# Data Analytics: Quantium Intern

Initial Insights

Customer count

- Older Singles/Couples are the largest customer segment, especially in the Premium and Mainstream categories.

- Budget customers are most prevalent among Older Singles/Couples and Retirees.

- New Families represent the smallest customer segment across all categories (Budget, Mainstream, and Premium).

- There is a clear trend of increasing customer count from younger to older segments, indicating an aging customer base or lifecycle effect.

- The proportion of Premium customers rises with age and household complexity (e.g., Older Families).

- Marketing strategies should focus on the significant size and diverse preferences of Older Singles/Couples and Retirees, while exploring opportunities to expand the New Families segment.


Customer count by segment
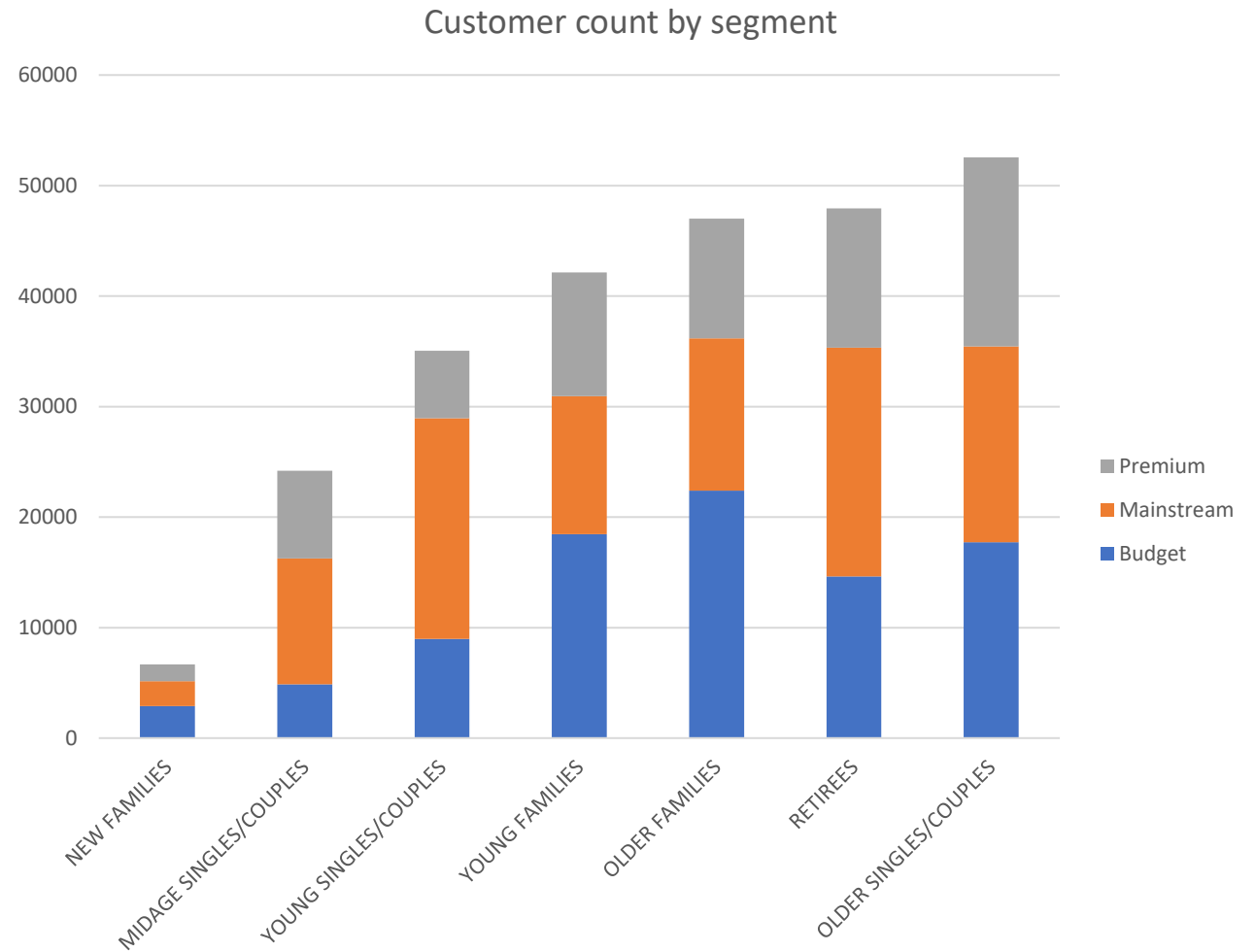
Customer & Life stages Group Insights

Sales by Customer Group

- The Mainstream customer group contributes the most to sales and quantity sold, with statistically significant differences compared to other groups.

- Key drivers for this trend include:
    - Older Singles/Couples
    - Retirees
    - Older Families

- The New Families segment is the smallest market and requires further analysis for potential expansion.
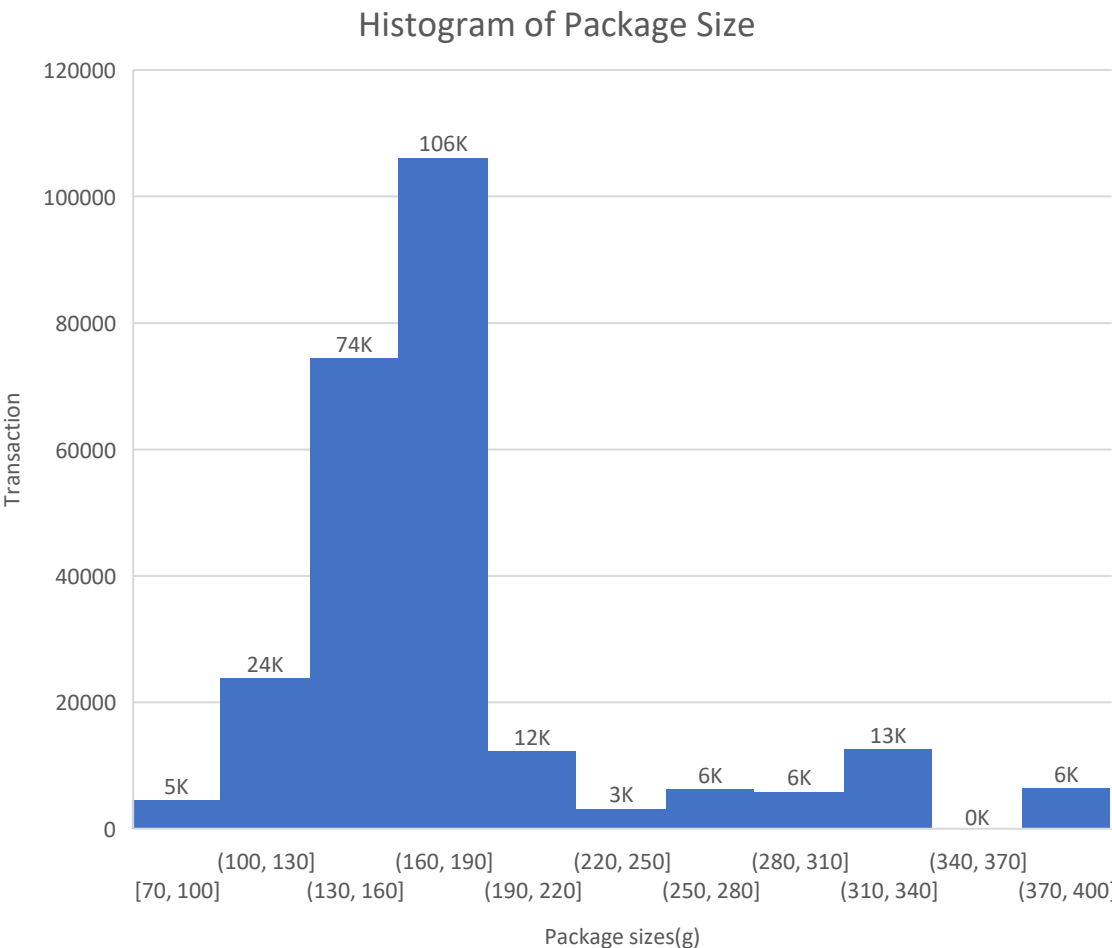

Sales by Lifestages
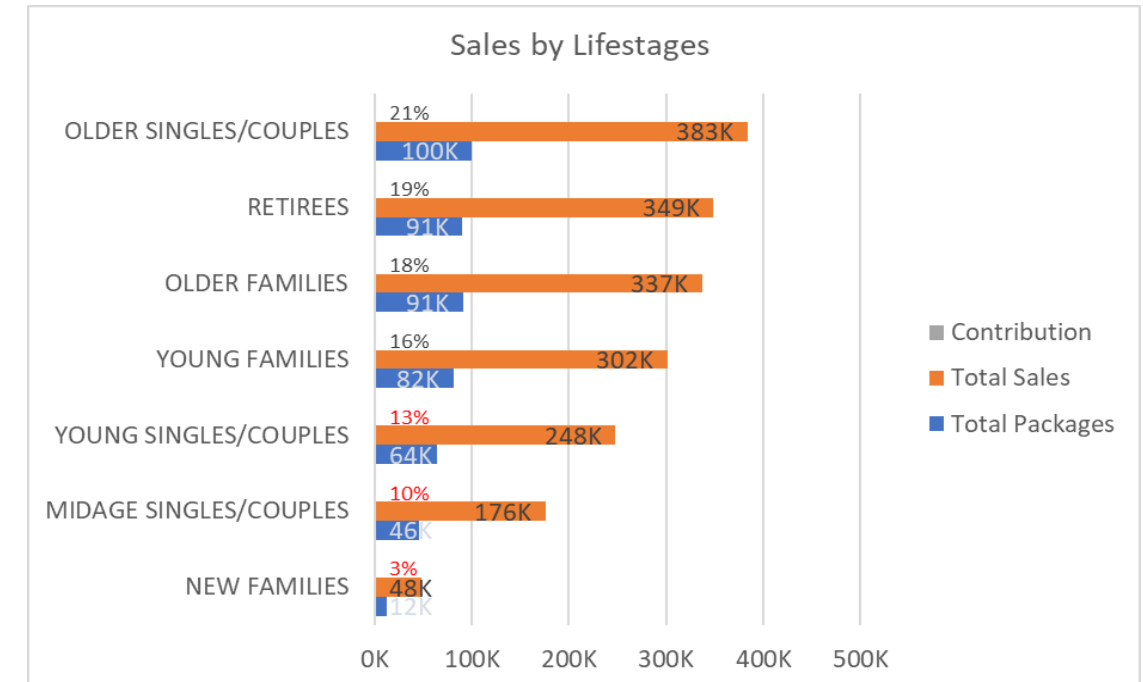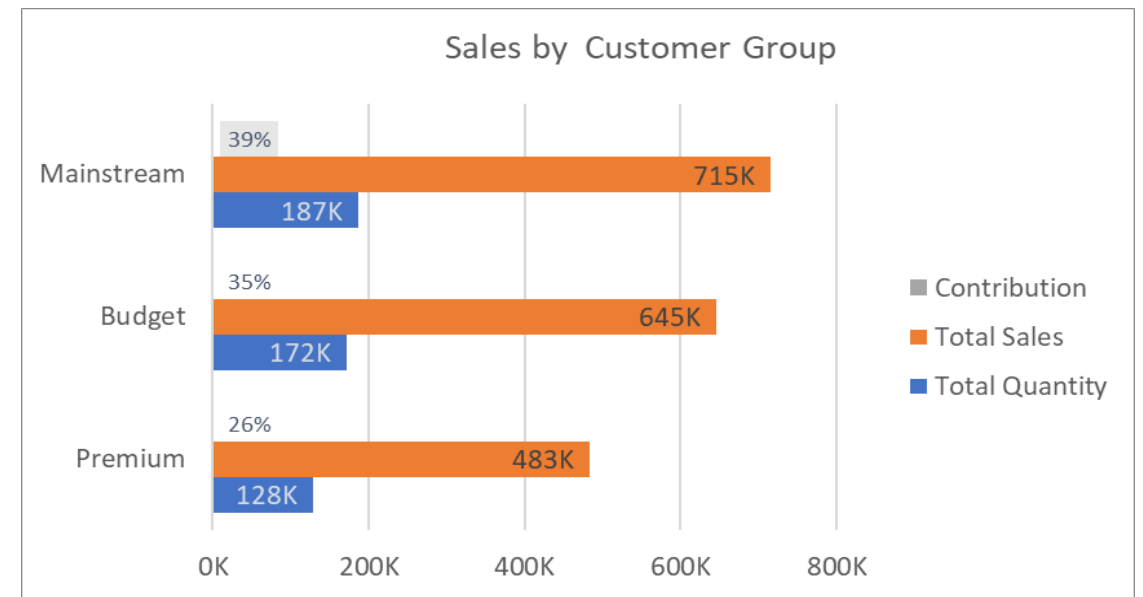
Transactions

- Transactions peak during the Christmas period.

- Suggested campaign idea: Organize family gathering events targeting elders during this time.

Daily Transactions

Transactions over December
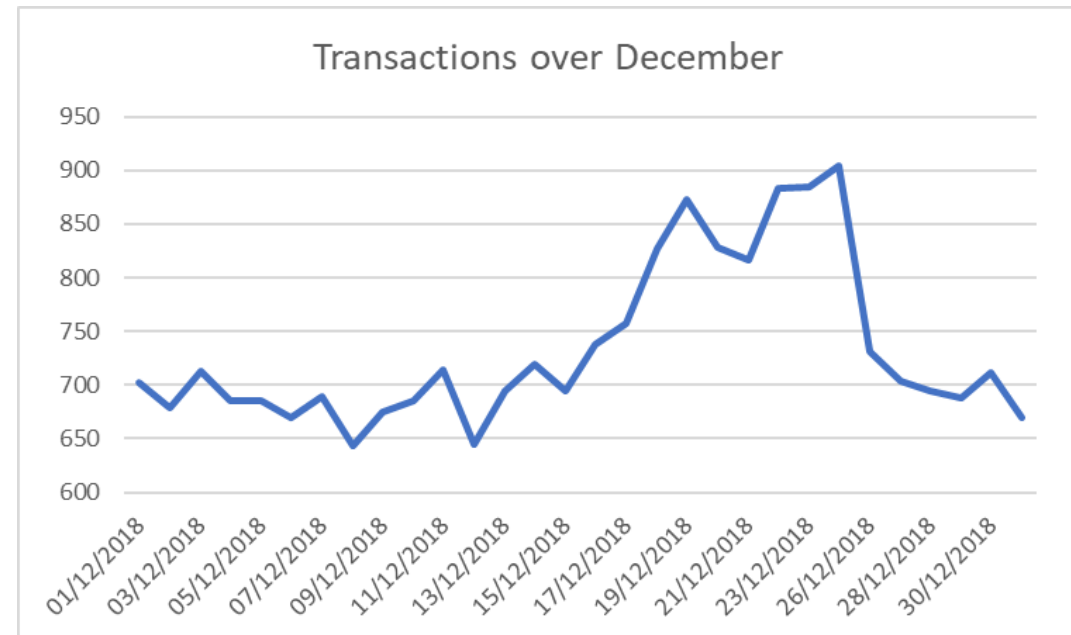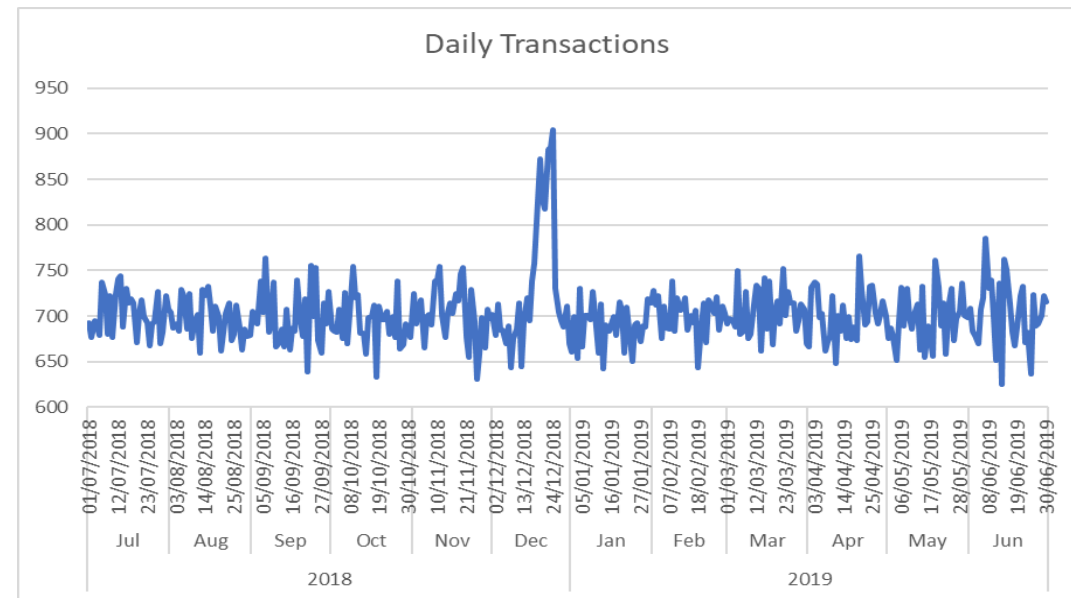
Analysis on Package Size

<u>Package Size Preferences</u>

- Small and medium package sizes are the most popular among customers.

Histogram of Package Size

Histogram of Package Size showing Transaction (y-axis, 0 to 120000) vs Package sizes(g) (x-axis). Values by bin:
- [70, 100]: 5K
- (100, 130]: 24K
- (130, 160]: 74K
- (160, 190]: 106K
- (190, 220]: 12K
- (220, 250]: 3K
- (250, 280]: 6K
- (280, 310]: 6K
- (310, 340]: 13K
- (340, 370]: 0K
- (370, 400]: 6K

Spending Price

- High-price spending is primarily driven by:

- Mainstream customers within the Young Singles/Couples group.

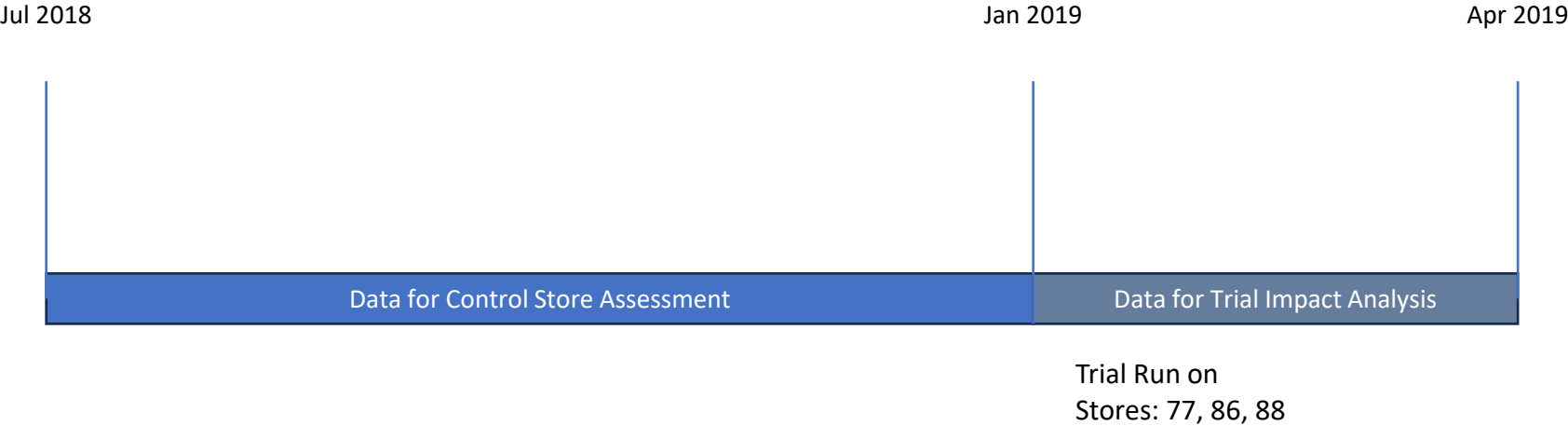- Mid-age Singles/Couples group.

- Other groups show no significant difference in spending behavior.

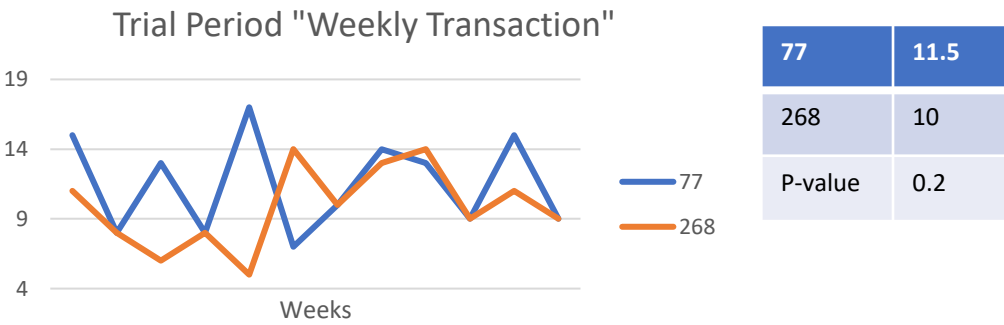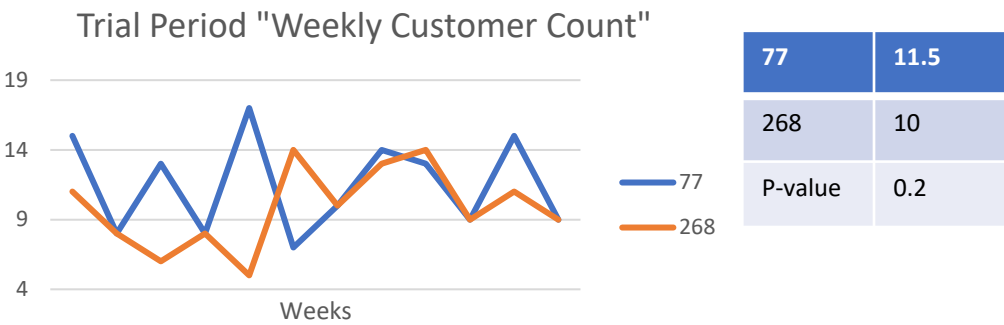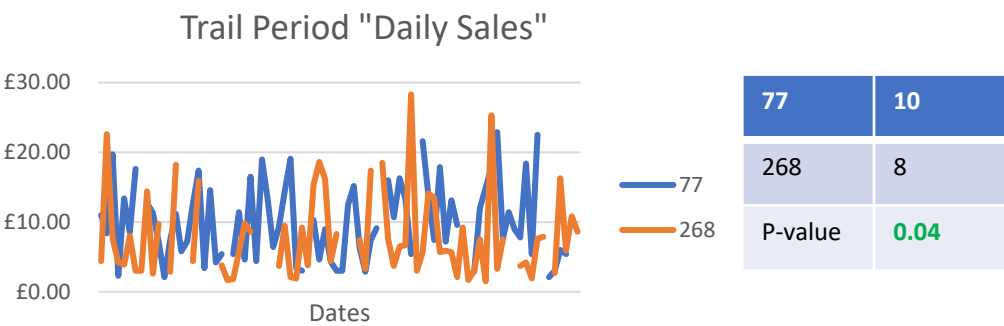## Average Spending price by Customers Segment

Trail Impacts analysis

Jul 2018   Jan 2019   Apr 2019

Data for Control Store Assessment	Data for Trial Impact Analysis

Trial Run on
Stores: 77, 86, 88

Store 77 – Trial Impacts

Control Store Selections

Trial					Control
	235	Avg. Sale	211		
Store 77	44	Avg. Custom	44		Store 268
	39	Avg. Tnx	38		

Sales P-value = 0.07
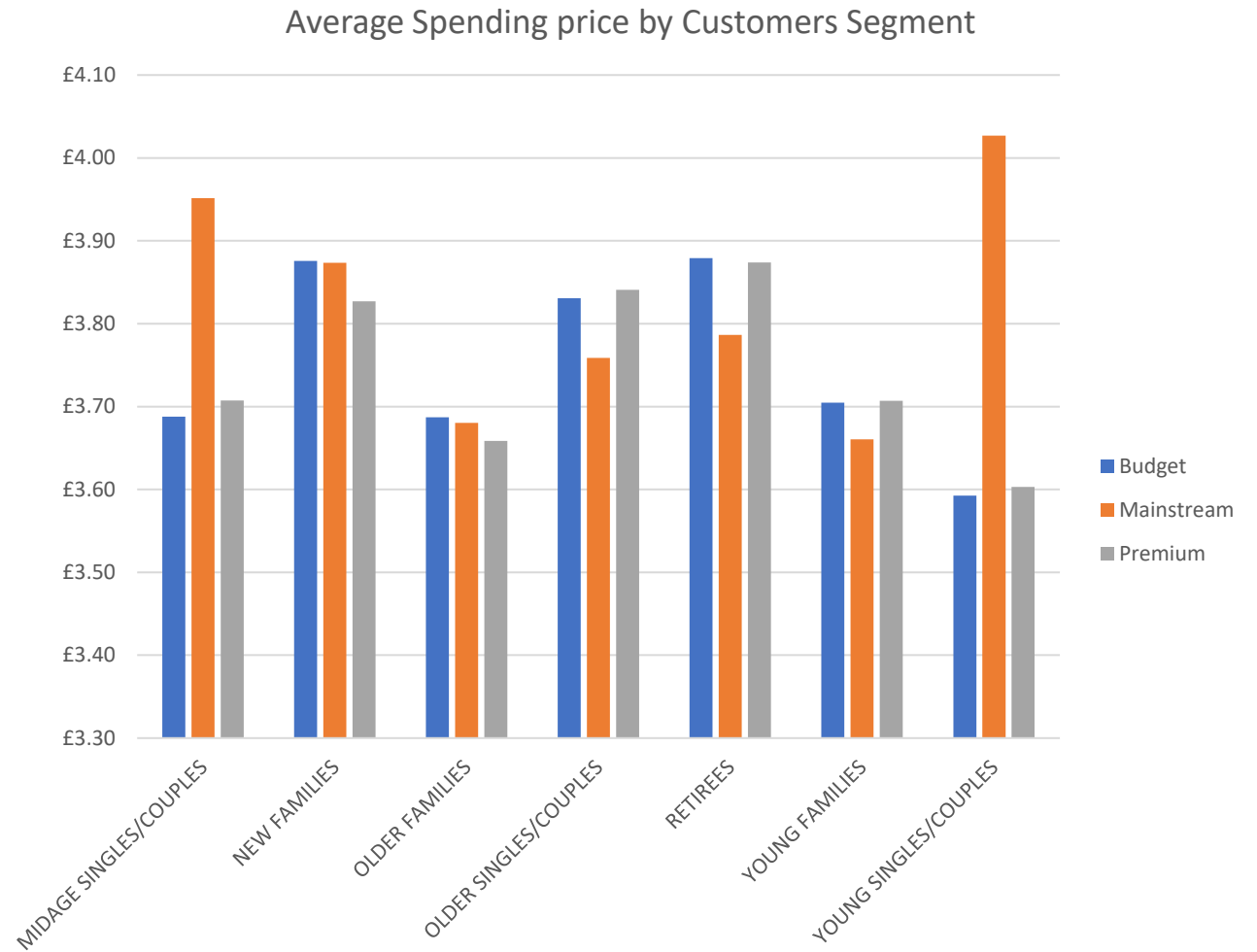
Summary:

- Store 268 is considered as the control stores as the most similar metrices

- Trial : sales improved, No effects- on Customer and Transaction

Trail Period "Daily Sales"

77	10
268	8
P-value	**0.04**

Trial Period "Weekly Customer Count"

77	11.5
268	10
P-value	0.2

Trial Period "Weekly Transaction"

77	11.5
268	10
P-value	0.2

Store 86 – Trial Impacts

Control Store Selections

Trial

| Store 86 |

754	Avg. Sale	740
10	Avg. Custom	9
118	Avg. Tnx	118

Control

| Store 104 |

Trail Period "Daily Sales"

86	**31**
104	28
P-value	0.2

Trail Period "Weekly Customers"

86	**31**
104	28
P-value	0.08

Trial Period "Weekly Transaction"

86	**31**
104	28
P-value	0.08

Summary:

- Store 104 is considered as the control stores as the most similar metrices

- No significant improvements in all metrices

Store 88 – Trial Impacts

Control Store Selections

Trial

| Store 88 |

	Avg. Sale	
1115		1049
139	Avg. Custom	142
139	Avg. Tnx	142

Control

| Store 199 |

Sales P-value = 0.2

Summary:

- Store 199 is considered as the control stores as the most similar metrices

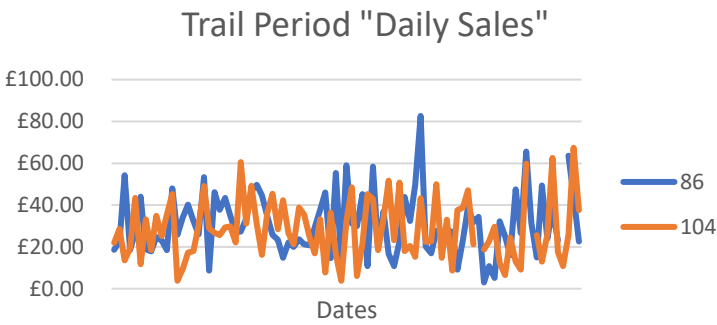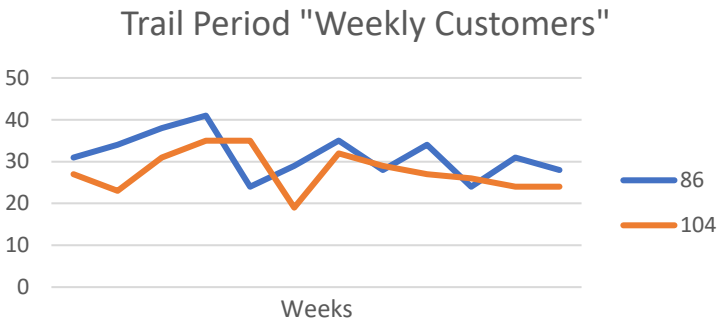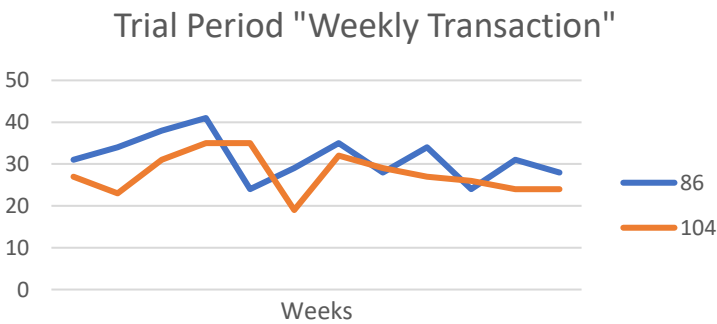- Trial : Sales improved, No impacts - on Customer and Transaction

Trail Period "Daily Sales"

88	47
199	39
P-value	**0.008**

— 88
— 199

Trail Period "Weekly Customers"

88	31
199	28
P-value	0.08

— 86
— 104

Trial Period "Weekly Transaction"

88	33.5
199	28.5
P-value	0.16

— 88
— 199
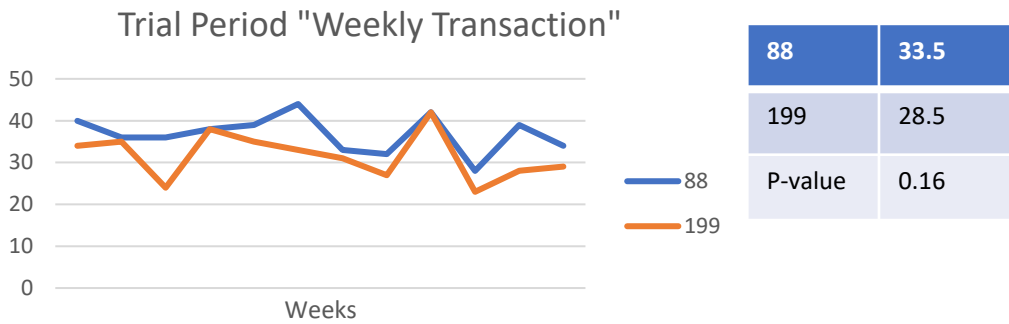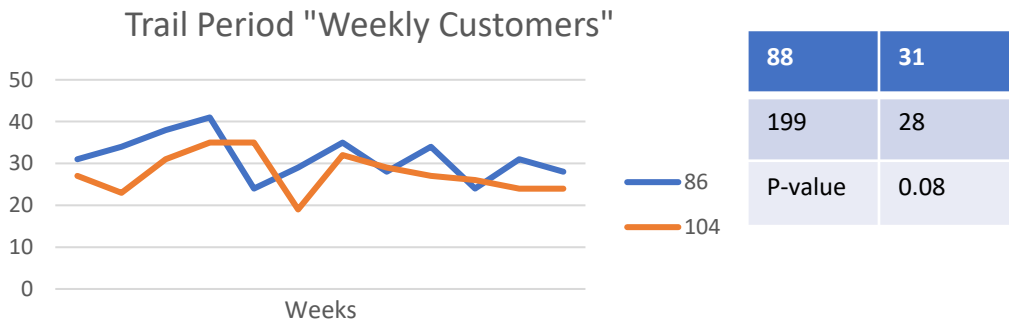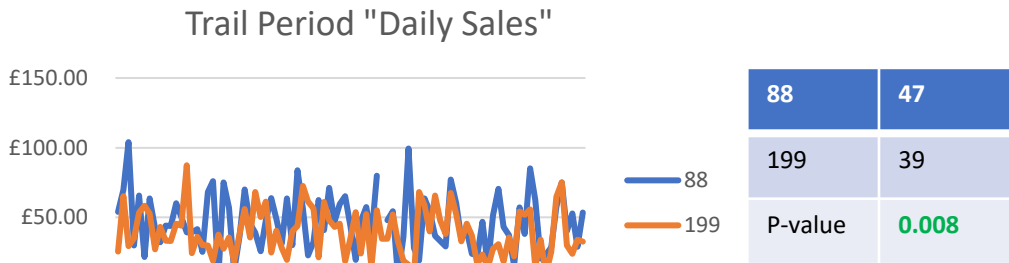
Summary on Trial

- Trail run has the most significant impacts on sales but least on customers and transactions.
- If the trail objective focus on Customers or transaction, the trail strategy should be reviewed.