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Target Market Identification for a Start-up Retailer in London Using a Composite Index

Abstract

This report presents a comprehensive analysis for a start-up retailer in London aiming to target areas for selling budget children's car seats. A composite index was developed using key socio-economic indicators: children aged 0-4, income, house price, car ownership, birth rate, and education level. This index was used to profile regions based on their suitability for the target market—low-income households with young children. Spatial analysis results show that the highest market potential is concentrated in the eastern and southeastern parts of London, particularly in areas such as Newham, Barking and Dagenham, and Lewisham. The socio-economic characteristics of these regions align closely with the demand for budget products within the target group. This analysis provides valuable insights for strategic marketing, helping retailers optimize resource allocation and advertising efforts.

1. Introduction

The purpose of this report is to assist a start-up retail company in developing an effective marketing strategy. The company specializes in budget children's accessories and plans to launch a range of child car seats, aiming to promote these products in specific areas across London. In order to allocate its marketing budget wisely and use resources efficiently, it is crucial to identify the areas in London that are most suitable for promoting child car seats.

The retailer's primary target customers are low-income households with young children. Therefore, the analysis should focus on communities within London that exhibit these characteristics. By selecting key variables related to income levels and child population, it is possible to effectively identify potential markets and support targeted product promotion.

This analysis aims to develop a composite index integrating multidimensional socio-economic indicators to prioritize target areas for promoting child car seats. The results will inform tailored marketing strategies, enabling the retailer to maximize market impact within budget constraints.

2. Literature Review

In an increasingly competitive market environment, identifying the correct target market is crucial for efficiently allocating limited resources and maximizing

potential. According to Kokemuller (2016), a target market refers to a group of buyers with similar needs, and choosing to serve these groups is an essential part of market segmentation. This selection process is typically influenced by various factors, including demographic, socio-economic, and behavioral characteristics, which help businesses understand customer needs and adjust their products and services accordingly.

It is now widely recognized that many socio-economic phenomena cannot be measured by a single indicator and should instead be represented by multiple dimensions. Combining different dimensions to serve as proxies for the phenomenon is a highly recommended approach (Mazziotta and Pareto, 2013). As a result, constructing a composite index has become one of the key methods for measuring these complex socio-economic phenomena. Composite indices have been widely used by various international organizations to measure economic, environmental, and social phenomena (OECD, 2008).

Therefore, to further refine the target market, a composite index can be constructed using multiple socio-economic indicators. By combining factors such as income levels, the proportion of young children, and other relevant demographic data, areas with the greatest sales potential can be identified. The composite index helps simplify complex socio-economic data into a single measure, which can then be used to identify the most suitable areas for marketing.

3.Dataset and Variable Selection

3.1 Dataset

The data used for this time provides socio-economic information from different areas of London, including data from the 2011 Census and recent updates on income, housing and birth number, which are essential for building customer profiles. And all data is aggregated at the Medium Super Output Area (MSOA) level.

3.2 Theoretical Basis for Variable Selection

The selection of variables is crucial for accurately identifying potential market areas. The following key variables have been chosen based on their relevance to the target customer group, which mainly includes low-income families and households with young children:

(1) Percentage of children aged 0-4: Children in this age group are the primary

consumers of child car seats. Studies show that community-based programs targeting this age group have been significantly effective in increasing car seat usage (Turner et al., 2005). Therefore, the selection of the 0-4 age group as a variable is based on the high demand for car seats in this age range, which will help accurately target this key demographic for the retailer's marketing efforts.

(2) Average annual income (2015-2016): This variable is used to identify low-income households. Since the retailer focuses on low-cost children's accessories, low-income areas tend to have a higher demand for such products, making income level a critical factor.

(3) Median house price (2014-2015): The median house price reflects the economic conditions of a region. Lower house prices generally indicate a concentration of low-income households. According to the analysis by Sirmans et al. (2006), the impact of certain housing characteristics, such as lot size, age, and air conditioning, on house prices varies significantly across different geographic locations. This suggests that house prices are not merely a reflection of market value, but also an indicator of the shared characteristics or conditions within a region. These characteristics may include factors such as economic status, household income levels, and quality of life. Therefore, areas with lower house prices are more likely to have the potential for promoting child car seats.

(4) 1_car_or_van_in_household: Whether a household owns a car is a key factor in promoting child car seats. Based on a study by AlSallum et al. (2019), the results show that nearly all participants held a driving license and almost all participants had children. This suggests that potential customers for children's car seats are likely to be parents who own vehicles. Therefore, areas with higher car ownership are more suitable for promoting child car seats.

(5) Birth rate per thousand population: Areas with higher birth rates typically have more young children, and such families are likely to have a higher demand for children's products. Additionally, studies have shown that families with higher birth rates often have lower income levels (Sukneva et al., 2020), which makes them more likely to purchase affordable child car seats.

(6) No_qualifications: According to the study by Simon et al. (2016) , parental education level significantly influences the use of child car seats. In households with lower education levels, the use of child car seats tends to be lower. Parents with higher education levels are generally more aware of the necessity of child car seats and are more likely to purchase and use them. Although this correlation does

not mean that all highly educated families will purchase car seats, the overall trend is that parents with higher education levels are more likely to buy child car seats.

The selection of these variables is based on their ability to effectively reflect the socio-economic characteristics of the target customer group. By analyzing these variables, we can construct a composite index that will help identify the most suitable areas in London for promoting child car seats. This ensures that the chosen variables are strategically aligned with the demand of the target market.

4.Methodology and Data Processing

This section outlines the analysis process used to construct the composite index for potential demand for child safety seats in London's Middle Super Output Areas (MSOAs), divided into five stages: variable selection, data preprocessing, index construction, regional classification, and GIS spatial visualization.

4.1 Variables

Based on theoretical foundations from the literature and target customer characteristics, six key variables were selected :

- Proportion of Children Aged 0-4 (Core user group for child safety seats)
- Median Annual Income (2015–2016) (Indicator of purchasing power)
- Median House Price (2014–2015) (Reflects cost of living and economic pressure)
- Car Ownership (One Car) (Households with car ownership are more likely to purchase child safety seats, and owning a car reflects the target income group)
- Birth Rate per 1,000 People (Indicates areas with a concentration of young families)
- Education Level (Related to safety awareness and product usage rate)

4.2 Data Preprocessing

To ensure comparability across variables, all continuous variables were standardized using the z-score method, converting them into a standard scale with a mean of 0 and a standard deviation of 1. This prevents analysis bias caused by unit differences.

Next, the Pearson correlation matrix was calculated to check for multicollinearity between the variables. In this study, the correlation between variables did not exceed the critical value ($r > 0.8$), so all six variables were retained. While principal component analysis (PCA) (Maćkiewicz and Ratajczak, 1993) could be used for

further dimensionality reduction and index construction, due to the small number of variables and the focus on interpretability for retail customers, the equal-weight method was ultimately used to construct the composite index.

4.3 Composite Index Construction

Each variable was assigned equal weight, and reverse coding was applied when necessary (e.g., high income being transformed into low affordability), ensuring that all variables were aligned in the same direction, meaning that higher values represent greater potential demand.

The final composite index is the average of the six standardized variables for each MSOA, forming a continuous score indicator to assess the potential of each region for promoting child safety seats.

4.4 Regional Classification

To facilitate the identification of target markets and the formulation of marketing recommendations, the composite index was divided into five quintile categories, each representing 20% of the MSOA areas (divided by population). This further classifies the regions as follows:

- Top 20% Areas: High potential target markets
- Middle 60% Areas: Moderate potential
- Bottom 20% Areas: Not recommended for priority targeting

4.5 GIS Spatial Visualization

The composite index and quintile results were linked to the London MSOA vector layer (LondonMSOA2011.shp) using a unique ID (MSOA code). The spatial map was created using QGIS software, visually presenting the distribution of potential demand across regions.

The spatial map output provides an intuitive display of high-demand areas, offering strong evidence for retailers in terms of resource allocation and advertising deployment.

5.Analyse and results

The final index score for each MSOA was calculated by aggregating these adjusted z-scores. These scores were then divided into quintiles, grouping areas into five levels of market potential. For practical marketing applications, they were further simplified into three categories: high potential (top 20%), medium potential (middle 60%), and low potential (bottom 20%)

Based on the resulting index scores, MSOAs were divided into quintiles, each representing 20% of the population(Table 1). These quintiles were further grouped into three practical categories for market planning:

Percentile Group of potential_customer_index

		Frequency	Percent	Valid percent	Cumulative Percent
Valid	1	1634864	20.0	20.0	20.0
	2	1633707	20.0	20.0	40.0
	3	1638464	20.0	20.0	60.0
	4	1631220	20.0	20.0	80.0
	5	1635686	20.0	20.0	100.0
	Total	8173941	100.0	100.0	

Table1. Frequency table showing the number of MSOAs in each quintile, with approximately 1.6 million people per quintile.

Figure 1 shows the spatial distribution of the market potential index across London.The index was divided into quintiles and classified into five categories from "Very Low Potential" to "Very High Potential," with darker green indicating higher market potential.

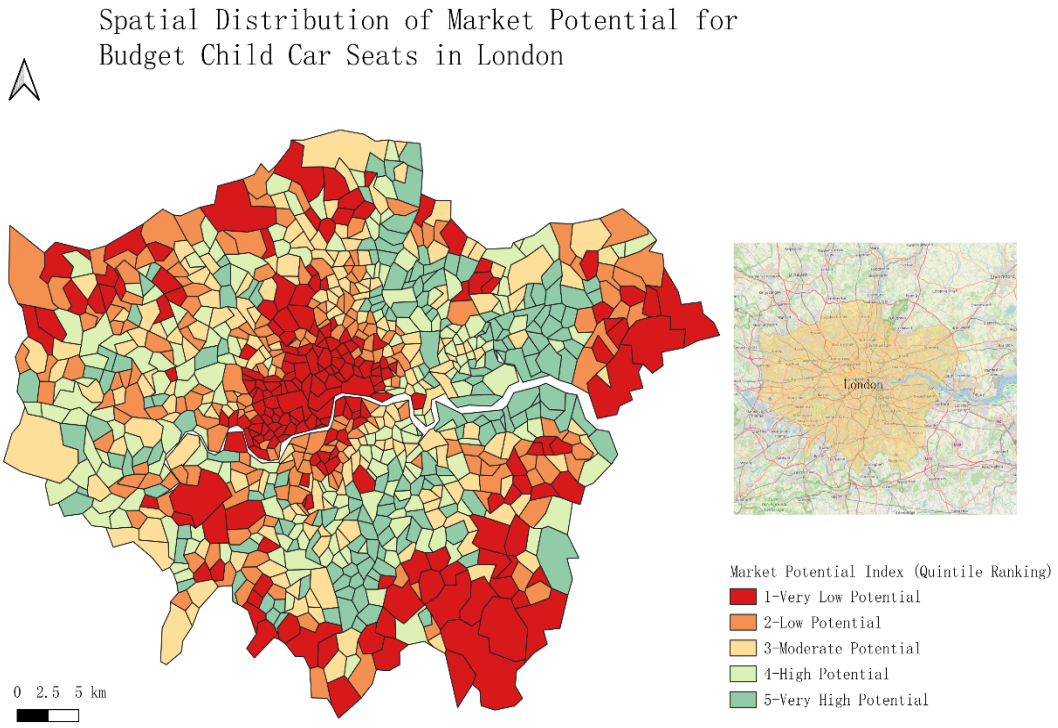

Figure 1. Composite Index of Market Potential for Budget Child Car Seats in London (MSOA Level) Dark green (5th) = highest, dark red (1st) = lowest.

High Potential Areas (Dark Green -Top 20%, 5th Quintile)

These MSOA regions represent the most promising zones for promoting budget child car seats. They are primarily concentrated in East and parts of Southeast London , including boroughs such as Newham, Barking and Dagenham, and Lewisham. These areas exhibit:

- Low average income and housing prices, which align with a preference for affordable products,
- High birth rates and a larger proportion of young children, expanding the relevant customer base,
- Higher rates of car ownership, implying the need for in-vehicle child restraints,
- And crucially, higher levels of educational attainment, which, based on evidence, correlates with greater likelihood of purchasing child car seats regardless of income level.

Medium Potential Areas (Light Green to Yellow -Middle 60%, 2nd–4thQuintiles)

Located across parts of inner London, the south, and transitional suburbs, these areas represent moderate levels across most variables:

- Middle-income households and average housing prices,
- Mid-range birth rates and car ownership,
- Educational levels are also mixed.
  While not the primary focus, these zones represent strategic opportunities for brand expansion, especially with scalable campaigns, seasonal promotions, or awareness drives. They could also serve as pilot regions for future targeting refinements

Low Potential Areas (Red –Bottom 20%, 1st Quintile)

Typically situated in the southeastern corner and central-western part of London—such as Westminster and Kensington and Chelsea,these MSOAs show:

- High income and property values, indicating reduced sensitivity to budget offerings,
- Low birth rates and a smaller proportion of young children, limiting demand,
- Lower car ownership, often reflecting reliance on public transportation,
- And in many cases, lower levels of child-focused household activity.

Although these areas may contain consumers who are willing to invest in child safety, they are generally more suited to premium product positioning rather than budget-oriented marketing.

6. Discussion

The composite index developed in this study effectively integrates key socio-economic indicators to identify the areas with the highest market potential for budget child car seats in London. Spatial distribution analysis reveals that high-potential areas are primarily located in the eastern and southeastern parts of the city, such as Newham, Barking and Dagenham, and Lewisham. These eastern boroughs consistently rank highly due to their relatively low income and housing costs, higher proportions of young children, and higher birth rates. These factors align well with the retailer's target demographic of low-income families with young children.

It is worth noting that although some suburban areas, such as the outer commuting zones in southeast London, are typically associated with higher car ownership, they do not necessarily exhibit higher market potential and are categorized as low-potential areas. Similarly, certain central boroughs, such as Westminster and Kensington and Chelsea—typically considered high-purchasing-power areas—are also identified as low-potential zones. This suggests that relying solely on individual variables, such as average income or house prices, is insufficient to capture the spatial diversity of market potential. The composite index approach supports data-driven decision-making, enabling businesses to plan their marketing strategies more effectively.

7.Conclusion

This study successfully identifies high, medium, and low potential market areas across London using a composite index approach. High-potential areas are primarily concentrated in the eastern and southeastern parts of London, characterized by higher birth rates, lower income levels, and higher car ownership, making them ideal targets for promotion. It is recommended to prioritize marketing resources in these high-potential areas to maximize return on investment and quickly establish an initial customer base. Medium-potential areas can serve as secondary markets, where a gradual market penetration strategy should be adopted.

Despite providing valuable market insights, the study has some limitations. First, some key variables, such as income and house prices, are based on outdated data

and may not accurately reflect current socio-economic conditions. Additionally, the study did not quantify cultural or behavioral factors (e.g., parenting beliefs, community norms, or brand perception), which could play a significant role in actual consumer purchasing decisions (Madhavan and Kaliyaperumal, 2015), limiting the comprehensiveness of the analysis.

Nevertheless, the composite index framework demonstrates strong value in identifying market potential, optimizing resource allocation, and guiding strategic marketing. In the future, incorporating market feedback and refining data sources will further enhance the application of the composite index method, helping retailers adapt to the dynamic market environment.

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