June 2020

Category review: Chips

Retail Analytics

quantium

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
- 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.

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

quantium

Executive summary

01   Chips Category Review

- Demographic drivers shape purchasing decisions: Age, household structure and affluence level directly influence crisps purchase preferences.
- Pack size preference centres on mid-range: 175g and 150g packs contribute nearly 40% of revenue, reflecting a 'moderate consumption' mindset.
- Purchase occasions are highly singular: 99.35% of transactions involve a single item, indicating mission-driven shopping behaviour.
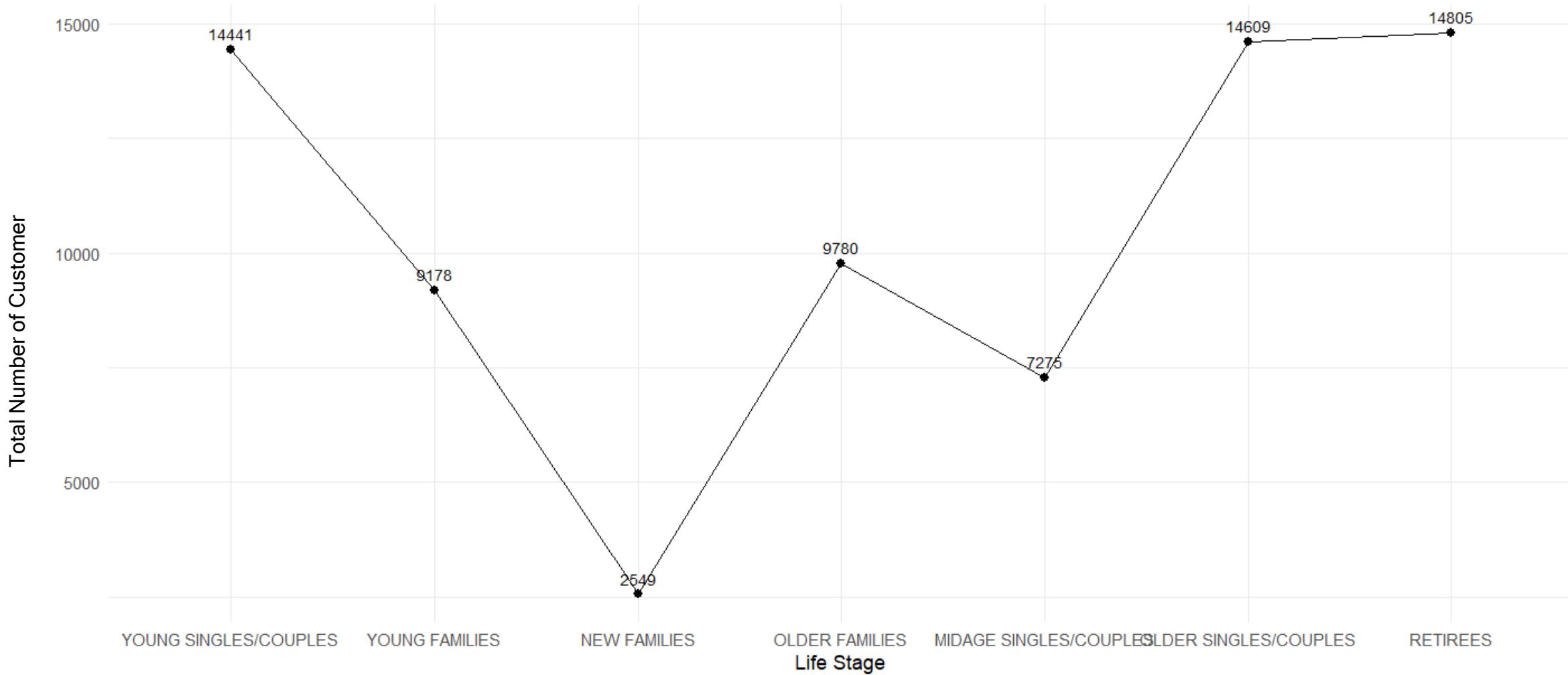
02   Tril Analysis

- Pre-trial decline: All three stores showed a consistent drop in customer count (Jul 2018 – Jan 2019).
- Post-intervention growth: All trial stores achieved significant customer count increases following the new marketing strategy, with Store 77 reaching a peak monthly growth of 56.14%.
- Results are both statistically and commercially significant, supporting the case for broader rollout.

3

quantium

01

Category

quantium
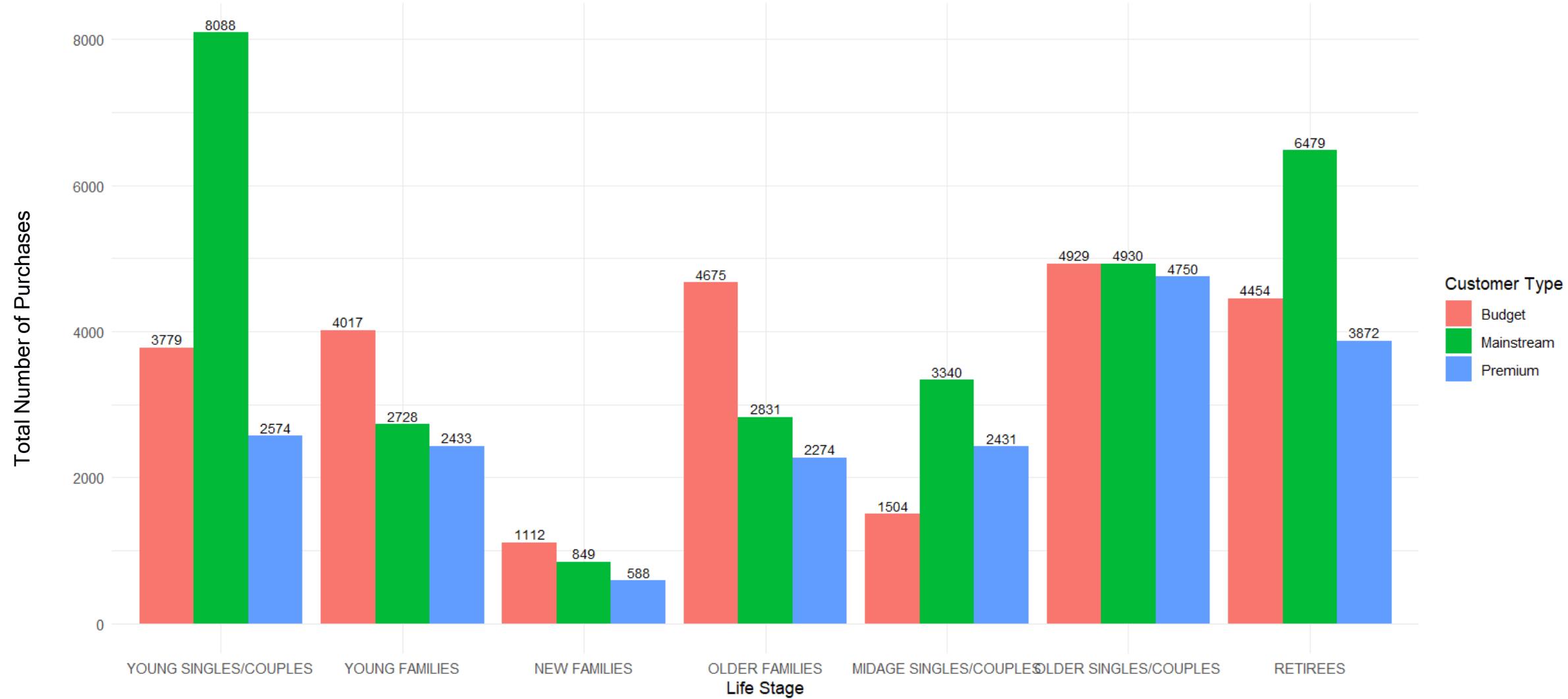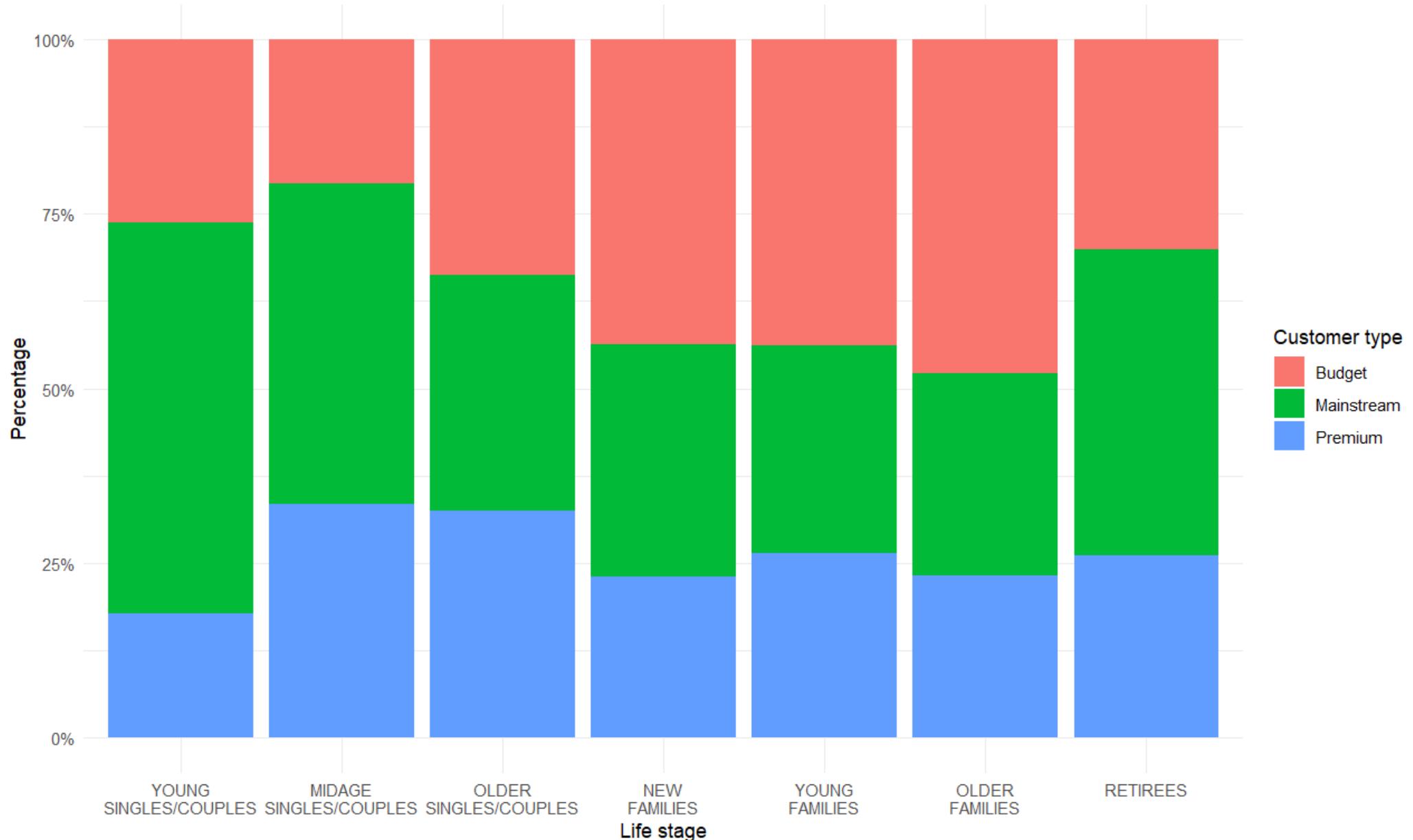
Customer Base Distribution across Life Stages

Figure 1: Purchasing behavior analysis showing total number of purchases across customer life stages

Figure 2: Purchasing portfolio analysis across customer life stages, illustrating the value distribution among budget, mainstream, and premium segments

Figure 3: Customer segmentation analysis showing demographic distribution across budget, mainstream, and premium customer types

A Three-Dimensional Analysis of Crisps Consumption

I. Customer Segmentation

- Premium Segment: Middle-aged and older consumers without family dependents. They prioritise brand and quality, with premium product share exceeding 25%.
- Mainstream Segment: Younger consumers and retirees. They prefer balanced choices, with mainstream products comprising approximately 50% of purchases.
- Value Segment: Households with families and budget-conscious consumers. They predominantly purchase budget-friendly products, accounting for nearly 50% of this group's purchases.

II. Product Preference

- Pack Size: 175g > 150g > others. Sizes under 180g dominate the market.
- Price Tier Selection: Although stores focusing on premium products are fewer (14.3%), their average store revenue ($541K) significantly exceeds that of stores focusing on budget products (335K).

III. Purchase Patterns

- Transaction Structure: 99.35% of transactions involve a single item, indicating substantial untapped potential for cross-selling.
- Associative Purchasing: Multi-item transactions consistently show patterns of "same brand, same flavour, same pack size".

quantium

Affluence & Consumption Tiers: How Wealth Drives Crisp Purchase Decisions

I. Characteristics of the Premium Consumer Segment:

- Primarily consists of middle-aged and older consumers without children.
- Purchase motivation centres on brand, quality, and experience, rather than price sensitivity.
- Within the crisp category, they show a clear preference for premium product ranges.

II. Characteristics of the Mid- to Low-Income Consumer Segment:

- Mainly comprises young families with dependents and retirees.
- Purchase decisions are significantly influenced by budget constraints, household needs, and practicality.
- Preference leans towards mainstream and economy products, with a focus on value for money.

III. Market Implications of Wealth-Driven Behaviour:

- Crisps are not merely a "low-cost snack"; there is a distinct consumption hierarchy.
- The premium product line has a stable, high-value customer base, suitable for brand building and loyalty cultivation.
- The mid- to low-end market has large volume but fierce competition, requiring targeted promotions and product bundling to increase penetration.

quantium

02

Trial store performance

quantium

Control Store Methodology: Purpose, Selection & Value

I. Core Purpose: Ensuring Scientific Attribution

- Isolates external factors by maintaining standard operations during trials, providing a clean "what if" baseline to isolate strategy impact.
- Quantifies true incremental lift through direct trial-control comparison, separating strategy-driven growth from market trends.
- Serves specifically for causal analysis, distinguishing it from regular stores used for general trend observation.

II. Selection Criteria: Rigorous Matching Protocol

- Statistical match ensures pre-trial customer trends align closely (similarity score <0.01).
- Sales scale alignment maintains comparable revenue levels and growth patterns.
- Operating environment similarity in location, competition and customer profile.
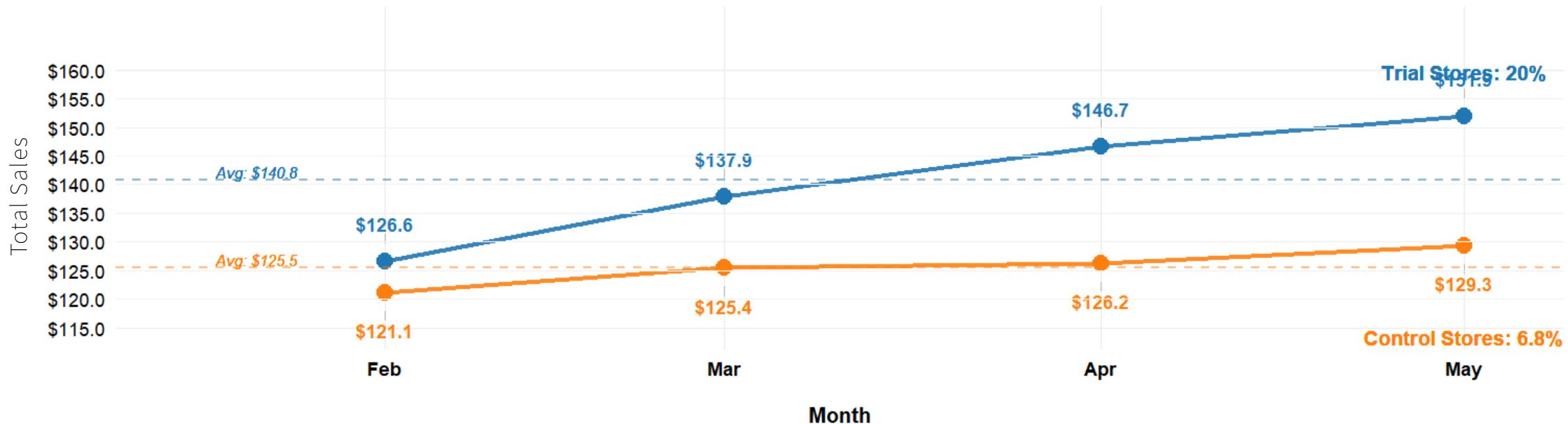
III. Strategic Value: Decision-Quality Advantages

- Credible conclusions through statistically validated attribution.
- Scalable insights with reduced rollout risk due to matched store characteristics.
- Resource efficiency requiring only targeted testing versus network-wide A/B trials.

quantium

Total Sales Comparison: Trial Stores vs Control Stores

February - May 2019 | Four-Month Performance Analysis

Store Type ● Trial Stores ● Control Stores

Trial Stores: 20%

$146.7

Avg: $140.8

$137.9

$126.6

Avg: $125.5

$129.3

$125.4

$126.2

$121.1

Control Stores: 6.8%

Total Sales

Feb   Mar   Apr   May

Month

Data Source: Monthly Sales Reports | Period: Feb 1 - May 31, 2019

Figure 4: Sales comparison: trial stores vs control stores from February to May 2019

12   quantium

Performance Evaluation： Measuring Impact & Validating Success

I. Success Evaluation Framework

- Statistical Significance: t-values > 1.943 at 95% confidence level.
- Business Significance: Growth surpasses normal market fluctuation levels.
- Growth Consistency: Majority of trial months show positive progression.

II. Store Performance Highlights

- Store 77: Strong growth acceleration (+56.14% peak), 2/3 months significant.
- Store 86: Most consistent performer (all months significant), +13.68% average growth.
- Store 88: Stable growth profile (lowest volatility), 2/3 months significant.

III. Conclusions & Recommendations

- Trial successful – all stores achieved statistically significant growth.
- Strategy effective – particularly strong in stores with aligned customer profiles.
- Rollout recommended – implement in stores sharing similar characteristics.
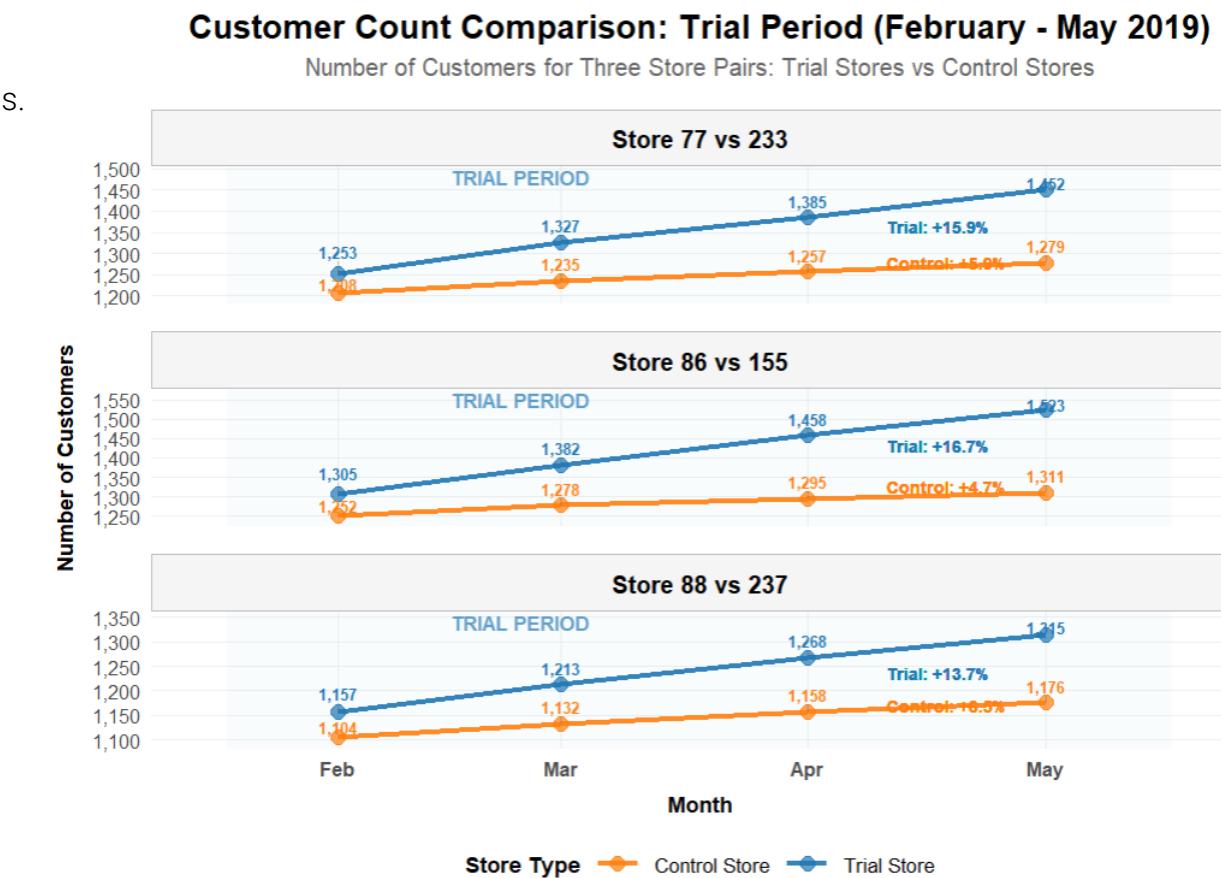
Figure 5: Monthly customer count trends across three store pairs during the trial implementation phase

quantium