

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

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.

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Executive summary

01

Task 1

Sales have mainly been due to Budget - older families, Mainstream - young singles/couples - retirees shoppers. We found that the high spend in chips for mainstream young singles is due to there being more of them than other buyers. Mainstream, mid-age and young singles and couples are also more likely to pay more per packet of chips. This is indicative of impulse buying. We've also found that Mainstream young singles and couples are 23% more likely to purchase chips compared to the rest of the population.

02

Task 2

The trial intervention does not appear to have significantly influenced total sales, average customer count. Despite a noticeable difference in pre-trial sales volumes (with control group being better), the trial did not create a meaningful impact on the metrics post-trial. The data suggests the intervention may not have been effective in driving noticeable improvements.

01

Category:

Customer Segmentation and
Packet Size Analysis

Overview:

Recommendations on segments to target:

1. High-value customers: Focus on premium customer segment and retention strategies.
2. Growth potential: Target customers with medium total sales but high frequency or potential for up-selling.
3. Low-value customers: these customers can be converted to higher spending segments through targeted promotions.

Customer Segments:

	sum	mean	count
PREMIUM_CUSTOMER			
Budget	676211.55	7.258838	93157
Mainstream	750744.50	7.361106	101988
Premium	507452.95	7.281575	69690

Based on the analysis, providing concise recommendations tailored to the specific customer segments:

- Focus on premium customers by offering loyalty programs and exclusive deals.
- Design targeted promotions and product bundles for other segments to increase sales.
- Explore packet sizes to see any relationships, and develop strategies to increase average order value.
- Consider offering smaller packet sizes to lower value customers as an entry point to potentially convert them to higher value segments.

Analyzing Packet Sizes:

	mean	std	min	max
PREMIUM_CUSTOMER				
Budget	1.909658	0.339508	1	5
Mainstream	1.901841	0.345644	1	5
Premium	1.912168	1.115979	1	200

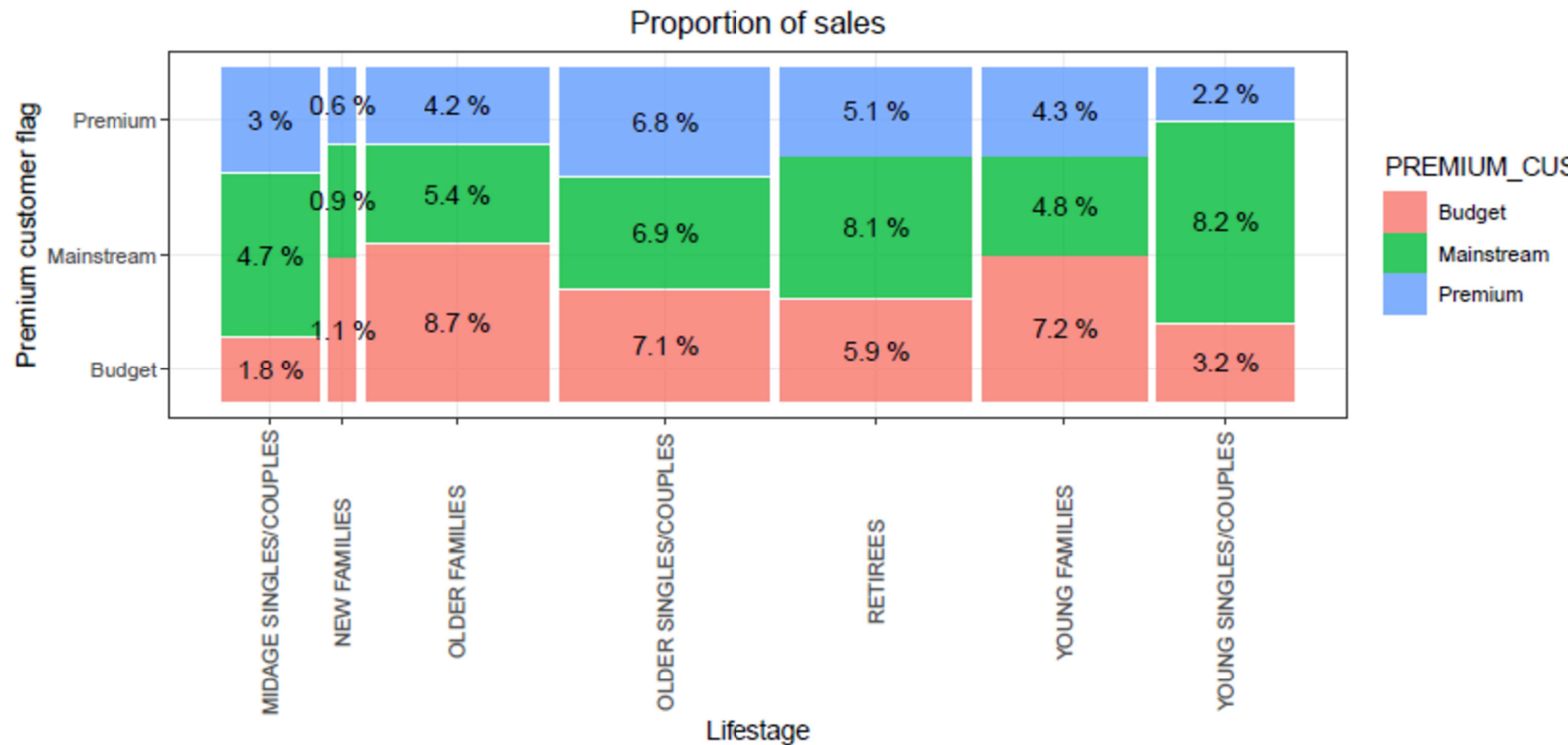
Budget customers exhibit lower average spending. Explore targeted promotions or product strategies to encourage higher spending.

Brand Preference by Customer Segment Vs Total Sales

We've also found that

-Mainstream young singles/couples are 23% more likely to purchase Tyrrells chips compared to the rest of the population

-Mainstream young singles/couples are 56% less likely to purchase Burger Rings compared to the rest of the population



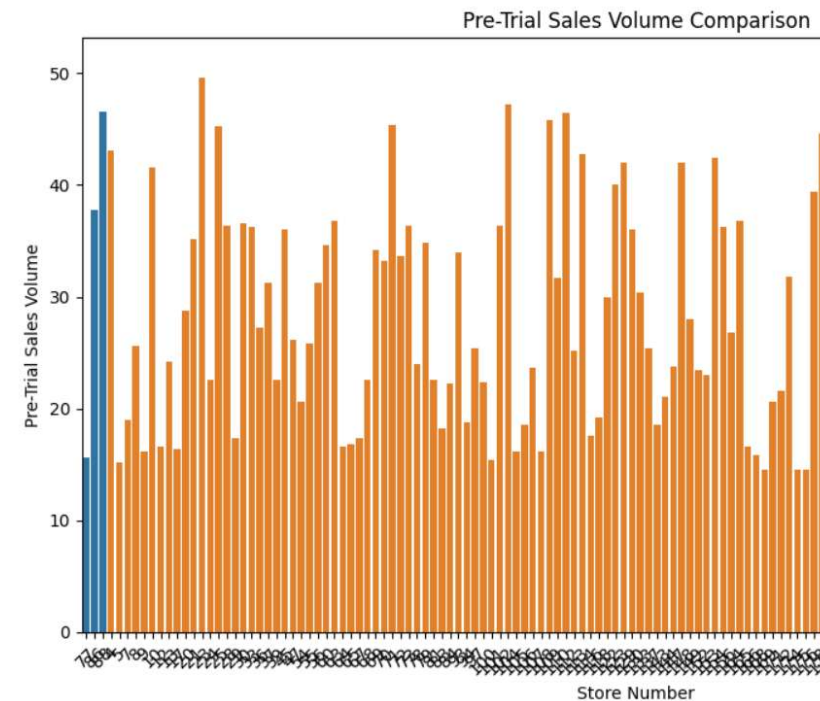
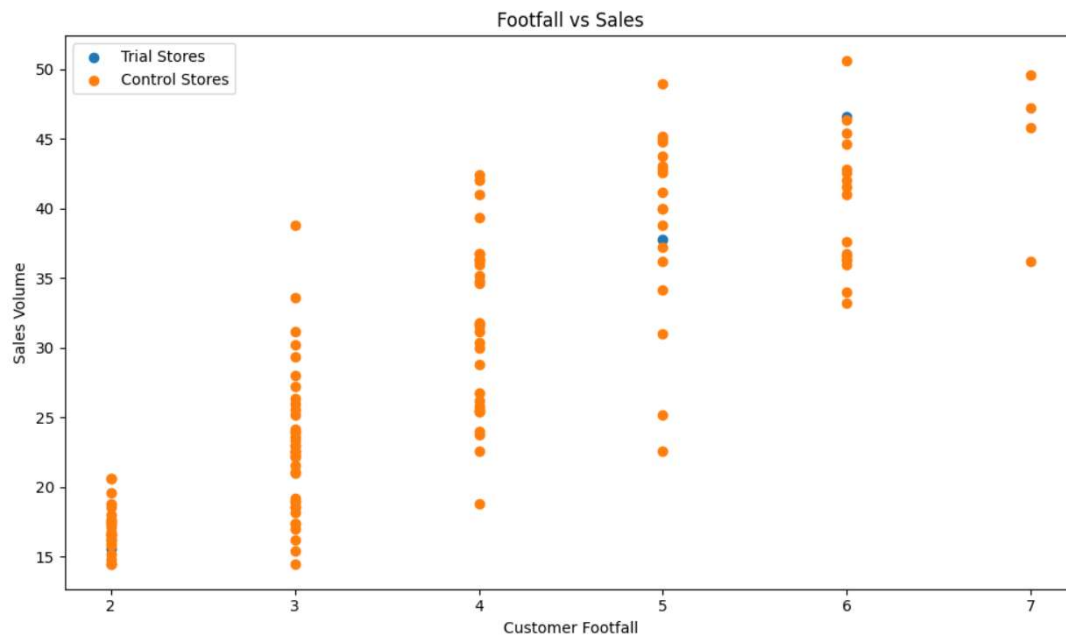
02

Trial store performance

Explanation of the control store vs other stores

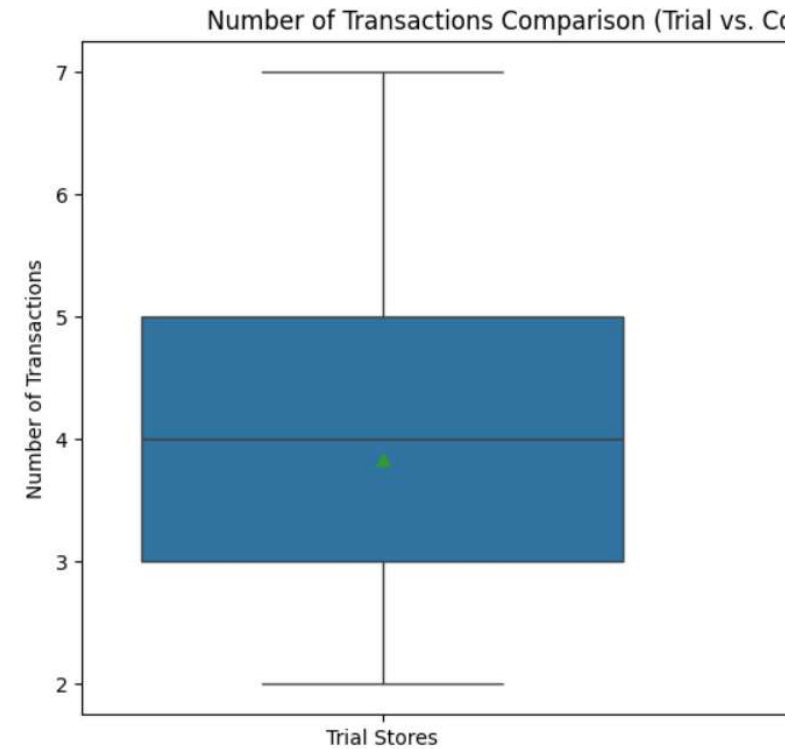
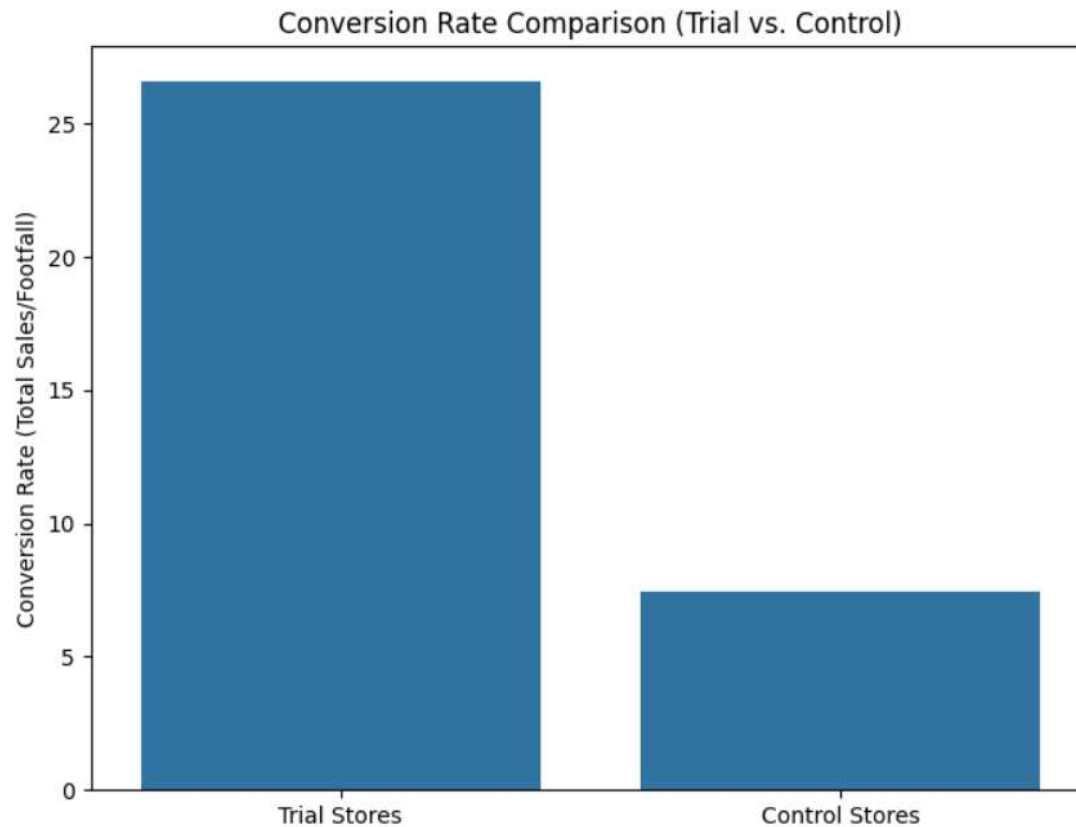
Control stores tend to have higher and more variable pre-trial sales volumes than trial stores, which are concentrated within a smaller range of sales volumes compared to control stores, demonstrating more diversity in their sales data.

Overall, the control stores seem to cover a wider range of sales at each footfall level. This visualization helps visualize how closely the trial stores' performance aligns with the control stores at each footfall level.



Performance in the trial store

Both trial and control stores have similar transaction counts, mostly between 3 and 5, indicating no significant trial impact on transaction numbers.



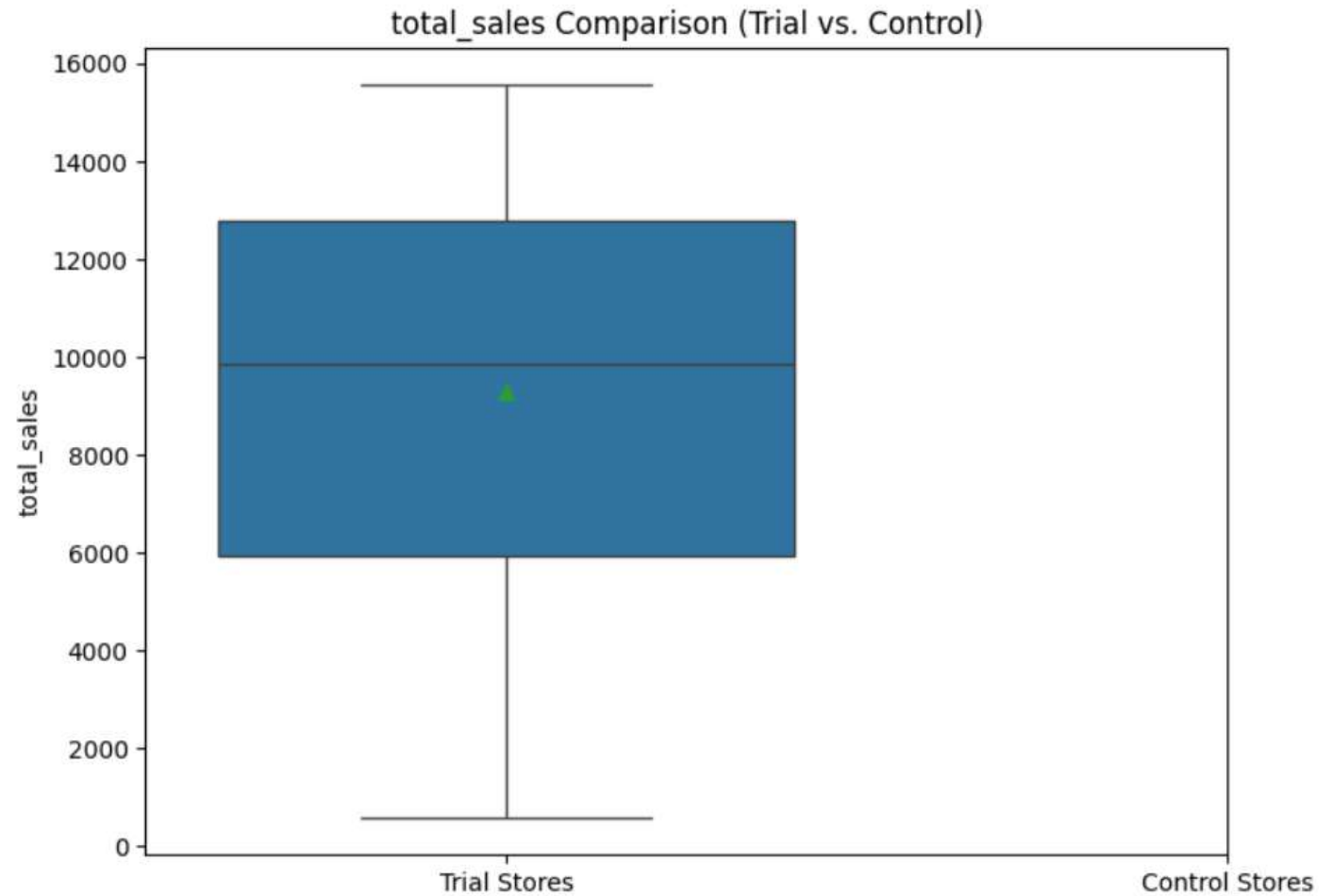
However, the conversion rate in trial stores is around 25, suggesting a positive impact of the trial. Control stores have a conversion rate of around 7.5, indicating the intervention effectively boosted customer engagement and sales per visitor in trial stores.

It would be useful to further investigate the aspects of the trial led to this improvement and how it can be replicated across more stores.

Statistical Results

The trial stores' total sales data shows a median around 10,000. The statistical test result suggests that the transaction value between trial and control stores does not significantly differ, meaning the intervention or treatment has not have impacted the average value of transactions.

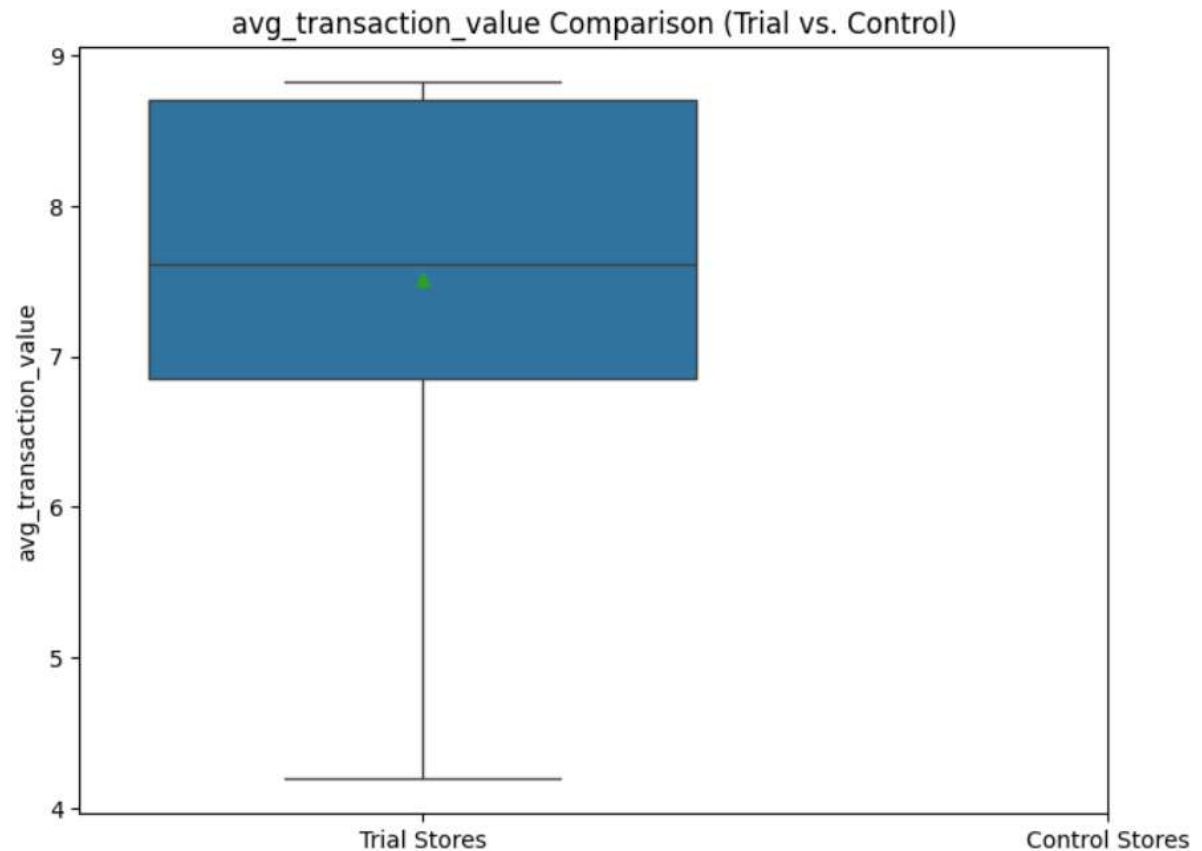
T-statistic for total_sales: 0.22
P-value for total_sales: 0.826



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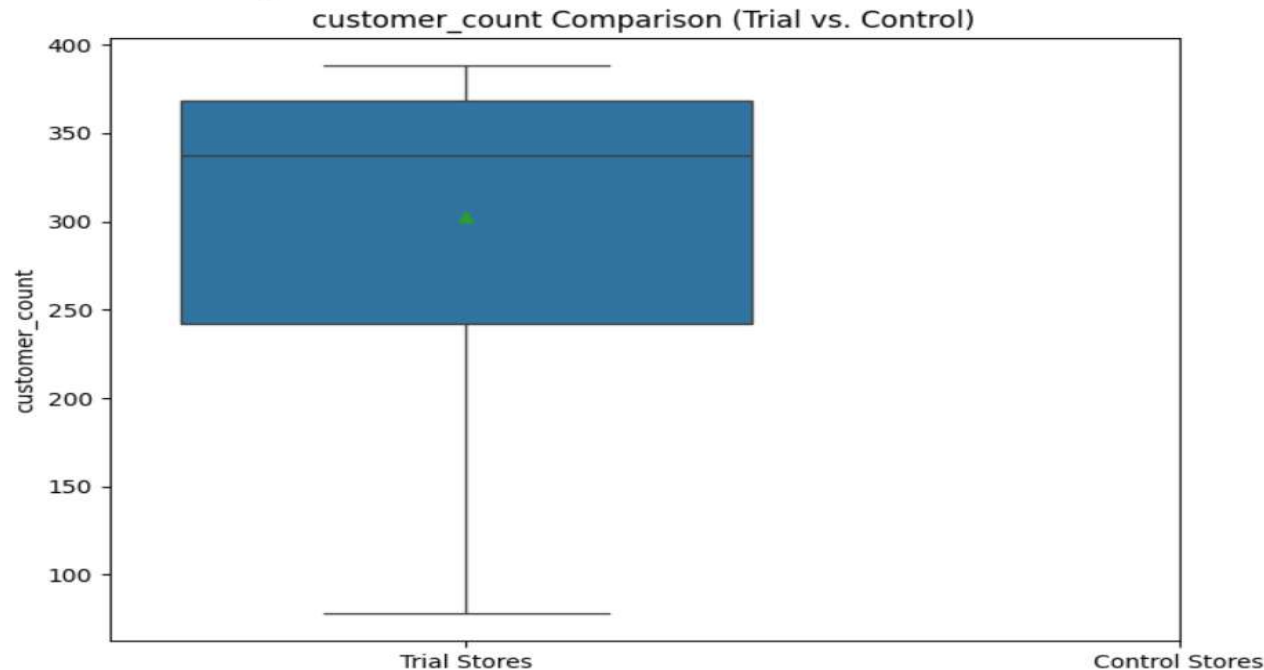
The average transaction value for trial stores appears to be centered around 7, with values generally ranging between 6 and 9. Without control store data present in this plot, no comparative conclusions can be made between trial and control stores for this particular metric based on this graph alone.

T-statistic for avg_transaction_value: -0.57
P-value for avg_transaction_value: 0.580



The trial stores have a customer count that centers around 325, with some variability. How this value suggests that there is no significant difference between trial and control stores regarding customer count.

T-statistic for customer_count: 0.67
P-value for customer_count: 0.511



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