

Deriving Key Trends in Fast Food Brand Consumer Interest:

A Quantitative Trendspotting Approach

NOEMI V. RAMIRO

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School of Statistics  
University of the Philippines  
Diliman, Quezon City

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### Abstract

This paper examines the underlying patterns behind online search interest for fast food brands. Quantitative trendspotting method was implemented by analyzing Google Trends data for each of the 25 nominated fast food brands. The trends representing co-movements of the indicators were extracted through Dynamic Factor Analysis (DFA) and Principal Component Analysis (PCA). Structural decomposition was then performed with the aim of isolating the seasonal and non-seasonal patterns of the latent trends. Two scenarios were of consideration - one which included Bonchon and Family Mart (Scenario 1) and another which excluded these (Scenario 2). These two brands possessed a long stretch of zeroes in their values owing to the fact that they operated in the Philippines in a much later date compared to other brands. Five latent trends were characterized for each technique and scenario, with the resulting DFA trends seen as more interpretable, performing better in terms of step-ahead forecasts via Mean Absolute Percentage Error (MAPE) and Mean Absolute Error (MAE), and as seen through the plots of actual versus forecasted values. Furthermore, the search trend of Bonchon and Family Mart affected the DFA results by dominating some factors, but did not exhibit remarkable effects on the chosen Principal Components.

Keywords: trendspotting, PCA, DFA, fast food, Google Trends, R