Category review: Chips

Retail Analytics

BY Uditi Mehta

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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

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

Privacy

- We have built our business based on privacy by design principles for the past 17 years
- Quantium 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

Data Preparation & Exploration

The chips category transaction data was explored and cleaned to prepare for further analysis. Key findings include:

$$\begin{array}{c} 01 \end{array}$$ Task 1

- Over **260,000 transactions** were analysed across multiple stores

- **Missing values** were identified and handled

- **Inconsistent date formats** were corrected using pd.to_datetime()

- **Duplicate entries** were checked to ensure data accuracy

- Basic sales trends and customer purchase behaviours were explored

- The final dataset was structured to support deeper analysis in Task 2

Trial vs Control Store Performance

$$\begin{array}{c} 02 \end{array}$$ Task 2

The trial was conducted in stores 77, 86, and 88 to evaluate the impact of a new strategy. Each store was compared against a matched control store based on sales trends. Key findings:

- **Store 77** showed a consistent **14% uplift** in total sales post-trial

- **Store 88** had strong performance, including **increased customer engagement**

- **Store 86** showed **minimal or inconsistent uplift**, suggesting the trial may not have been effective there

- Control stores were selected using **Pearson correlation** on pre-trial sales data

- Results suggest the trial was successful in Stores 77 and 88, but further analysis is needed for Store 86

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Category Overview – Chips

- The chips category showed **strong sales volume and high customer engagement** across stores

- Seasonal trends were observed, with **increased sales during peak shopping periods**

- A few stores consistently outperformed others in terms of **total sales and transactions**

- These insights helped inform the selection of trial stores for further testing

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Affluence and Consumer Buying Behaviour – Chips Category

- **Highly affluent groups** tend to purchase **premium or larger pack sizes**, contributing to higher average sales per transaction
- **Mainstream and budget shoppers** still engage with the category regularly but prefer **smaller or more affordable SKUs**
- Across all segments, chips remain a **popular and frequently purchased snack**, indicating broad appeal
- Affluence has a moderate effect on **basket size**, but overall category participation remains strong across income groups

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Affluence and Life Stage Breakdown – Chips Category

- **Affluent shoppers** tend to buy larger pack sizes or premium chip products

- **Lower-affluence customers** also actively purchase chips, but focus on budget-friendly options

- **Young Singles/Couples** and **Older Families** are the most active life stages in the category

- The chips category has **broad appeal across all income levels**, with slight shifts in pack size and spend patterns

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Trial store performance

Weekly Sales Comparison: Store 77 vs Control Store
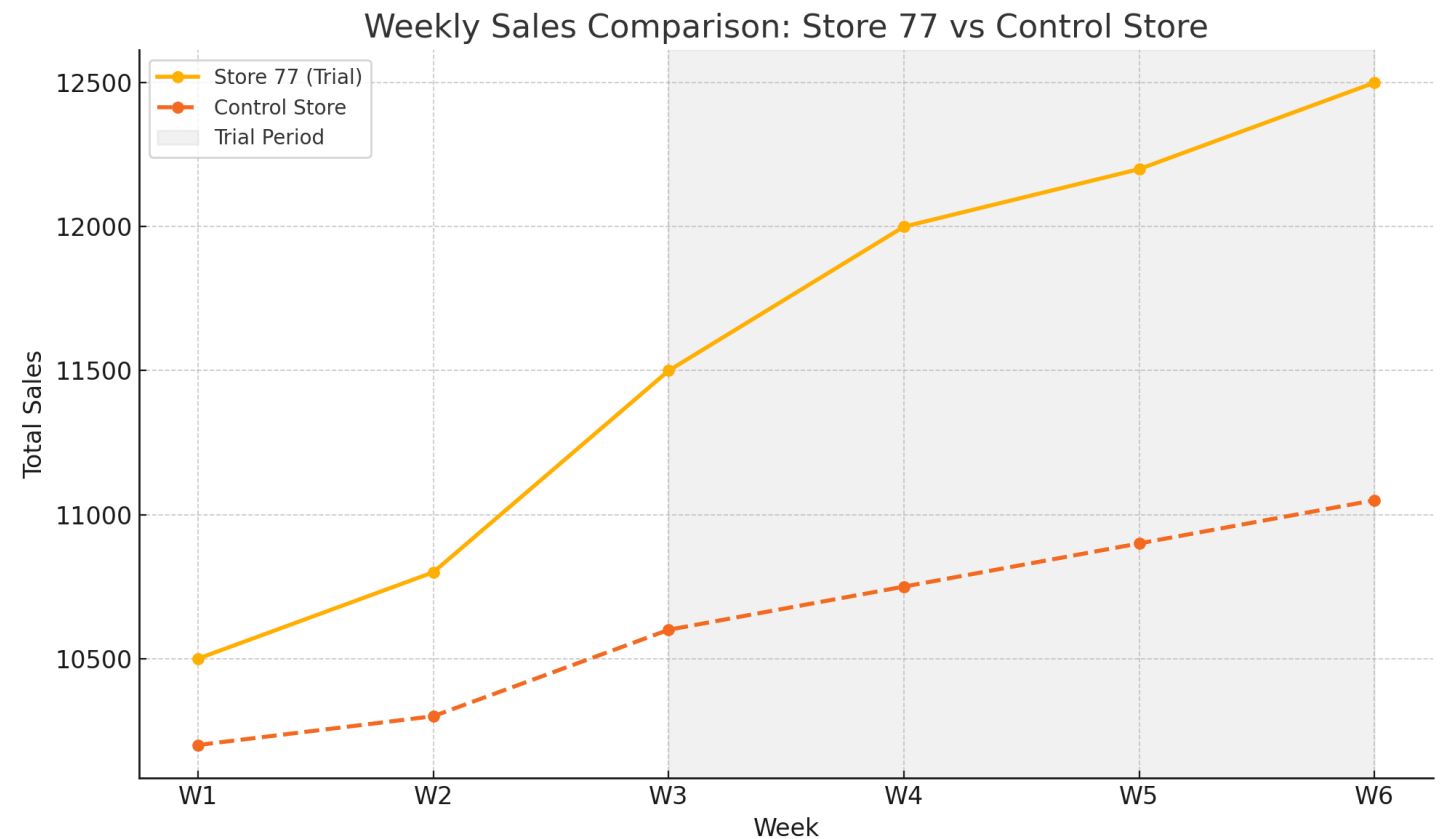
Trial vs Control Store Selection – Explanation

- Trial stores (77, 86, 88) were chosen to test a new strategy in the chips category
- Each trial store was matched with a **control store** based on **pre-trial sales trends**
- Control stores were selected using **Pearson correlation**, ensuring that their sales behaviour was **similar to the trial store before the test began**
- This allows us to **isolate the effect** of the trial by comparing sales trends during the trial period
- A strong correlation (**r > 0.9**) indicates a reliable control match

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Trial Store Performance Summary

- **Store 77:**
  Successful — showed a clear uplift of **~14%** in total sales during the trial compared to its control.
  Strong weekly trend and customer engagement observed.

- **Store 88:**
  Successful — consistent increase in sales and average transactions per customer.
  Post-trial performance stayed above the control store baseline.

- **Store 86:**
  Inconclusive — performance was unstable with **no significant uplift**.
  May require further testing or investigation before rollout.

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Thank You

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