Chips Sales Analysis (Task1 and Task 2)

This project analyses chip-buying behaviour (Task 1) and evaluates whether three stores (77, 86, 88) showed sales uplift after a trial intervention (Task 2).

Main findings:

- *Certain customer groups buy more chips, mainly Mainstream Young Singles/Couples and Budget Older Families.*
- *Some customer groups like young/mid-age mainstream buyers pay a higher average price per packet.*
- *A few brands like Kettle, Tyrrells, Twisties, Pringles, Doritos are more popular among young customers.*
- *For the trial analysis, Store 77 and Store 86 showed clear sales uplift during the trial period, especially in March 2019.*
- *Store 88 showed a small uplift but not significant*

TASK 1: Customer Behaviour Analysis

Dataset and Cleaning

- *Removed non-chip products and fixed brand names (Smiths, Doritos, Pringles, etc.).*
- *Extracted pack size and brand from product names.*
- *Removed a few extremely large purchases that looked like bulk orders.*

Customer Segment Insights

- ✓ ***Who buys more chips?***
  Budget Older Families and Mainstream Young Singles/Couples.
- ✓ ***Who buys more units per customer?***
  Families (young + older) tend to buy more units each time.
- ✓ ***Who pays more per unit?***
  Young/Mid-age mainstream customers pay noticeably more per packet (statistically significant).

Brand Preference

Top brands for young mainstream customers:
Tyrrells, Kettle, Twisties, Pringles, Doritos, Tostitos.

Task 2 – Store Trial Evaluation

Approach:

- *Calculated monthly metrics: total sales, customers, transactions, units, average price.*
- *Selected control stores for each trial store based on similarity before trial.*
    - *Store 77 → Control 233*
        - *Store 86 → Control 155*

- *Scaled the control store so its pre-trial level matched the trial store.*
- *Compared trial vs control from Feb–Apr 2019 using:*
    - *Percent difference*
    - *A confidence band (based on pre-trial variation)*

Overall Insights

- *Trial was **successful for Store 77 and Store 86**, mainly during March*
- *Store 77 vs control 233*
    - ***March 2019:** Trial sales were ~**31% higher** → significant uplift*
- *Store 86 vs Control 155*
    - ***Feb & March 2019:** Above expected range → uplift*