

## An Empirical Study into Co-op On-the-Go Stores' Turn-in Rate Using a Scorecard Approach

Ying Shen<sup>1</sup>, Graham Clarke<sup>1</sup> and Peter Woodhouse<sup>2</sup>  
<sup>1</sup>University of Leeds, <sup>2</sup>The Co-operative Food

### Project Background

The convenience sector has become one of the growth engines in the UK grocery market. As the major supermarkets are facing a bottleneck of super stores' development, there has been a heightened focus on improving their convenience store (c-store) offerings. Many consumers shop at c-stores due to their easy accessibility and extended opening hours, and their baskets typically only contain a few items. Therefore, the location and the turn-in rate (or the rate of store visits per passer-by) are vital to a convenience outlet. However, the location evaluation methodology applied for big stores are redundant to c-stores because micro-level data is not applicable for those methods. Moreover, there is little knowledge on turn-in rates due to the difficulties of data collection. Thus, this project researches locational and consumer behavior variables to explore the influential factors on the urban convenience store's turn-in rate.

### Data and Methods

The footfall and visitor data of 30 convenience stores located in UK's major cities are provided by Co-op. Other data was made available from Google Maps. After the review on shoppers' behaviour and patronage decisions, a scorecard approach was undertaken consisting of four influential variables. The four variables (accessibility on foot, store visibility, distance to stations and road traffic) are scored by designated matrices designed for each factor. The weights of each sub-attribute in the matrix are evaluated. Regression models were applied across the sample stores to analyse the relationship between turn-in rates and the scorecard variables. After that, the results were validated in the validation store samples.

### Key Findings

The demographic attributes of the catchment is critical to store patronage to supermarkets and hypermarkets, however demographical factors are less significant to c-stores. Previous studies have indicated that the customers from all social groups visit convenience outlets at relatively similar rates. The result of the 2-tailed Pearson test also shows similar output that the social-demographics do not significantly correlated to turn-in rate.

Both regression models illustrate the significant correlation between the predictors and the turn-in rate captured by the devices. The result shows that the multi-regression model provides a better fit prediction (R square = 0.866) than the linear regression model tested with the scorecards total scores (R square = 0.846).

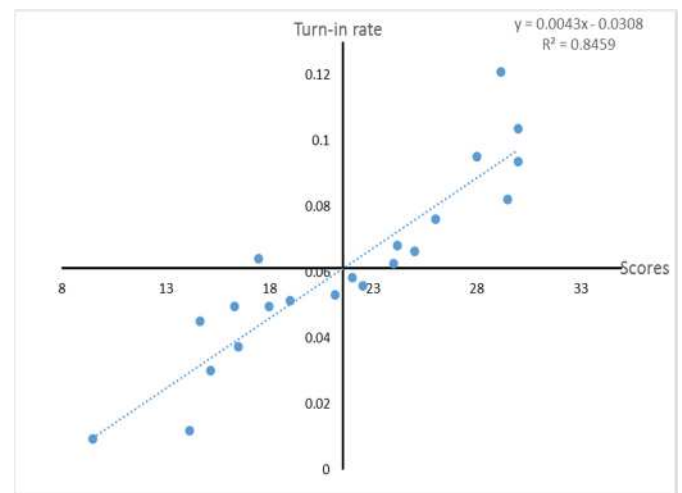


Figure 1. Linear regression scatter graph between total score and turn-in rate

The research shows that for convenience outlets, the exterior atmosphere and micro location factors act as more important roles on consumer patronage than they do for larger store formats. Especially for the outlets located in major cities, customers would shop for their instant needs (like newspaper, meal for today, or refreshment). Therefore a convenient location and eye-catching outlook are important to attract consumers to visit the store.

### Value of the Research

This is the first research on the convenience store turn-in rate and provides insights on c-stores located in metropolises. The scorecard approach is feasible to evaluate a shop's attributes and predict the turn-in rate with simple calculations. The simplicity of this method enables easy deployment across the business and the wider industry. In light of this advantage, this approach could also be easily applied in other works. It can be used to predict the patronage rates change on store refitting evaluation. It also can be used for new convenience store location selection. With the predicted turn-in rate and the footfall data, sales and turnover can be predicted.