

## Executive Summary

The Tesco Grocery 1.0 dataset provides details of aggregate consumer buying behaviour in Greater London that reflect 420 million items bought by 1.6 million Clubcard owners in the year 2015 from 411 Tesco stores. The dataset is mapped to 33 borough areas of London, with each row representing aggregated purchasing data for an area. Area-level data is an aggregation of all individual transactions made by Clubcard holders who are residents of London and shopping at Tesco stores. Therefore, it gives insights into the total nutrition and consumption patterns at the borough scale, making concluding at the individual level impossible. Nonetheless, it still has limitations in representativeness. All these data encompass only those who hold Clubcard and choose to shop at stores. It excludes those who prefer online shopping and who are not a member of Clubcard. Moreover, the distribution of Tesco stores skews towards the northern parts of London, showing higher representativeness in those regions.

The analysis of the whole year's data has discovered significant correlations between the consumption of various food categories, specifically fruits, vegetables, sweets, grains, and soft drinks. These correlations have classified London into three groups based on their food purchasing patterns. The first group covers larger areas in the Eastern and Southern parts of London with lower consumption of fruits and vegetables but higher purchases of soft drinks, sweets, and grains-related products. Conversely, the second group includes smaller and densely populated areas near the centre of London where there is a noticeable preference for vegetables over soft drinks, sweets, and grains. Based on these findings, a strategic recommendation for Tesco is to tailor product allocation and promotion to match regional preferences. It is suggested to increase focus on soft drinks, sweets, and grains in the Eastern and Southern parts of London while promoting healthier food options in central London.

Moreover, the analysis of seasonal drinking behaviour, focusing on alcoholic beverages like wine, beer, and spirits, has highlighted distinct patterns across three London boroughs: City of London, Barking & Dagenham, and Kingston Upon Thames. The city of London shows consistently high alcohol consumption, with a surprise rise in the first quarter, suggesting prolonged New Year celebrations. Barking & Dagenham, with the youngest demographic, has the lowest alcohol consumption, with only a surge in December, indicating a possible preference for non-alcoholic options. Kingston Upon Thames's alcohol consumption is moderate, showing a clear upward trend in the first half of the year and a notable drop in November. Tesco's strategic recommendations include ramping up alcohol promotions in the City of London during the first quarter, then targeting Kingston Upon Thames afterwards, and increasing the stock in all stores towards the year-end to match seasonal demand rises.

Additionally, Maguire and Monsivais (2014) have suggested that higher-income groups tend to consume more fruits and vegetables compared to lower-income groups, while people who earn below 15,000 pounds annually consume more red and processed meat than those who earn more than 50,000 pounds. By integrating an annual income dataset provided by the Office for National Statistics in 2015 for each London borough (ONS, 2015), it can be seen that the pattern of salary and consumption of fruit and vegetables aligns with the findings from the paper, with a statistical significance. The reason behind this might be the affordability of healthier food. The higher income group might prioritise the variety of nutrition more than the lower income group which tends to choose food that gives higher energy density. However, for the claims that the lowest income group consume more red and processed meat than the highest income group, it is incomparable as the lowest income group suggested in the paper gained below 15,000 pounds, while the lowest income group in the Tesco Dataset earned between 25,000 and 35,000 pounds.

## Bibliology

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