

June 2020

Category review: Chips

Retail Analytics



Classification: Confidential



Our 17 year history assures best practice in privacy, security and the ethical use of data

We all have a responsibility to use data for good

Privacy

- We have built our business based on privacy by design principles for the past 17 years
- Quantum has strict protocols around the receipt and storage of personal information
- All information is de-identified using an irreversible tokenisation process with no ability to re-identify individuals.

Security

- We are ISO27001 certified - internationally recognised for our ability to uphold best practice standards across information security
- We use 'bank grade' security to store and process our data
- Comply with 200+ security requirements from NAB, Woolworths and other data partners
- All partner data is held in separate restricted environments
- All access to partner data is limited to essential staff only
- Security environment and processes regularly audited by our data partners.

Ethical use of data

Applies to all facets of our work, from the initiatives we take on, the information we use and how our solutions impact individuals, organisations and society.

Quantum believes in using data for progress, with great care and responsibility. As such please respect the commercial in confidence nature of this document.

Executive summary

01

Task 1

Sales typically rise in December leading up to Christmas, excluding Christmas Day itself, making this period critical. Kettle emerges as the top-selling brand, followed by Smiths, Doritos, and Pringles, which should be kept in stock. The most popular package size is the 175-gram option. The primary customer segments include mainstream young singles and couples, as well as retirees, who together account for a significant portion of chip sales. Additionally, budget-conscious older families contribute the most to overall sales.

02

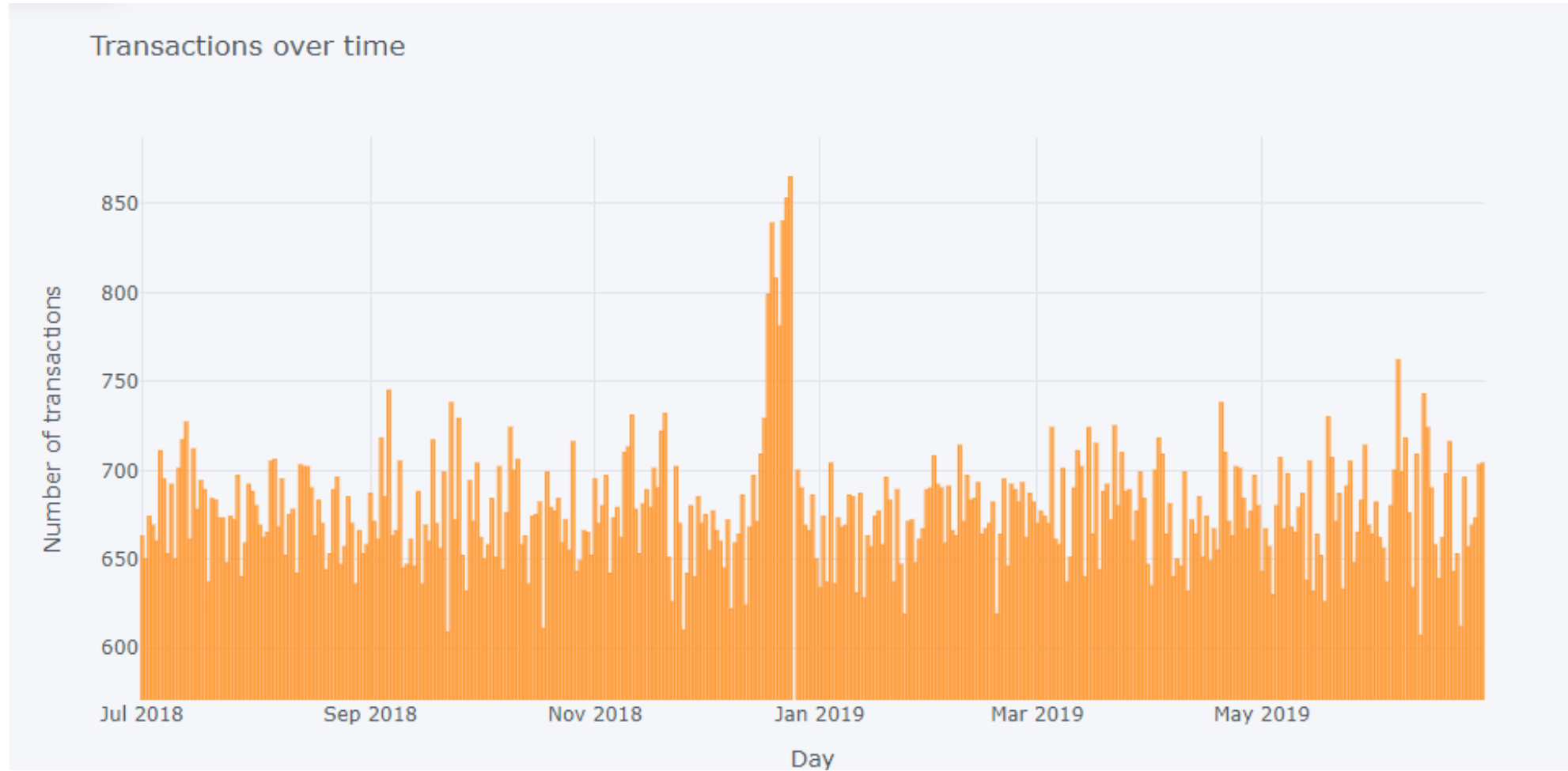
Task 2

A control store was chosen for each trial store, and the metrics were compared between the trial and pre-trial periods. The results for trial stores 77 and 88 during the trial period indicate a significant difference in at least two of the three months. However, this was not observed for trial store 86.

01

Customer Analysis

Sales distribution

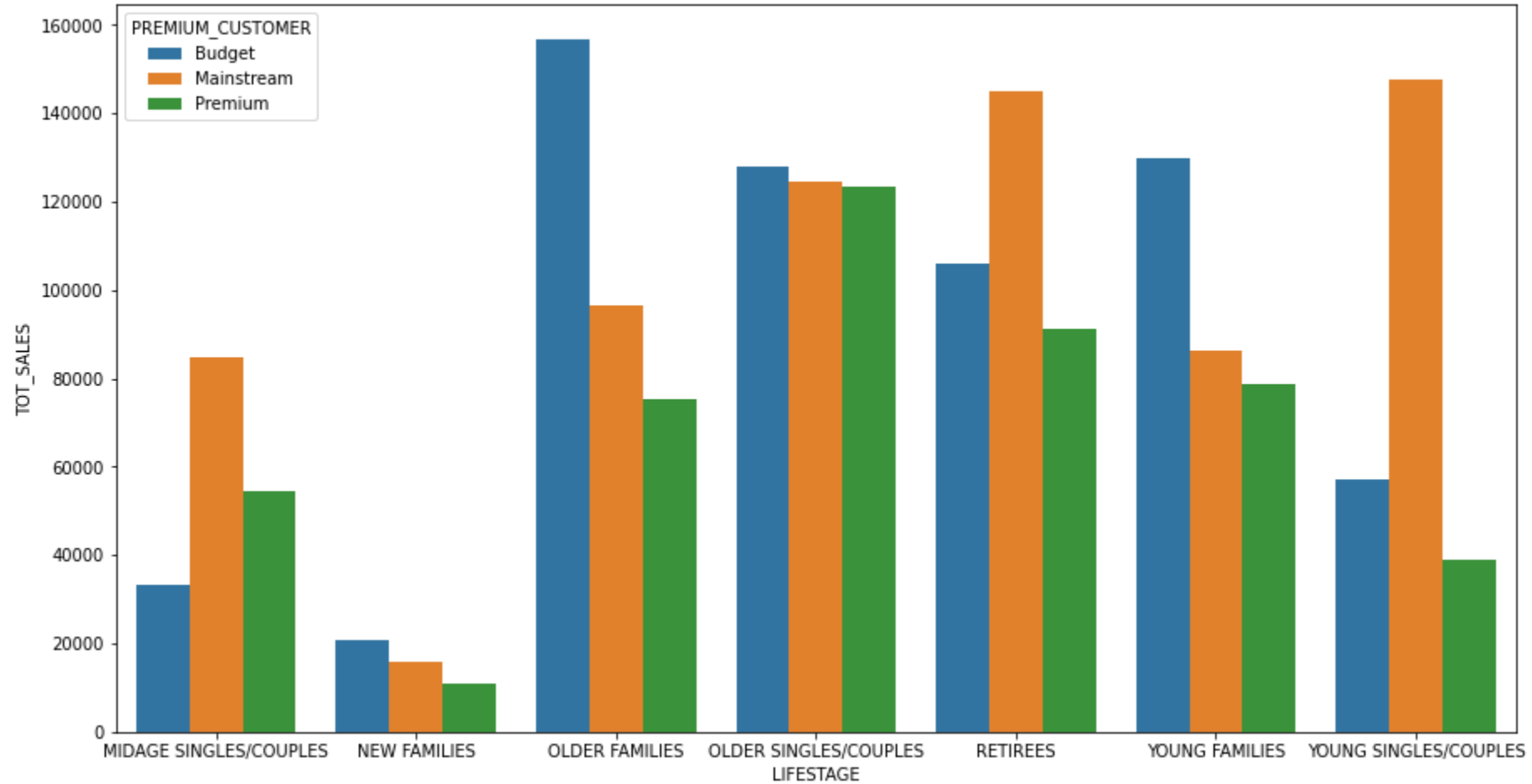


The sales have a sudden hike in the month of December before the Christmas (except the day itself). Whereas there is no sales on 25th.

Affluence and its effect on consumer buying for the category of chips

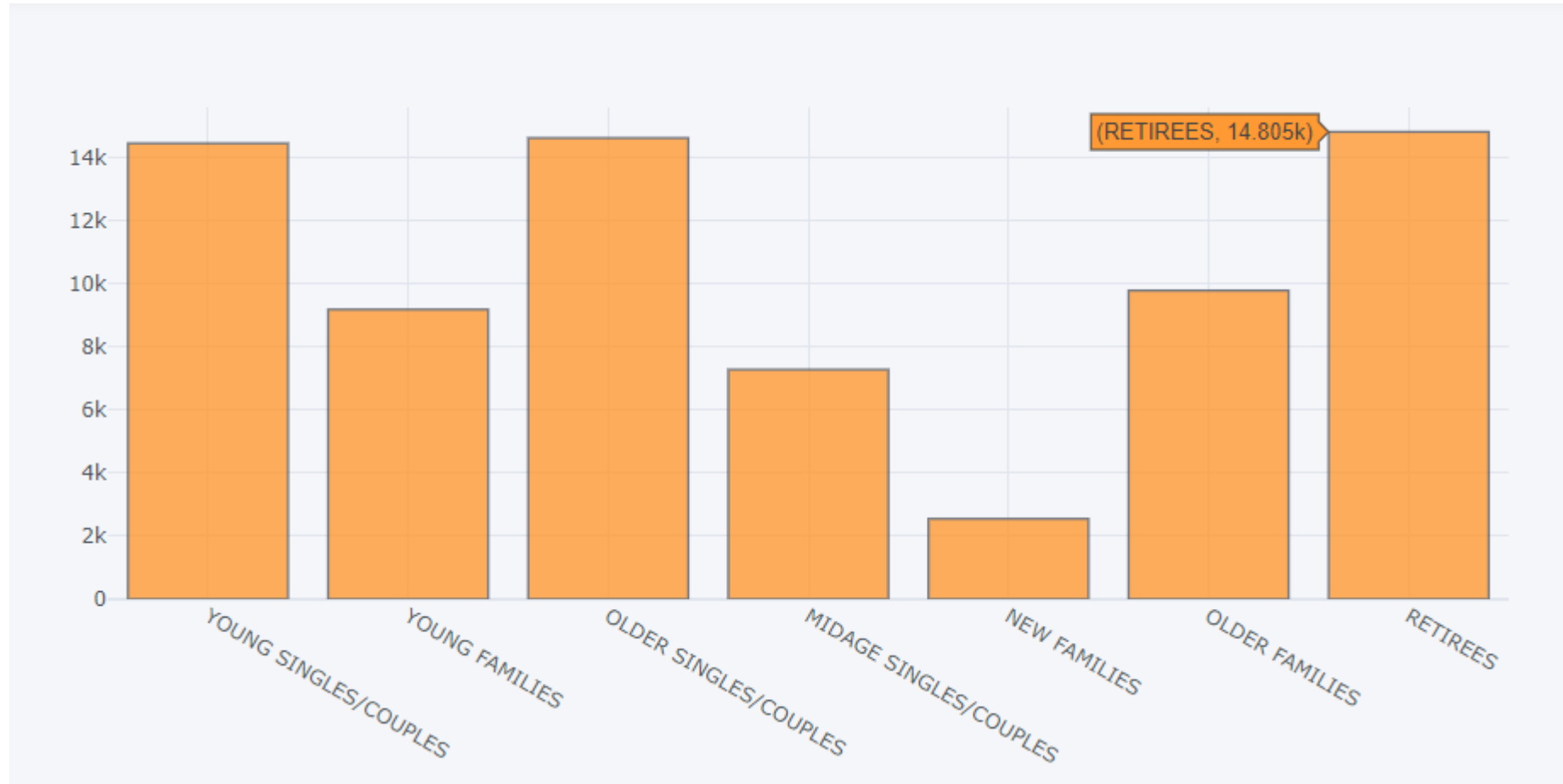
Kettle ranks as the leading brand, followed by Smiths, Doritos, and Pringles. The primary customers are mainstream young singles and couples, as well as retirees, who together represent a significant portion of chip sales. Budget-conscious older families contribute the most to total sales. Additionally, mainstream young singles and couples, along with middle-aged singles and couples, tend to spend more per packet than any other demographic group.

Visualising the proportion of customers by affluence and life stage on this slide



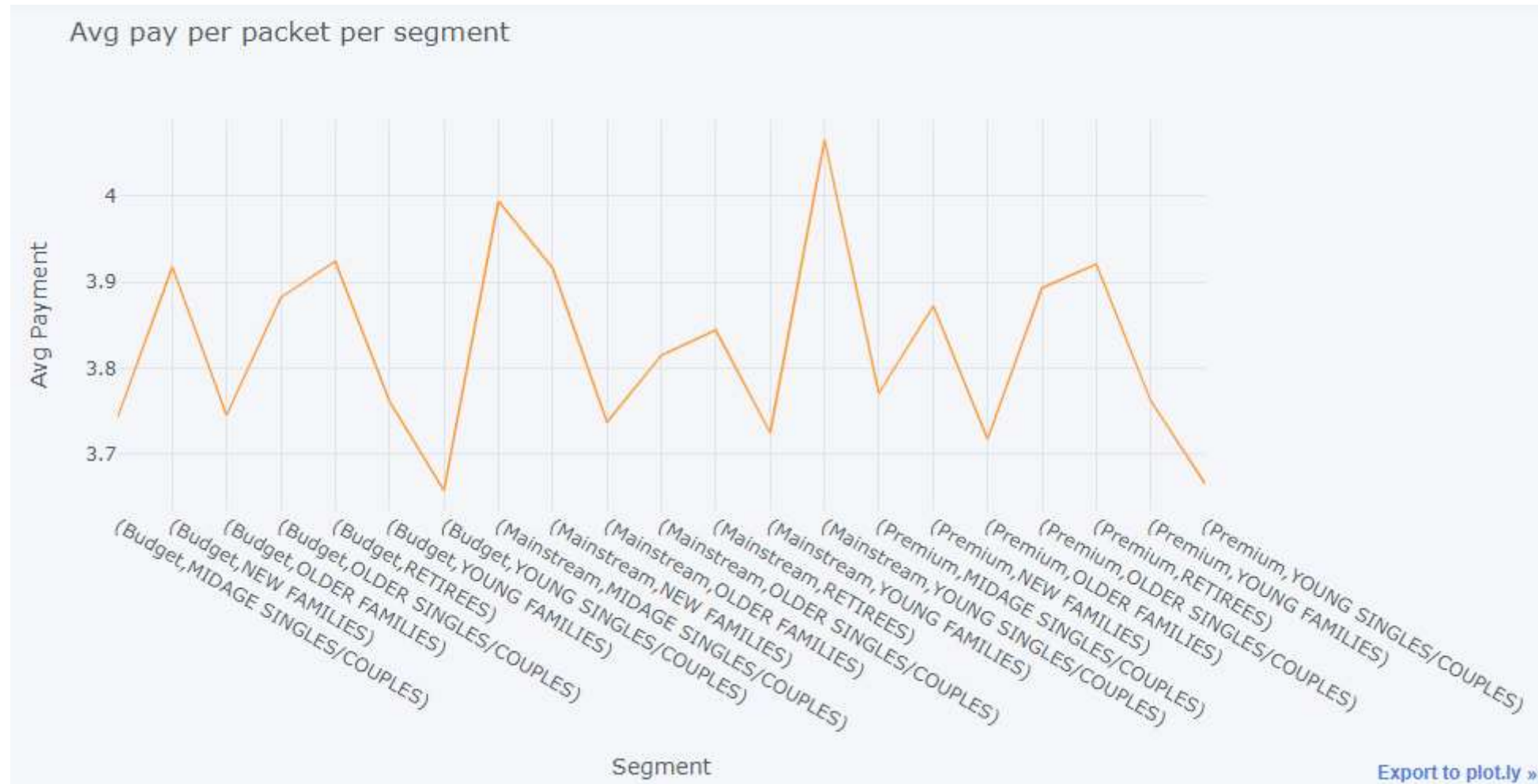
It can be clearly visualized that mainstream young singles/couples, retirees are customers contributing the most

Distribution of life stage of customers



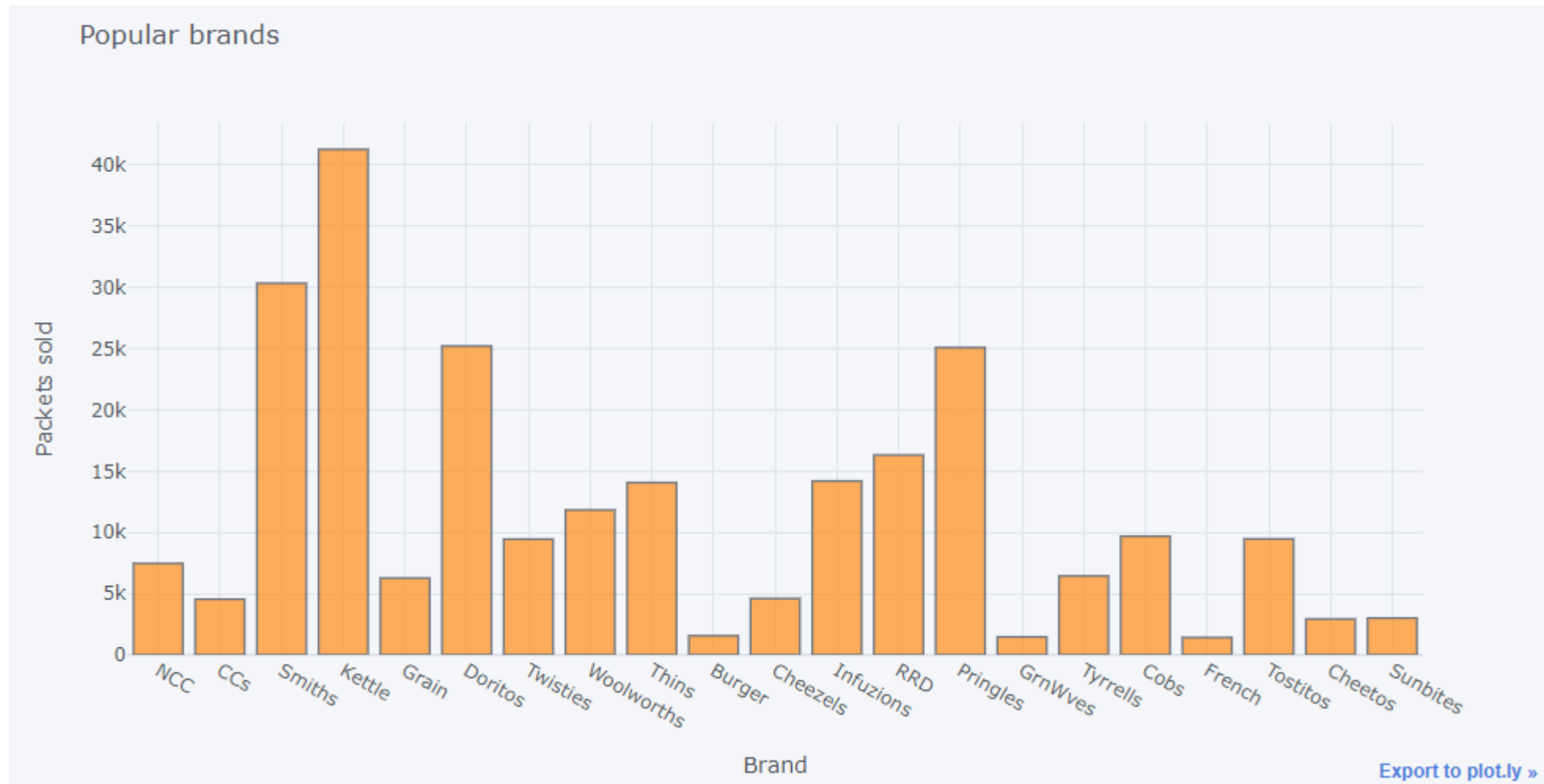
It can be seen that retirees, young singles/couples, retirees are the most common customers

Average expenditure per segment



mainstream young singles/couples also spend the most

Popular brands

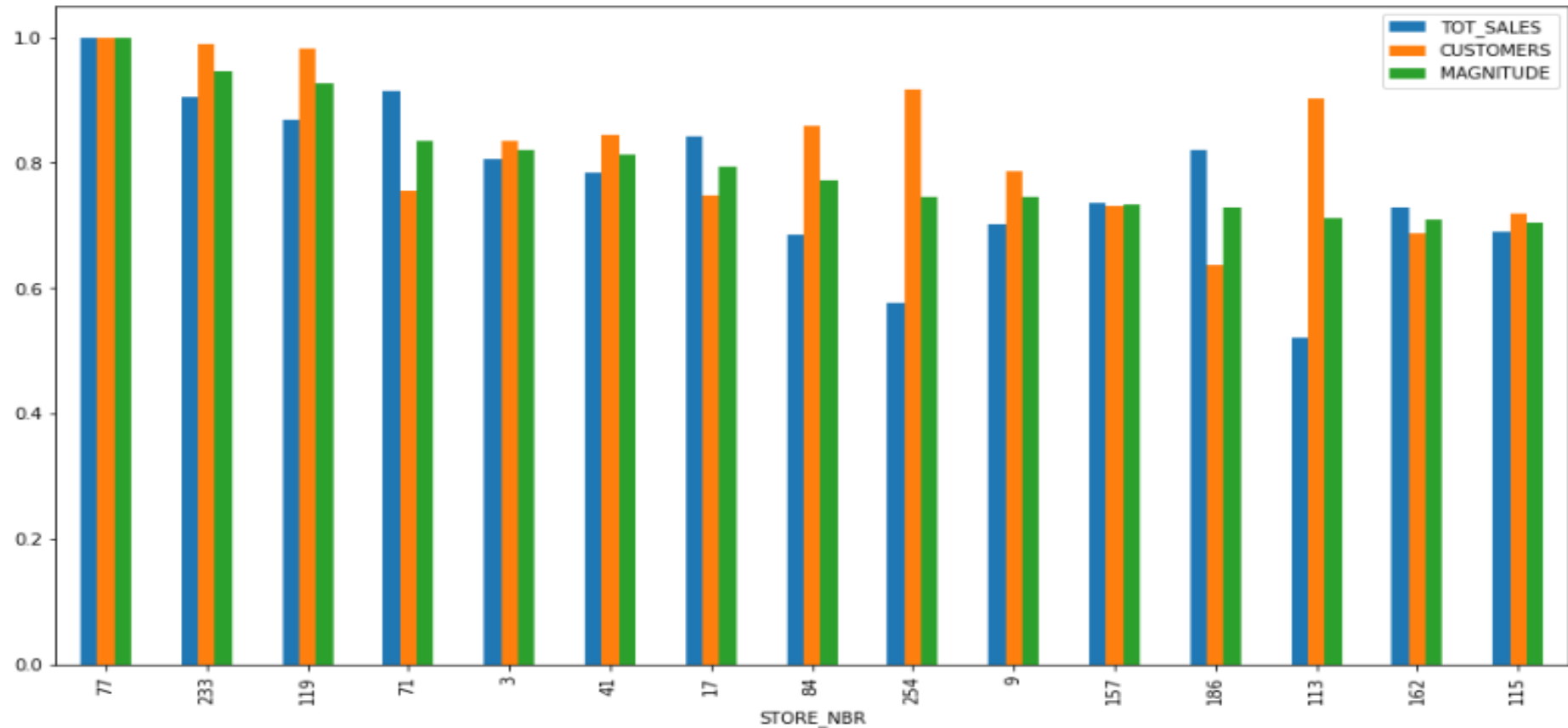


Kettle is the most popular brand followed by Smiths, Doritos and Pringles.

02

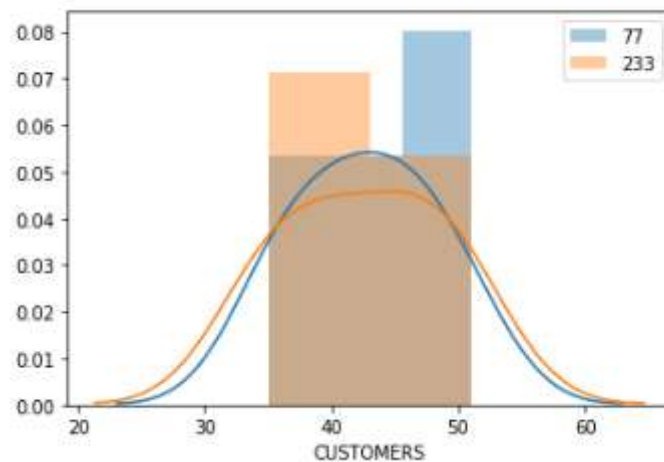
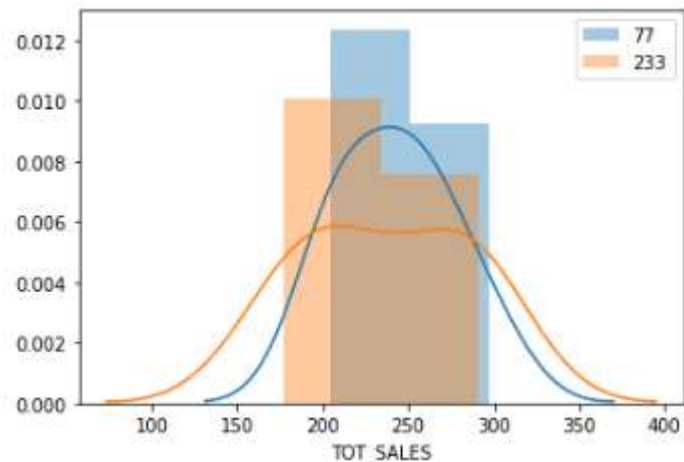
Trial store performance

Correlation of the control store 77 vs other stores



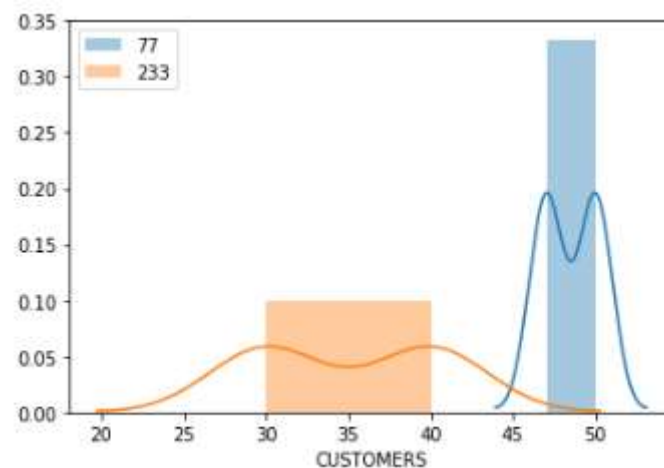
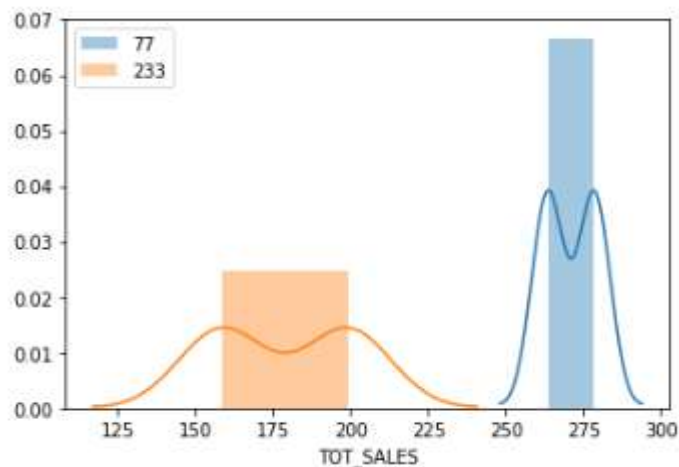
Stores with maximum similarities have the highest correlation. So stores 233, 119 and 79 are the most correlated.

Trial store 77 vs Store 233



Distributions of total sales and customers in pretrial period

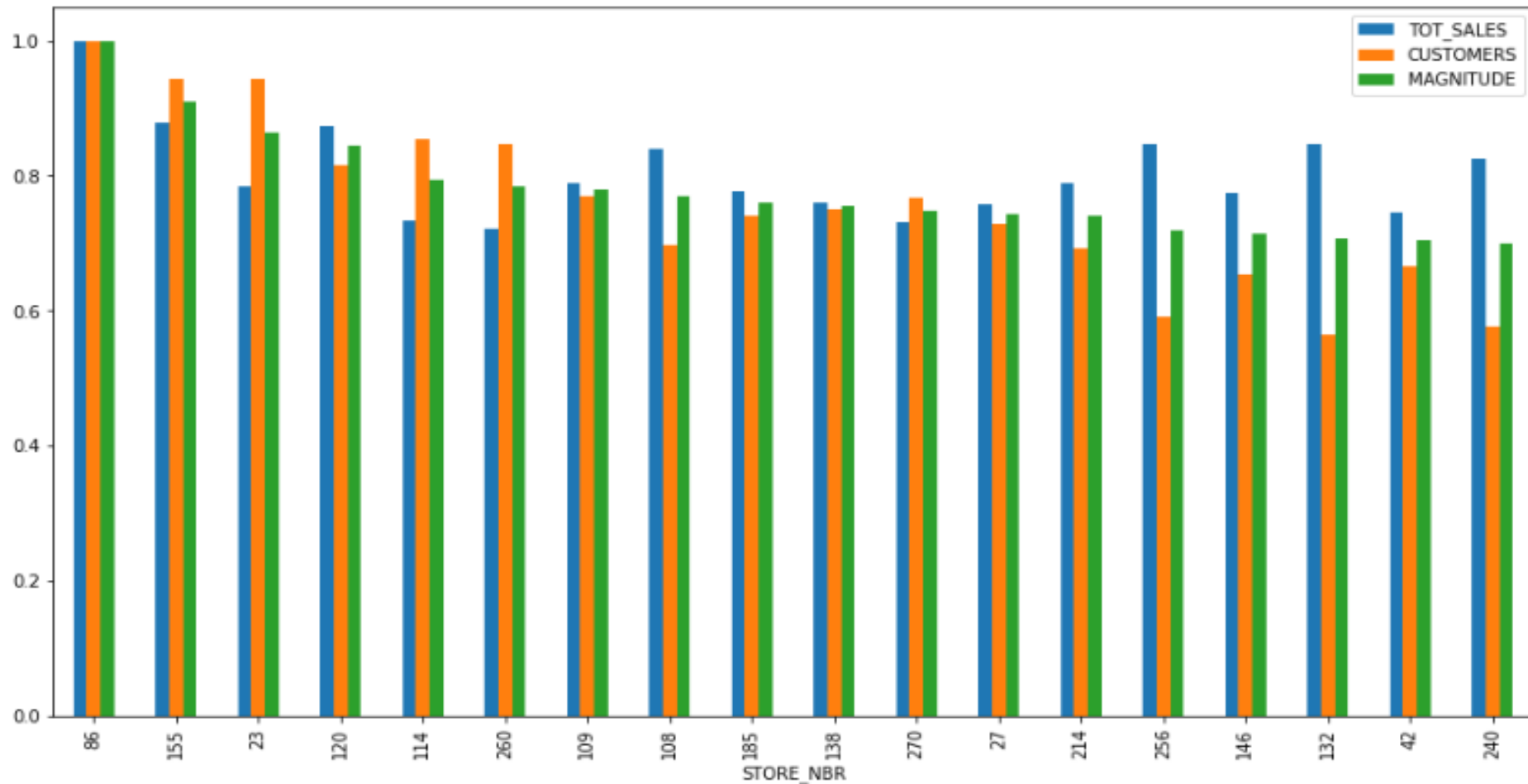
- Means don't vary and there is no significant difference



Distributions of total sales and customers in pretrial period

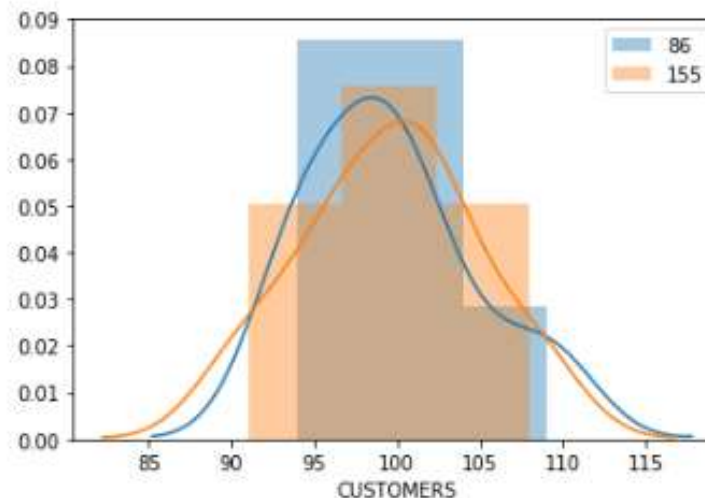
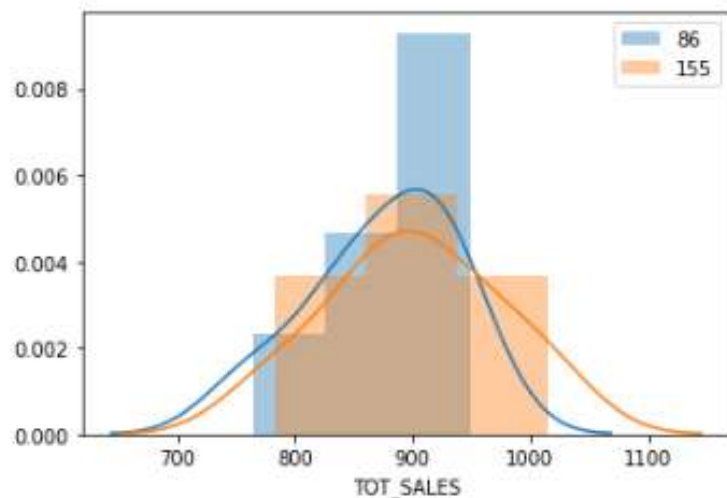
- Means vary and there is a significant difference

Correlation of the control store 86 vs other stores



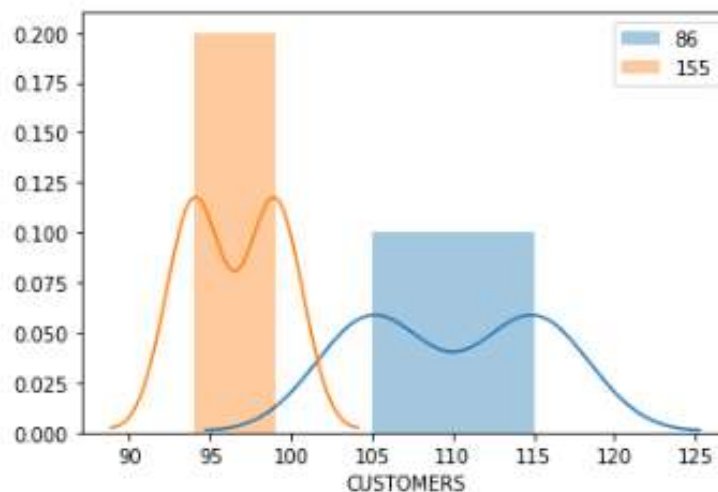
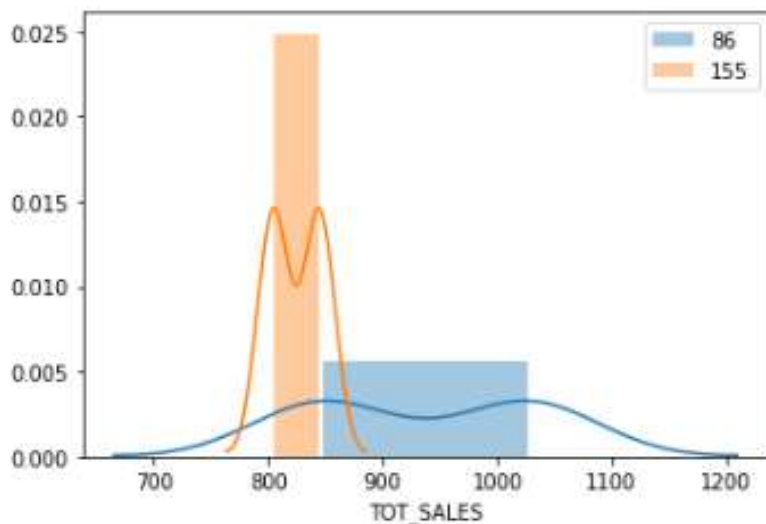
Stores with maximum similarities have the highest correlation. So stores 255, 23 and 120 are the most correlated.

Trial store 86 vs Store 155



Distributions of total sales and customers in pretrial period

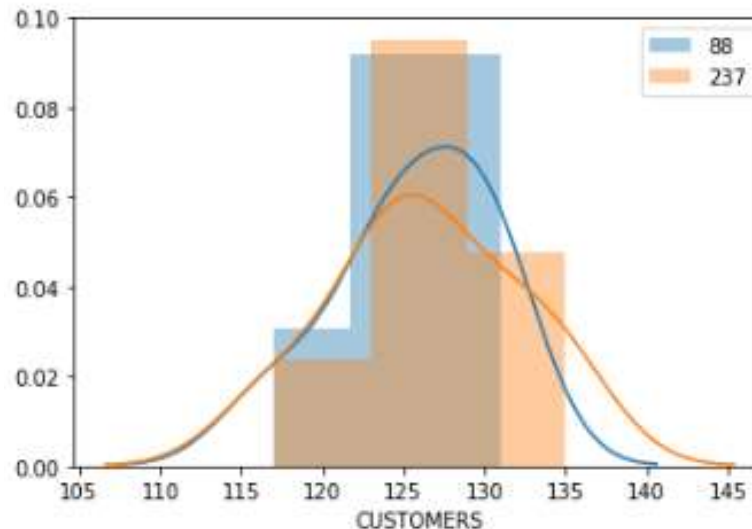
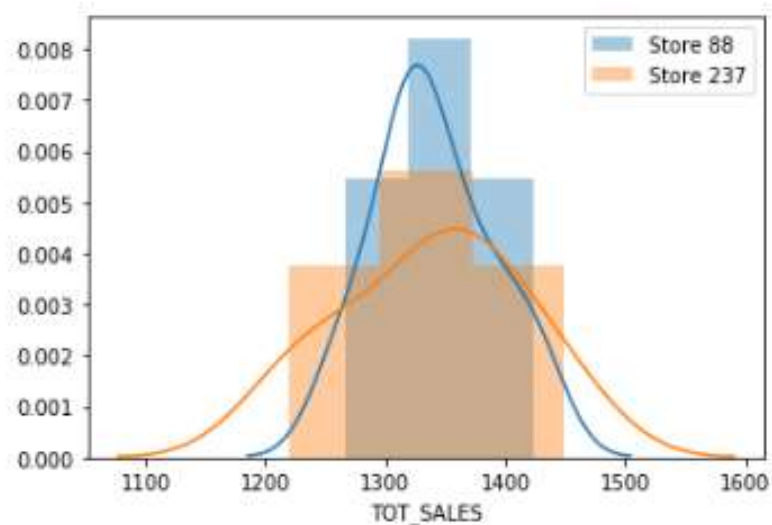
- Means don't vary and there is no significant difference



Distributions of total sales and customers in pretrial period

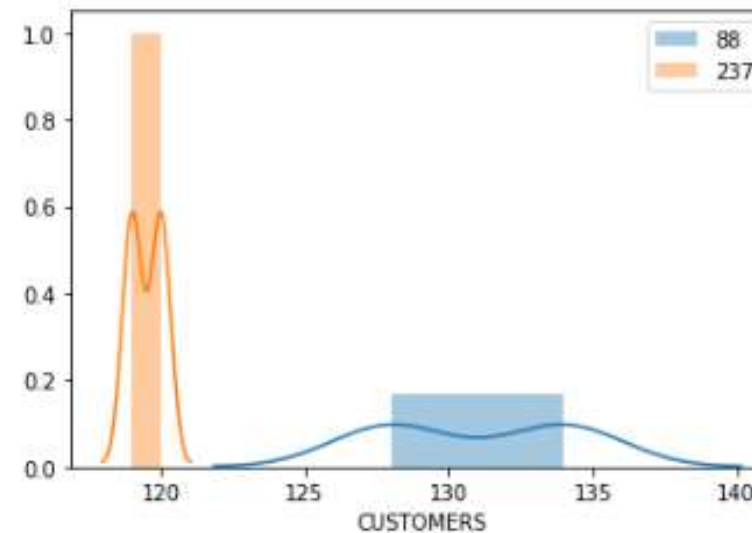
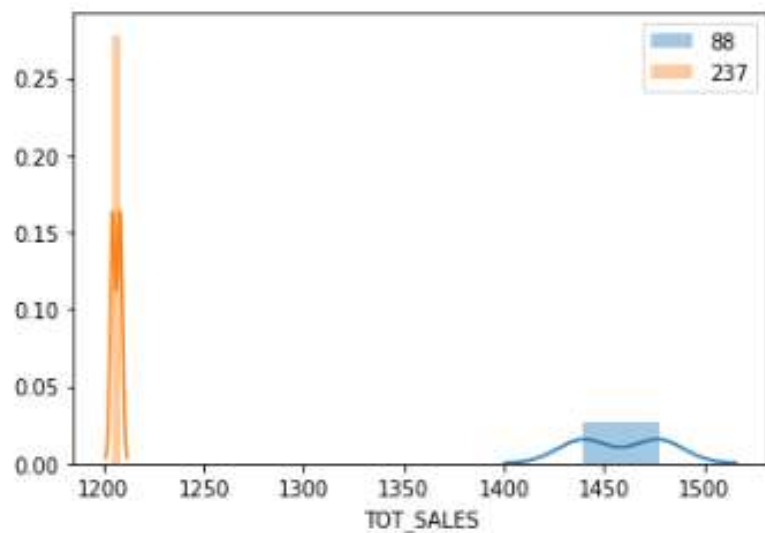
- Means vary and there is a significant difference

Trial store 88 vs Store 237 – Similarly selecting store 237 as trial store for store 88



Distributions of total sales and customers in pretrial period

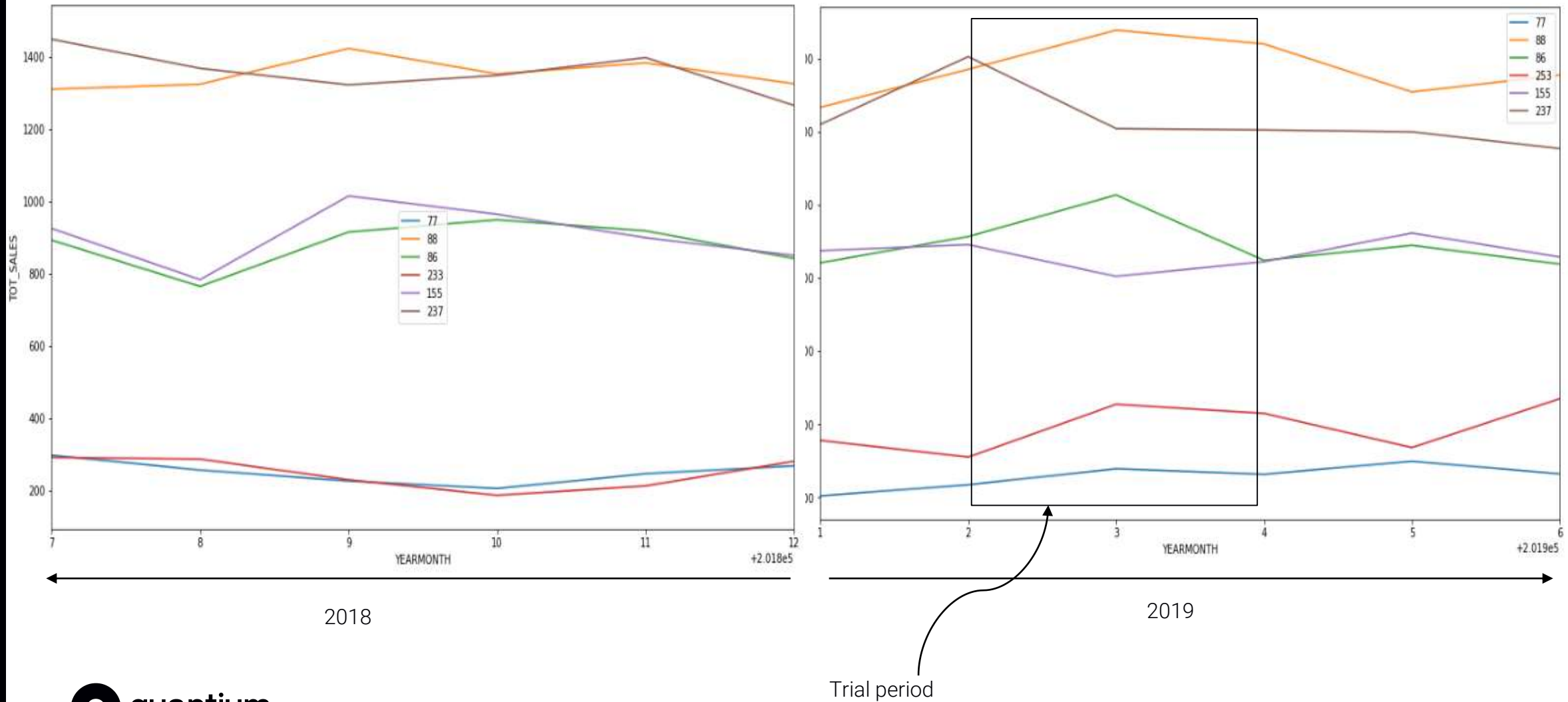
- Means don't vary and there is no significant difference



Distributions of total sales and customers in pretrial period

- Means vary and there is a significant difference

The control store were set up to measure sales whether trial store are doing better during the trial period or not.



Conclusion

- We've found control stores 233, 155, 237 for trial stores 77, 86 and 88 respectively.
- The results for trial stores 77 and 88 during the trial period show a significant difference in at least two of the three trial months but this is not the case for trial store 86.
- We can check with the client if the implementation of the trial was different in trial store 86 but overall, the trial shows a significant increase in sales.

Recommendations

1. Stocks should be high in December before the Christmas
2. Kettle, Smiths, Doritos and Pringles should be kept in stocks as they are the most sold
3. Mainstream young singles/couples, retirees are the account for a great share of chips sale so they need much attention.
4. Budget older families have the maximum contribution to sales.
5. Control stores 233, 155, 237 for trial stores 77, 86 and 88 respectively would be a good choice



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