Consumer Data Research Centre

An ESRC Data Investment

Demographic and scale consumption behaviour of Youth population in the UK

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Impacts

- Provides evidence of youth buying behaviours and their relationships with population characteristics.
- Contributes towards the construction of better, more age inclusive consumer classifications.
- Provides new information for retailers aiming to understand the patterns of young consumers.

Project Background

Consumer behaviour studies have traditionally focused on adult populations, despite empirical evidence that younger consumers are an active market force and a large proportion of a family's annual income is spent on fulfilling youth needs. In addition, Census-based demographic classifications that are commonly used to understand consumer traits are currently non-inclusive of the youth population, due to only collecting data on those over the age of 16.

To contribute to the understanding of youth consumer habits, this research utilises a dataset provided by a Youth Banking Card Provider (YBCP) in the UK. The card scheme, that allows parents/guardians to supply funds via a pre-paid debit card instead of cash, provides a novel source of data regarding the spending habits of this under-researched consumer group. This case study presents an exploratory analysis of youth consumption, exploring the complex patterns and spatial relationships of spending behaviour at a city and Output Area (OA) level. In addition, it introduces a prototype of a bespoke geo-demographic classification, the "Youth Output Area Classification" (YOAC), which aims to provide evidence of how youth spending and earnings vary by demographics and neighbourhood characteristics.

These insights hope to contribute to the construction of better, more inclusive consumer classifications, but also to provide retailers with useful information to improve their commercial strategies, in order to retain or attract the youth population.

Data and Methods

The YBCP data consisted of approximately 2 million transactions that occurred between April 2015 and August 2016. This concerned 126,000 youths (aged 8 to 18 years) and approximately £17.1 million of spend. Data also consisted of twelve spending categories that could be attributed to specific retailers, reasons for receiving funds from a parent/guardian (describing specific tasks such as doing homework, good behaviour, cleaning or tidying) and a customer postcode. Figure 1 illustrates the distributions of age and spend in the data.

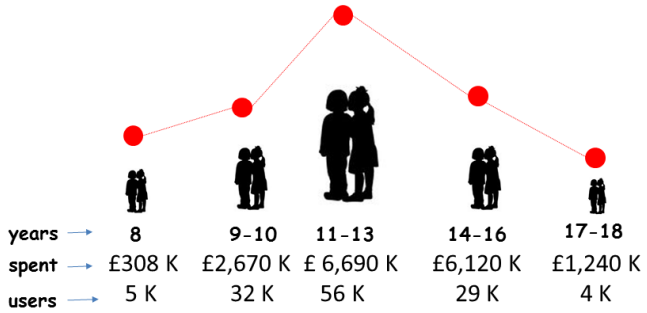

Figure 1. YBCP distribution of age and spend.

Methodology involved firstly, conducting exploratory analyses to determine general trends in youth spending and secondly, constructing a bespoke geo-demographic youth classification prototype (the YOAC). This was achieved by aggregating customer postcode data to OA and clustering spending behaviour with neighbourhood characteristics, as derived from the 2011 Census. Thirdly, possible relationships between tasks and money given were investigated at the OA and city scale. This was to identify trends such as associations with different population characteristics.

Key Findings

Exploratory analyses revealed that a large proportion of users chose to withdraw their funds from a cash machine, meaning a loss of transactional data on their subsequent consumption habits. However, the resulting data revealed twelve major spending categories that reflected the overall preferences of these young consumers. Seven of these were online retailers, four supermarkets and one a fast food chain (see Figure 2).

Analysis of the spatial distribution of these patterns demonstrated that Tesco was a prevalent choice in the South of England, whereas Xbox was by far the most popular in Northern England and Scotland. ITunes, Amazon and The Co-operative were also popular choices of spend. These retail choices may be reflective of the propensity for young consumers to hold a large amount of disposable income directed at leisure activities,

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entertainment good and gifts, with limited need for living and sustenance costs. An example of the prototype YOAC is illustrated in Figure 3. This shows how clusters of youth spending habits and their geographies were able to be identified from the data.

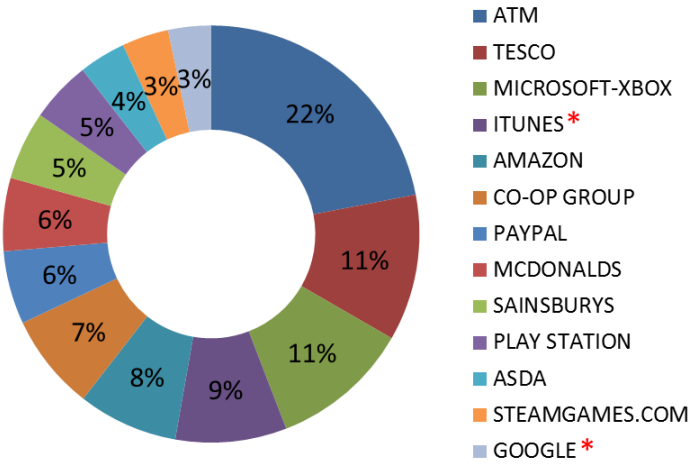

Figure 2. Youth spend distribution by retailer. Red stars indicate categories that could be broken down into more detailed descriptions of retailers/buying behaviours.

Blue areas indicate the "gamers" group, describing users from 10-15 whose primary spending category was on game related products. The red areas illustrate the "Supermarkets" group, describing users age 10-15 whose primary spending category was supermarket related. These preliminary findings show an example of how the youth population may be distributed and can be differentiated by consumer characteristics across small areas.

In terms of task assignments, popular tasks such as "tidying" simply demonstrated a relationship with population density, with more money received in more heavily populated areas such as large cities. However, other tasks such as "homework" demonstrated a sub linear association, with the amount received for this task being disproportionately high for small cities. Further analyses will aim to understand potential relationships of these variables with population characteristics, for example, assignments for homework and greater engagement with children's education.

Figure 3. Example outputs of the Youth Output Area Classification (YOAC) for two locations in South London. Blue areas indicate "Gamers" and red "Supermarkets".

Future Directions

On-going research will aim to further understand the relationship of money and tasks with population characteristics and continue to develop the YOAC. The classification may also benefit from the production of youth geo-demographics using data pooled from a range of sources, in order to provide a comprehensive insight into adolescents' consumer behaviour and how it varies across the UK.