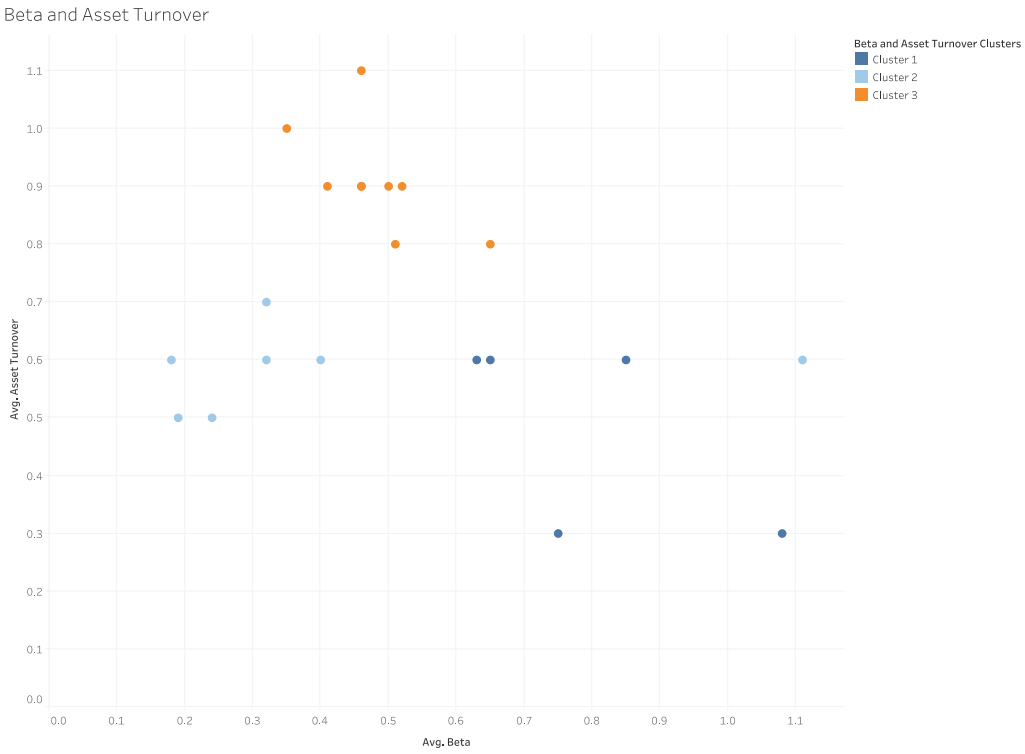
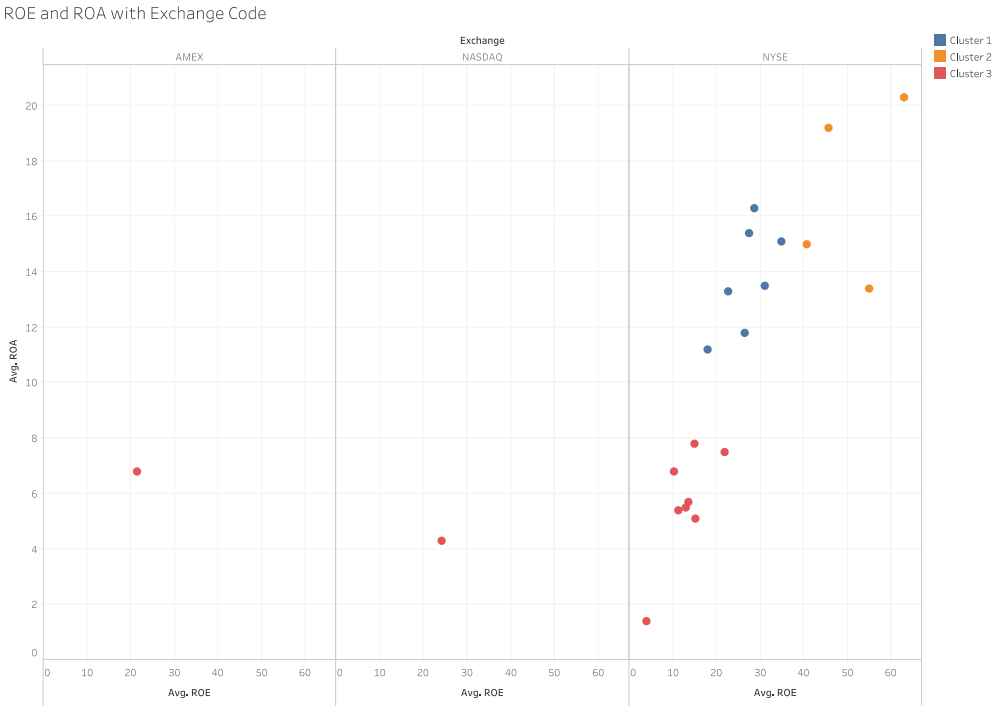


Appendix II.1.C

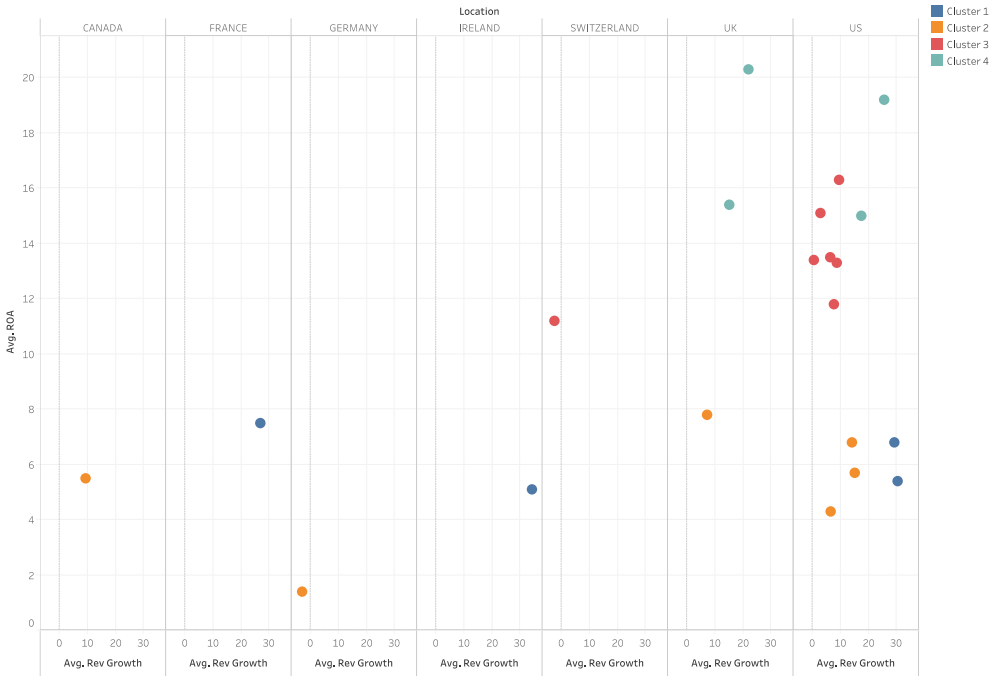


Appendix II.2.A



Appendix II.2.B

ROA and Rev Growth with Location



Appendix II.2.C

Beta and Asset Turnover with Median Recommendation