# Quantium Chips Category Analytics – Final Insight Report

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## Task 1: Data Preparation and Customer Analytics

### 1. Executive Summary

This section presents insights derived from Quantium’s customer and transaction data for the chips category. It aims to inform strategic decisions for marketing, inventory, and pricing based on customer segmentation.

### 2. Data Preparation

- Cleaned transaction data by removing null 'PROD\_NAME', invalid 'TOT\_SALES', and extreme 'PACK\_SIZE' values.  
- Standardized product names to extract accurate 'BRAND' and 'PACK\_SIZE'.  
- Merged customer data using 'LYLTY\_CARD\_NBR', ensuring no duplicates or nulls post-merge.

### 3. Key Metrics Evaluated

|  |  |
| --- | --- |
| Metric | Description |
| Total Sales | Overall $ sales per segment |
| Total Quantity | Number of chip packets purchased |
| Number of Customers | Unique customers per segment |
| Avg. Sales per Customer | Spend per customer across all segments |

### 4. Segment Insights

- OLDER FAMILIES – BUDGET:  
 - Contributed the highest chip sales.  
 - Represent a large proportion of buyers, indicating volume-driven growth.  
- YOUNG SINGLES/COUPLES – PREMIUM:  
 - Highest spend per basket.  
 - Opportunity for premium upselling.

### 5. Key Trends Identified

- Budget customers are more frequent buyers.  
- Premium customers purchase fewer but more expensive products.  
- Larger pack sizes are more popular among families.

### 6. Recommendations

- Target high-volume segments (e.g., older families) with multi-pack offers.  
- Launch premium product marketing for high-value customers.  
- Develop segment-specific promotions using LIFESTAGE and PREMIUM segmentation.

## Task 2: Experimentation and Uplift Testing

### 1. Objective

To evaluate the impact of new trial layouts introduced in stores 77, 86, and 88 by comparing their performance with control stores.

### 2. Control Store Selection

- Control stores were selected based on sales correlation and trend similarity.  
- Pearson correlation and magnitude distance metrics were used.  
- Control stores closely mirrored trial stores' sales before the trial period.

### 3. Trial Analysis

- Trial stores showed an uplift of 10–15% in total sales compared to their controls.  
- Seasonality and trend-adjusted comparisons confirmed the uplift.  
- Sales uplift was driven by increased transactions and customer engagement.

### 4. Recommendation

- Scale up the successful trial layouts to other stores with similar customer demographics.  
- Continue monitoring KPIs to ensure sustained performance.  
- Combine layout changes with targeted promotions for maximum effect.

## Task 3: Commercial Application and Reporting

### 1. Purpose

To communicate actionable insights from Tasks 1 and 2 to Julia, the Category Manager, in a client-ready format using the Pyramid Principle.

### 2. Report Components

- Executive Summary and Key Insights  
- Data Visualizations (Charts, Tables, Segment Breakdown)  
- Recommendations and Commercial Actions  
- Consistent formatting and minimal jargon for business readability

### 3. Final Recommendations Summary

- Continue targeting high-volume and high-spend customer segments.  
- Replicate successful trial campaigns in demographically similar stores.  
- Use segmentation insights for campaign personalization and loyalty programs.  
- Monitor performance and adapt strategies in near real-time.