Relations between structure and performance of retail centres in England and Wales and demographics of their catchment areas

Karlo Lugomer[1], Guy Lansley[1], Ronald Nyakairu[2]
[1]University College London, [2]Local Data Company

Background and motivation

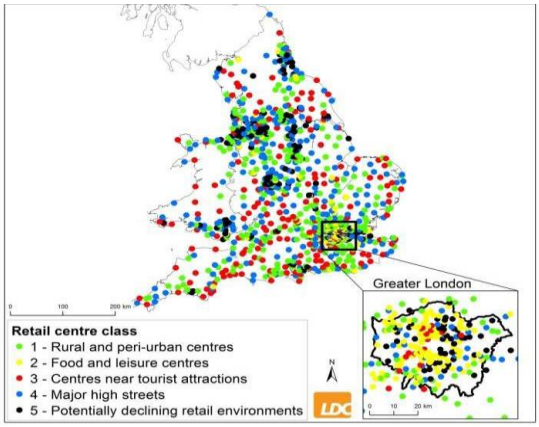
While there has been plenty of research on the population structure and how population data can be used to predict retail turnover both within the academic community and amongst retail analyses. Yet little has been done to establish how the characteristics of retail centre catchments vary across England and Wales, and how these characteristics may influence the health of retail centres. This paper explored these relationships through the estimation of retail catchment areas of 1206 retail centres in England and Wales, and then measuring the population characteristics of those residing and working within each catchment. The retail centres were classified based on the composition of stores from different retail categories so that relationships between the retail centre characteristics and local consumers could be easily identified. Finally, this research produced a list of key demographic variables which were found to link most closely to what the Local Data Company defines as a healthy retail centre.

Data and methods

Demographic data acquired from 2011 Census of population was used along with attributes of retail centres in England and Wales obtained from Local Data Company. Latter comprised areal boundaries of retail centres, percentages of 42 different store categories within each of the retail centres, corresponding vacancy rates, retail health indices and retail diversity indices. Huff's probabilities of residents and workers shopping in each retail centre were calculated using Lower Super Output Area level population data through a spatial interaction modelling procedure. A K-means clustering algorithm was employed to derive distinctive clusters of retail centres based on the percentages of different store categories present. Location quotients were calculated for each of the demographic variables to establish the extent of which demographic characteristics were represented in each class of retail centre. Finally, regression methods (bivariate, multiple, geographically weighted) were used to detect the most important demographic indicators of the retail performance.

Key findings

Five classes of retail centres were identified: rural and peri-urban retail centres, food and leisure centres, centres near tourist attractions, major high streets and potentially declining retail environments. Each class was found to have unique average demographic characteristics across their catchments. The latter was most associated with deprived neighbourhoods and many of the high streets within this category are some of the least healthy in England and Wales. Residential and workplace groups of variables were found to be important predictors of retail performance based on health indicators, especially when combined. The most important predictors were found to be percentages of: semi-routine workers, workplace population with no qualifications, workplace population with level 4 qualifications, population employed in manufacturing sector and population employed in information/finances/real estate/professional sector; together accounting for 23.8% of the variance of the retail performance. Across England and Wales socioeconomic and educational variables were found to be the most influential on retail health, while age structure, family composition and ethnicity proved to be of a minor significance. Although local variances were also identified across the country.



Classes of retail centres, England & Wales

Value of the research

The classification of 1206 retail centres in England and Wales gave a deeper insight into how local population traits are spatially associated with retail centre characteristics, and this information could be used to help retailers make better informed locational decisions. While this paper suggested that the demographics of retail centre catchment areas alone cannot fully predict retail performance, a set of the most influential variables has been detected. This data could be used evaluate the suitability of retail centres for particular stores, and also to provide information to assist the regeneration process of struggling high streets.