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Category review: Chips

Retail Analytics



Classification: Confidential



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Executive summary

01

Exploratory & Statistical Data Analysis

How can Quantum increase profitability and sales based on Customer Purchases and Transactions for Chips?

Off-locate Doritos and 175 g pack size to discretionary area to increase visibility and impulsive behaviour for the target customer segments.

Sales are highest in the month of December as we come closer to Christmas.

“Budget – Old Families and Mainstream – Young Singles/Couples” are the target customers when aspects of Customer Segments was analysed with Total Sales, Product Quantity, Average Product Ratio and Average Price. The brand “Doritos” are one of the most purchased by the target customers followed by “Smiths”.

Pack size of 175 g is preferred by all the customer segments, especially by “Older Families”.

02

Experimentation & Uplift Testing

What methods will Quantum use to boost sales in Trial Stores 77, 86 and, 88 in the trial period based on the results of their respective control stores from the pre-trial period?

Control stores are Store 38, 155 and, 237 for trial stores 77, 86 and, 88 respectively.

Trial shows a significant increase in sales and customers in months of March and April 2019

Trial stores 77 and 88 during the trial period show a significant difference in at least one of the three months on aspects of Total Sales and Number of Customers

Implementation of trial store 86 might be different than that of it's corresponding control store, 155.

01 Exploratory and Statistical Analysis

Sales by Month

Sales are **highest** in the month of **December** on **24th** as we come closer to Christmas equal to **2424.4**.

Customer Segments

“Budget – Old Families and Mainstream – Young Singles/Couples” are the target customers.

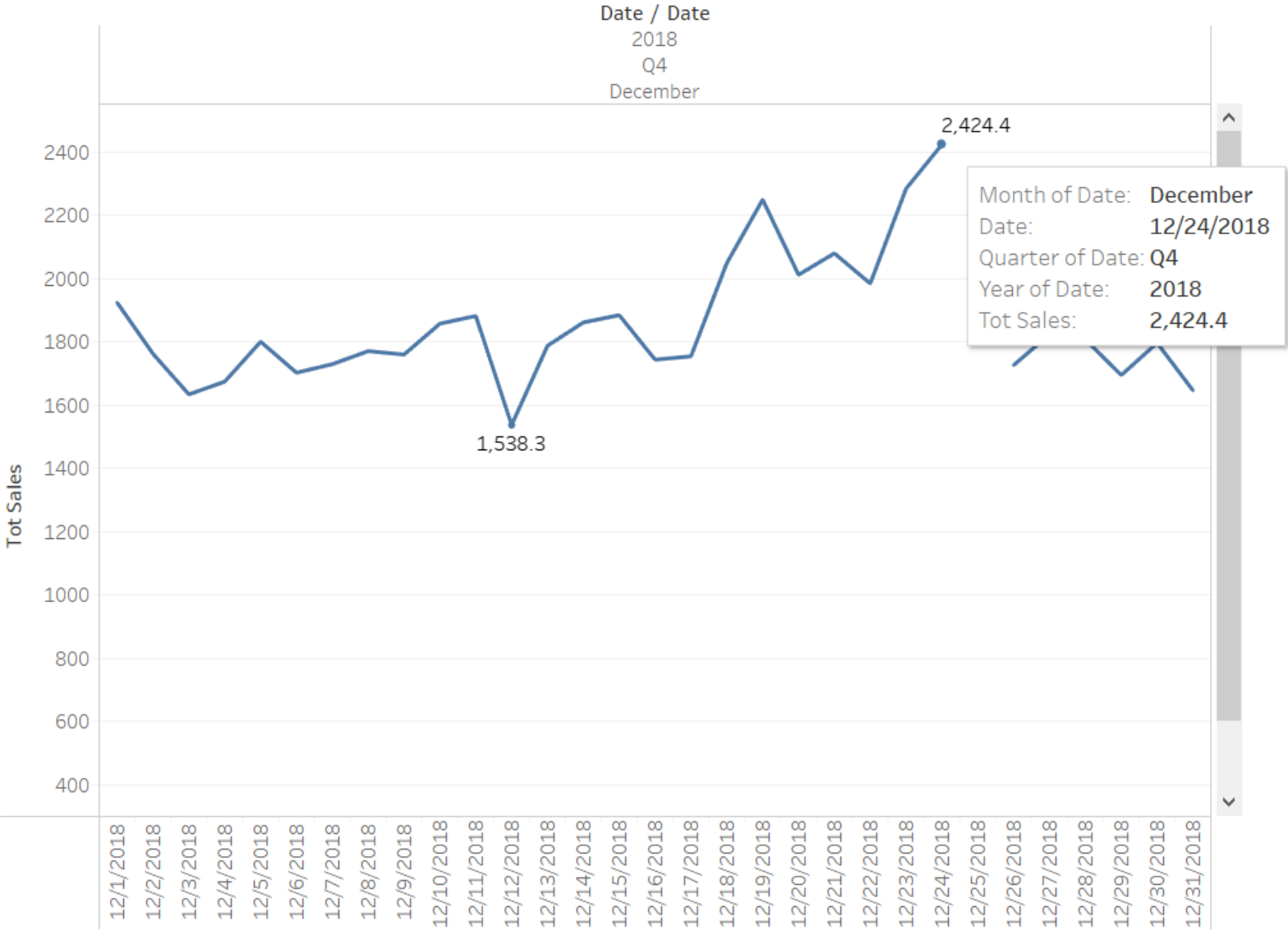
“Budget – Old Families” give a **total sales** of **55,397**; **Number of customers** from this segment are **3,412** and contribute to the highest number of products bought, **14,953**.

“Mainstream – Young Singles/Couples” give a **total sales** of **51,745**; **Number of customers** from this segment are **4,558** and contribute to the highest number of products bought, **12,851**.

Brand

The brand “Doritos” are one of the most purchased by the target customers. They give an **average product ratio per customer** equal to **2.106** and **average price per unit** equal to **4.588** producing **sales** of **15,412**.

December vs. Purchase



The sales were the highest for December 2018 and it kept increasing from a minimum of 1538.3 on 12th December to a highest of 2424.4 on 24th December 2018. This could be due to increased number of customers to purchase for Christmas and Christmas Eve.

There were no purchases on 25th December 2018 as stores were closed due to Christmas

Total Sales by Customer group

Lifestage	Budget	Premium Customer Mainstream	Premium
MIDAGE SINGLES/COUPLES	12,248	30,233	19,157
NEW FAMILIES	7,143	5,670	3,747
OLDER FAMILIES	55,397	35,109	26,147
OLDER SINGLES/COUPLES	45,217	44,498	43,721
RETIREEES	37,648	51,106	31,696
YOUNG FAMILIES	46,246	31,258	28,182
YOUNG SINGLES/COUPLES	20,584	51,745	14,241

Average Product Ratio

Lifestage	Budget	Premium Customer Mainstream	Premium
MIDAGE SINGLES/COUPLES	3.393	3.473	3.276
NEW FAMILIES	2.822	2.794	2.762
OLDER FAMILIES	4.382	4.451	4.341
OLDER SINGLES/COUPLES	3.447	3.492	3.489
RETIREEES	3.233	3.162	3.193
YOUNG FAMILIES	4.266	4.238	4.302
YOUNG SINGLES/COUPLES	2.677	2.819	2.729

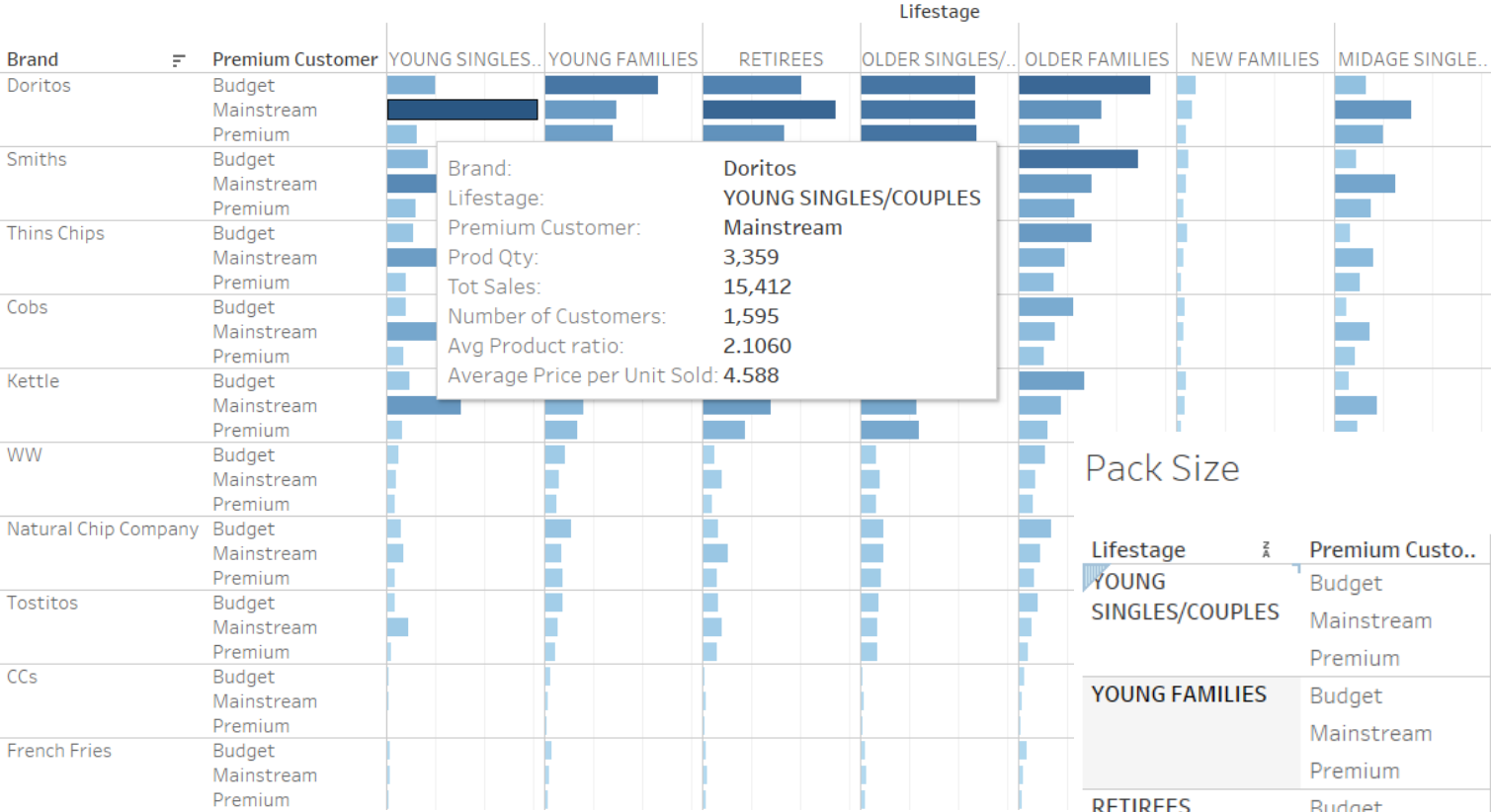
Segemnted number of Customers by Product Quantity

Lifestage	Budget	Premium Customer Mainstream	Premium
MIDAGE SINGLES/COUPLES	3,315	7,713	5,150
NEW FAMILIES	1,857	1,453	975
OLDER FAMILIES	14,953	9,476	7,149
OLDER SINGLES/COUPLES	11,797	11,765	11,408
RETIREEES	9,730	13,424	8,177
YOUNG FAMILIES	12,458	8,455	7,575
YOUNG SINGLES/COUPLES	5,692	12,851	3,922

Number of Customers

Lifestage	Budget	Premium Customer Mainstream	Premium
MIDAGE SINGLES/COUPLES	977	2,221	1,572
NEW FAMILIES	658	520	353
OLDER FAMILIES	3,412	2,129	1,647
OLDER SINGLES/COUPLES	3,422	3,369	3,270
RETIREEES	3,010	4,245	2,561
YOUNG FAMILIES	2,920	1,995	1,761
YOUNG SINGLES/COUPLES	2,126	4,558	1,437

Brand Overview



The most sought out brand is “Doritos” which is popular among Mainstream customers and “Budget – Older Families”. We can see that “New Families” is the customer segment that buys “chips” the least. This could be the case because they are more health-conscious than their counterparts due to several reasons.

Pack Size

		Pack Size							
Lifestage	Premium Custo..	110g	150g	160g	170g	175g	200g	330g	380g
YOUNG SINGLES/COUPLES	Budget	528	860	261	1,010	2,159	370	170	334
	Mainstream	1,617	2,722	232	2,259	3,949	325	582	1,165
	Premium	446	604	201	635	1,403	254	113	266
YOUNG FAMILIES	Budget	1,185	2,143	438	2,233	4,459	715	439	846
	Mainstream	896	1,460	318	1,500	2,978	479	275	549
	Premium	851	1,237	257	1,297	2,738	435	258	502
RETIREES	Budget	1,143	1,916	277	1,676	3,205	397	389	727
	Mainstream	1,488	2,530	408	2,347	4,626	621	462	942
	Premium	971	1,522	206	1,373	2,785	330	288	702
OLDER SINGLES/COUPLES	Budget	1,337	2,245	350	2,017	4,009	524	439	876
	Mainstream	1,347	2,093	404	2,075	3,954	624	390	878
	Premium	1,214	2,205	355	1,923	3,931	502	431	847
OLDER FAMILIES	Budget	1,489	2,455	594	2,687	5,313	863	559	993
	Mainstream	981	1,582	327	1,615	3,428	576	333	634
	Premium	695	1,113	313	1,243	2,579	490	257	459
NEW FAMILIES	Budget	231	344	56	325	626	74	55	146
	Mainstream	184	320	40	231	463	50	39	126
	Premium	127	185	27	158	301	65	39	73
MIDAGE SINGLES/COUPLES	Budget	345	588	135	589	1,157	193	88	220
	Mainstream	951	1,549	192	1,306	2,487	256	369	603
	Premium	545	890	213	860	1,846	280	131	385

Pack size of 175 g is preferred by all the customer segments, especially by “Older Families”. Therefore, we can off-locate Doritos and 175 g pack size to discretionary area to increase visibility and impulsive behaviour

02 Experimentation and Uplift Testing

Trial Store Performance

Store 77

For the trial-period, the sales are well correlated with that of Store 38 except for the month of **April 2019**, when the sales in **Store 77** boom to **119.70** and that of Store 38 is 53.72. For the **trial-period**, the “**total customers**” are well correlated with that of Store 38 **except** for the months of **March 2019 – April 2019**, when the number of customers in **Store 77** drastically **increase** to **15-23** and that of Store 38 is 13.

Store 88

The **sales go high** in the month of **March 2019** to **520.4** in the mid of the trial period. Store 88 shows similar trends to Store 237 regarding the number of customers coming to its store per month **except** in the month of **March 2019**, where the **customers are more than ever**, 61 which can be the sole **cause of high sales** during the same month.

Store 86

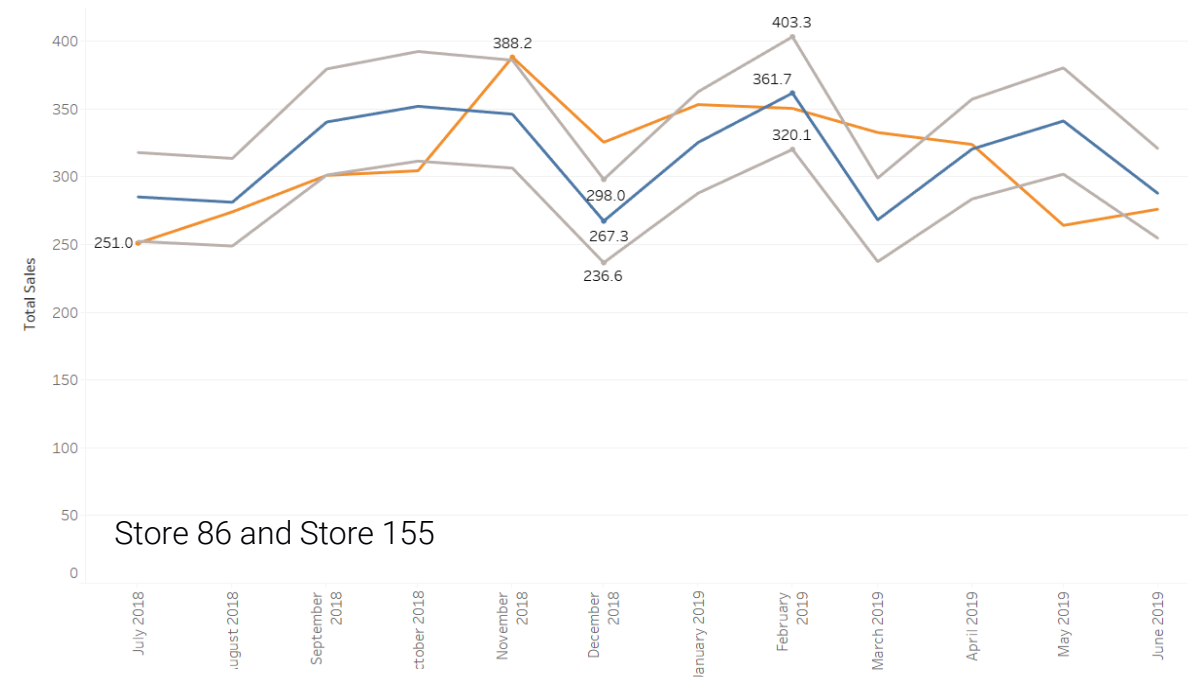
The sales and number of customers are well correlated with that of Store 155 **except** for the month of **March 2019** with slight distortion.

Month of Operation and Sales



Store 77 and Store 38

Month of Operation and Sales



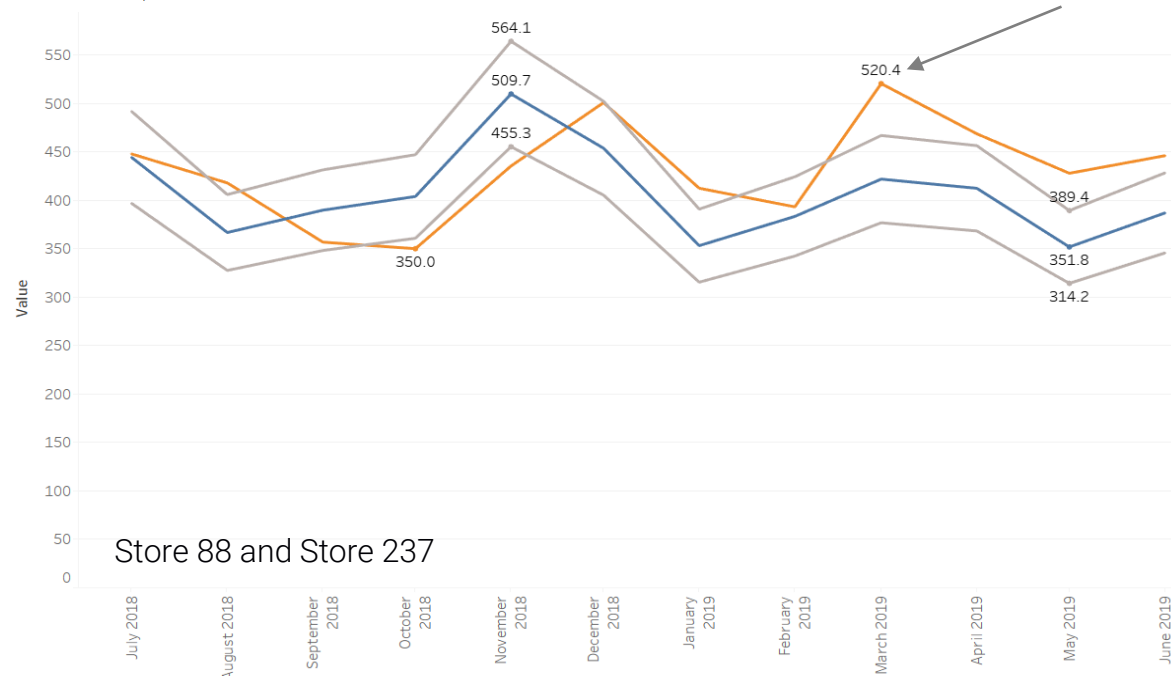
Store 86 and Store 155

Overall Performance

In the given Trial and Control store pairs.

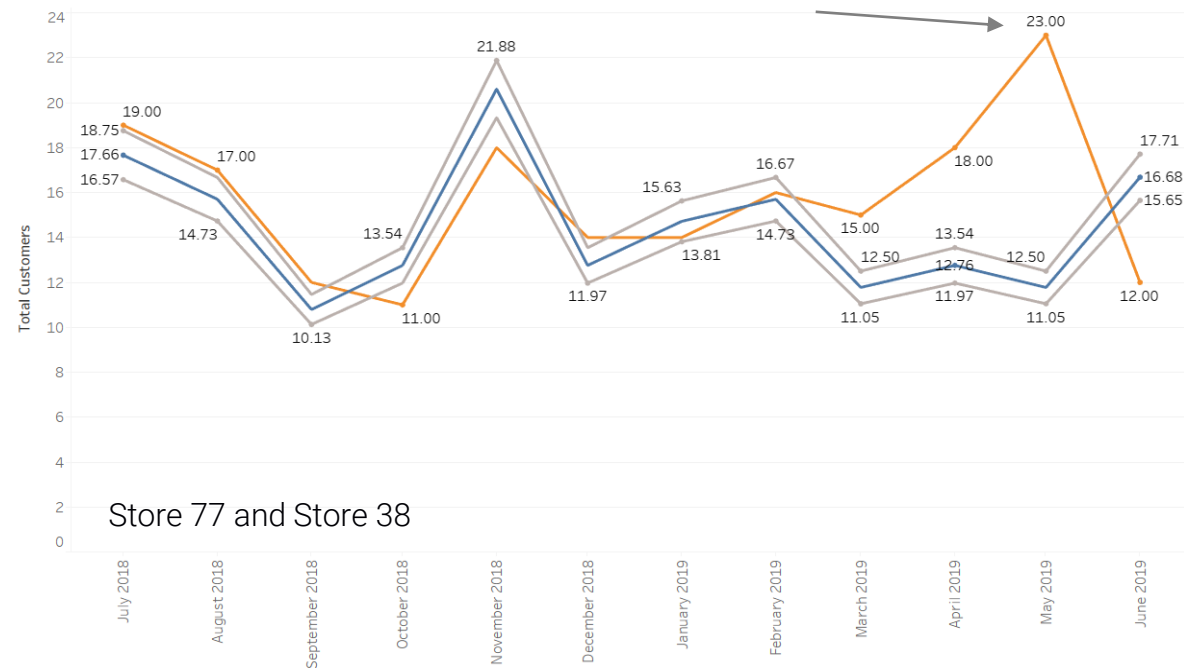
We can see that there is a significant difference in total sales amount in store 77 and store 88 in the trial period from March to April, and is high than of their respective control stores.

Month of Operation and Sales



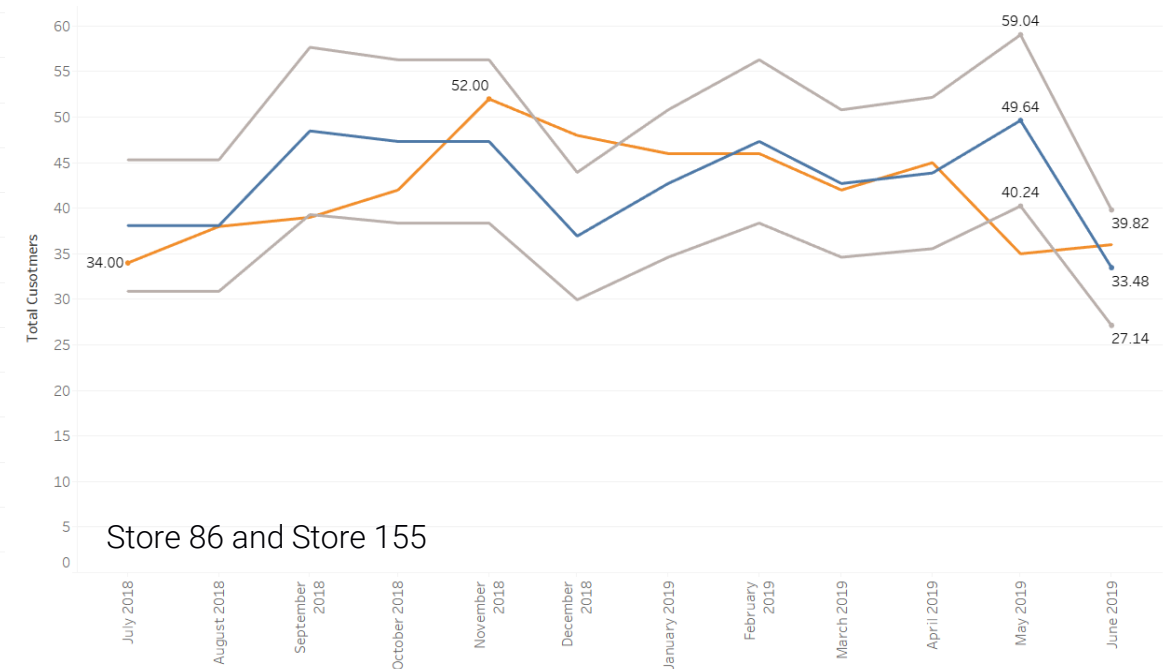
Store 88 and Store 237

Month of Operation and Customers



Store 77 and Store 38

Month of Operation and Customers



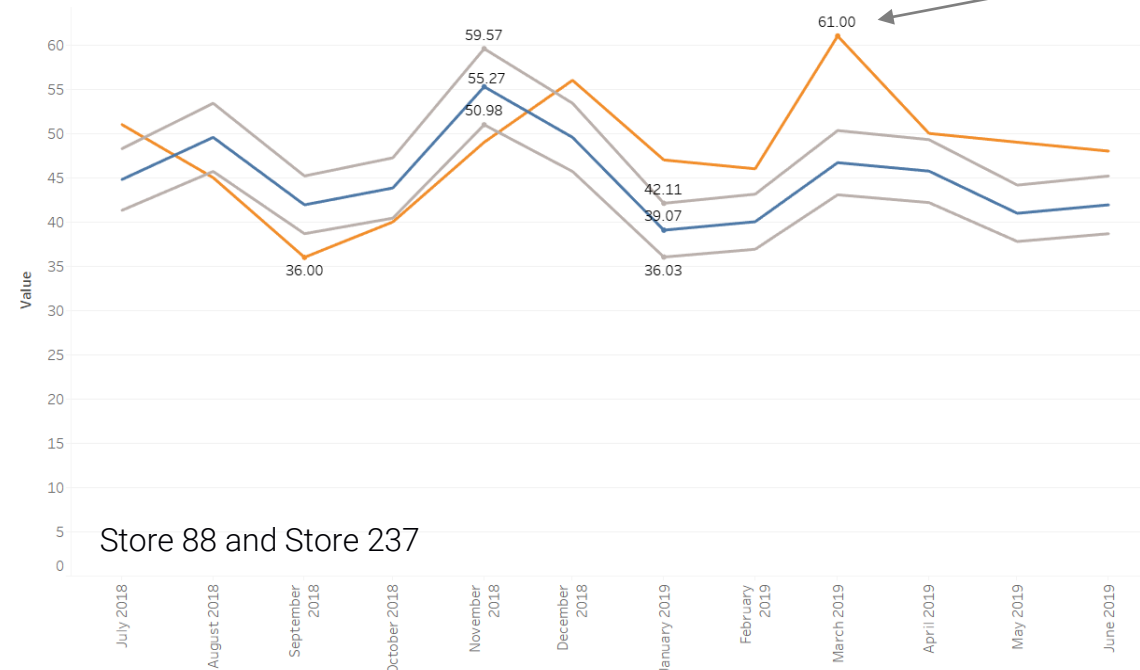
Store 86 and Store 155

Number of Customers

In the given Trial and Control store pairs.

We can see that there is a significant difference in number of customers in store 77 and store 88 in the trial period from March to April, and is high than of their respective control stores.

Month of Operation and Customers



Store 88 and Store 237

Number of Customers

In Trial Store 86 and Control Store 155

There is not much difference and it lies well under the confidence intervals, so we can check whether the implementation of Store 86 was different

Recommendations and/or Next steps

For Product and Customer Segments analysis,

- We should off-locate the “Doritos” brand chips pack of size 175 g to the discretionary area so the product are more visible to the target customers of Old Families and Young Singles/Couples and cause impulsive purchase behavior.
- We should stock chips and related products before December as the sales tend to increase drastically before Christmas.
- We can stock up 175 g packets of chips for brands – Doritos, Smiths, Thins Chips as they are the most sought after by all customer segments

For Trial Store performance,

- We can use Control Store 38 and 237 for Trial store 77 and 88 respectively. Both these trial stores show significant increase in overall performance in the months of March 2019 – April 2019.
- Store 86 dwelled well inside the trends of Control Store 155 but doesn’t show any significant increase in it’s overall performance. We can check the implementation for Store 86 in the trial months.



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