A comparative analysis of differential consumer response across supermarket and specialty store in the candy category

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A B S T R A C T

Retailing industry has undergone tremendous change in its complexity and sophistication over the past few years. Globally we are witnessing the evolution of retailing industry from traditionally micro-managed small retail formats like mom and pop store to modern corporate-managed large retail formats like supermarkets. Consumers are also shopping across these various store formats even for the products in similar categories. In this research, we posit that consumer purchases in the similar categories may very well be characterized by differential responses to marketing mix across different store formats. The proposed model accounts for the influences that these diverse response parameters and preferences have on one another as well as consumer heterogeneity. Our results show that sensitivities to marketing mix as well as correlations in preferences do indeed vary across formats for consumer purchases in similar categories.

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1. Introduction

Emergence of new retail formats provides opportunities and challenges to both traditional and new retailers. Five distinct store formats have been identified on the basis of their marketing instruments (M&M planetretail, 2004) namely, warehouse club, convenience store, discount store, hypermarket, and supermarket. On the one hand experimentation with new retail formats is an on-going process in American and European markets (Dawson, 2000), on the other hand markets in developing countries are struggling with re-structuring their retailing environment. For example, the Wall Street Journal (2011) reports, “The principal fear in India regarding the potential entry of Wal-Mart is that it will wipe out the “kirana” stores, the Indian equivalent of “mom-and-pop” stores in the U.S.” However, such conclusions are confounded and not true (Chari and Raghavan, 2011). Furthermore, the large retail formats, such as Wal-Mart, when expand into developing economics often fail to understand the small retail formats that are so pre-dominant in these economies (Lenartowicz and Balasubramanian, 2009).

The emergence and operation of various retail formats can be attributed to three factors, competitive advantages sought by retailers, consumer trends and their purchasing behavior, and changing role of manufacturing industry (Ahlert et al., 2006). For example, with respect to competitive advantages, retailers have been quick to realize the potential of the store format in providing a tool that will serve not only to differentiate but also to target specific consumer segments. Thus, Office Depot in 2003 started offering its products via a new format they call M2 (or Millenium2) for the more price sensitive consumer. This newer format, the outcome of an extensive analysis of the retail environment, provides consumers with greater convenience, better service, knowledgeable staff support and product trial options, in addition to lowering operating costs and increasing operational efficiency (DSN Retailing Today, 2004; Retail Merchandiser, 2003). Costco Wholesale, on the other hand, in serving a consumer with changing lifestyles, tested a new store format, Costco Fresh which would primarily focus on fresh grocery products (Drug Store News, 2007). Home Depot, meanwhile, offered a new urban format in traditional suburban locations to attract local consumers, a deviation from its strategy of opening stores mainly in city centers (Home Textile Today, 2004).

In this research we identify one important consumer trend and their purchasing behavior that may explain the co-existence of large store format such as supermarket and small store format such as specialty store simultaneously in the market. Consumers tend to shop across various store formats even for the products in similar categories (Bell and Lattin, 1998; Bell et al., 1998;
Chib et al., 2002; Soriano, 2003; Fox et al., 2004; Hansen and Singh, 2009; Reutterer and Teller, 2009). Not only do the various formats offer distinct flavors in terms of customer service, product assortment, convenience, etc., but they also vary their marketing activities such as price and promotion (e.g., Gauri et al., 2008). Thus, convenience stores tend to offer smaller product assortments, but flexible operating hours and convenient locations, making them an attractive shopping option for consumers with time constraints and limited product category needs, while supermarkets with their larger assortments and price competitiveness provide a one stop shopping option for consumers. In contrast, specialty stores, with their narrow but deep category offerings of specialized products, serve the consumer looking for specialized and often more exclusive items not always available at most grocery stores. Thus, researchers have studied the importance of store and consumer characteristics as determinants of store format choice as far back as the 1990s (Bell and Lattin, 1998; Bell et al., 1998) to name a few. A majority of the study has assumed that consumer responses and preferences remain constant across formats. In reality, however, given the distinct store characteristics across formats as well as the heterogeneous nature of consumer shopping behavior, the same set of consumers shopping across different store formats may very well show differential response behavior in terms of their preferences and sensitivities to marketing mix variables.

Given the increasing competition in the retail industry and an ever increasing overlap in the kinds of products that can be obtained at each, it becomes critical for retailers to understand such variations in consumer shopping behavior, should they exist, across different store formats. We thus pose the following research questions: How do responses vary across different store formats? That is, do consumers show more/less responsiveness to marketing mix, product attribute and store characteristic variables across different store formats for similar product categories? Moreover, how do preferences for a category in one store format affect the preference for a similar category in another store format? How much is the variation in their differential response behavior across store formats? And finally, what are the strategic implications for the retailer in a given format?

In order to address these issues, we propose here a heterogeneous model of consumer purchase behavior that studies differential response across different store formats. We account for prices and promotions, store characteristics such as distance and assortment, and external factors such as seasonal effects, while controlling for individual differences or heterogeneity by incorporating random effects. The model is estimated using a panel of households that shops across two different formats for similar product categories. Furthermore, we also conduct simulations to study price and promotion elasticities and estimate their impact on market share and profits.

We show that consumer responses do indeed vary significantly over the different store formats even when purchasing in the same categories. Results show that marketing variables such as prices and promotions do indeed impact household purchasing behavior as a function of format. As a result, retailers must carefully tune their pricing and promotional strategies to their specific format in order to compete effectively. More specifically, we show that using such tailored strategies can in fact help specialty stores compete effectively with supermarkets. Finally, the simulation studies show how the impact of a retail strategy on response and therefore profits can vary significantly as a function of format.

The rest of the paper is organized as follows: First, we do a background study with a brief review of the relevant literature and propose our research questions. Second, we develop our model and follow with a brief outline of the data we use for estimation. We then present our results followed by a discussion section summarizing the key findings. Finally, we conclude by discussing the managerial implications and providing some directions for future research.

2. Background

Disentangling the store format choice decision from the pricing strategy choice decision has been a complex one not only because of the practical reason that both decisions are made simultaneously, but also because the literature has not always drawn a clear distinction between the nature of these two aspects of store choice. The early literature in marketing has focused on store choice decisions dealing exclusively with issues such as store competition (Bucklin and Lattin, 1992; Chan et al., 2006), store preference (Bell and Lattin, 1998), and shopping cost (Bell et al., 1998). Much of this literature has in fact used store format and pricing strategy interchangeably, inherently assuming that the format is tied in to a specific price strategy, and has furthermore assumed homogenous consumer response across formats.

Retailers often use different elements of store characteristics, market characteristics and competitive characteristics to differentiate themselves and to cater to the needs of diversified consumers (Gauri et al., 2008). Thus, store characteristics such as assortment (Briesch et al., 2009; Hansen and Solgaard, 2004) or convenience (Pan and Zinkhan, 2005; Seiders and Tigert, 2000; Ellicson and Misra, 2008) are useful tools for differentiation, while market characteristics such as geo-demographics also influence consumer shopping behavior across different formats (Fox et al., 2004). Competitive characteristics such as price (Bell and Lattin, 1998; Heerde et al., 2008), advertisements (Bodapati and Srinivasan, 2006) and promotions (Chen and Zhang, 2006; Walters, 1991) are also common tools used to attract different segments of consumers.

In response to these different retail strategies, consumers not only often shop across different store formats but also exhibit differential response behavior. For example, Hansen and Singh (2009) show that consumer preference for similar brands varies significantly across different retail formats. Unfortunately, there is little research that studies differential consumer response behavior with respect to marketing mix variables across different retail formats (see Chu et al., 2008, for an exception that studies differential consumer response to price across online and offline channels).

Consumers shop across multiple store formats for various reasons such as to explore new categories (Cummins et al., 2008), to balance the store visit cost (Bell et al., 1998; Gijsbrechts et al., 2008), to acquire store-specific knowledge (Rhee and Bell, 2002) and to satisfy occasion specific needs (Cort and Dominguez, 1977). Literature confirms the impact of sociodemographic variables (Leszczyc and Timmerman, 1997; González-Benitez and Muñoz-Gallego, 2007), advances in technology (Messinger and Narasimhan, 1997), consumer risk factors (Mitchell and Harris, 2005) and category characteristics (Bhatnagar and Ratchford, 2004) on consumer store choice behavior. Given the rapidly changing socio-demographic environment where consumers patronize multiple stores for various needs, it would be natural to assume not only changes in preference for similar product items across store formats, but changes in responses as well.

3. Model development

3.1. Conceptual framework

We posit that in a market place with different store formats, heterogeneous consumers tend to shop across different formats, often for products in similar categories. Furthermore, these consumers might visit these multiple formats in the same shopping
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