Survival of Sporting Goods Stores: Yelp Reviews vis-a-vis Market Environment

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Sporting goods retailing is a considerable supporting sub-sector of sport industry (Eschenfelder & Li, 2007) and the market is highly competitive. They compete not only with stores in their own industry, but also with online retailers, mass merchandisers, department stores, direct channels of sports brands, along with others (Hyland, 2018). According to this research, 15-20 percent of sporting goods businesses might have closed over the past a few years. Beset with formidable competitors, sporting goods stores often employ retail quality as a strategic tool to differentiate and compete in the marketplace; they also rely on the revenues from their local market as 93% of them employ fewer than 20 people and cater to local consumers. The purposes of this study are to examine the survival of sporting goods businesses and to explore how retail quality, market characteristics and competition impact a business's survival.

Based on a literature review of the relationships among retail quality, market characteristics, competition, and business performances (Zhao & Di Benedetto, 2013; Reigadinha et al., 2017; Brubaker, 2004), the following four hypotheses were developed.

H₁: Store rating, as a proxy of retail quality, on average has a positive impact on the survival of sporting goods stores.

H₂: Store rating, as a proxy of retail quality, has a nonlinear impact on the survival of sporting goods stores.

H₃: Market competition has a negative impact on the survival of sporting goods businesses.

H₄: Market characteristics are related to the survival of sporting goods businesses.

Data relating to sporting goods stores are extracted from the Yelp Academic Dataset, which include 1360 business operated in 306 Zip Code Tabulation Areas (ZCTA) in the United States. Among the 1360 businesses, 240 had closed. The main variable to test H₁ and H₂ is store rating, which is the arithmetic mean of individual review scores of a business. The main variable to test H₃ is competition intensity, which is used to capture market competition within a geographic location. The market characteristics are captured by density of the local population, size of the target market and buying power of the target market which in turn are approximated by using data from 2013-2017 American Community Survey.

Given the hierarchical nature of the data, we use mixed effects logistic modeling with both level-1 (business) and level-2 (ZCTA) explanatory variables. Three out of the four hypotheses, namely H₁, H₂ and H₄, received support whereas H₃ did not receive support. Our major findings are: (a) retail quality on average has a positive impact on survival but the effect is nonlinear; (b) the relationship between market competition and survival is complex: the relationship is likely mediated by retail quality; and (c) 10% of the individual variation in survival is due to systematic differences between ZCTA. The findings have practical implications for site selection and designing a service quality program.