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Building With Bricks and Mortar: The Revenue Impact of Opening Physical Stores in a Multichannel Environment

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Abstract

A crucial decision firms face today is which channels they should make available to customers for transactions. We assess the revenue impact of adding bricks-and-mortar stores to a firm's already existing repertoire of catalog and Internet channels. We decompose the revenue impact into customer *acquisition*, *frequency* of orders, returns, and exchanges, and *size* of orders, returns, and exchanges. We use a multivariate baseline method to assess the impact of adding the physical store channel on these revenue components. As hypothesized, store introduction cannibalizes catalog sales and has much less impact on Internet sales. Also as hypothesized, returns and exchanges increase. Interestingly, transaction sizes of purchases, returns, and exchanges do not change. The "availability effect" produces a net increase in purchase frequency across channels. This more than compensates for increased returns, producing a net increase in revenues of 20% by adding the store channel. Our findings yield a deeper understanding of the revenue relation between channels, and of the dynamic cross-channel effects of marketing actions.

Keywords: Multichannel customer management; Customer relationship management (CRM); Vector autoregression models; Stores; Internet; Returns

Introduction

Spurred by advances in technology, competition, and the potential to cultivate better customer relationships, firms have been adding to the repertoire of channels through which they interact with customers (Blattberg, Kim, and Neslin 2008, p. 636; Neslin and Shankar 2009). Managers conjecture that adding retail channels is an important vehicle for revenue growth (e.g., Day 2002), and researchers have pinpointed the impact of channel additions on firm revenues as a key research question (Neslin et al. 2006). Our research is concerned with answering this question.

One path to multichannel growth is to add bricks-and-mortar "physical" stores. J. Crew, originally a cataloger, opened its first retail store in 1989. It now has more than 400 stores across the country (Hoovers 2013). Land's End created its retail footprint when it was purchased by Sears (Retailing Today 2006). GrowLife, Inc., a provider of indoor growing equipment, announced an expansion of its retail stores with the goal of becoming the "de facto leader in the online and brick and mortar specialty hydroponic industry" (Entertainment Close-Up 2013). A variety of other firms have joined the bricks-and-mortar bandwagon, including Soft Surroundings (Health & Beauty Close-Up 2011); City Sports (PR Newswire 2011), Fannie May (PR Newswire 2007a), Sundance Catalog (PR Newswire 2007b), Performance Bicycle (Janov 2007), Ballard (home décor) Design (Del Franco 2007), L.L. Bean (Catalog Age 2002), and Road Runner Sports (Tierney 2006). Dell Computer, which built its business on the direct marketing model, added major US retailers such as Best Buy and Walmart in 2007 (TWICE 2007a,b) and surpassed its US rivals in India thanks to exclusive physical outlets (Prasad 2011). It has been reported that even Amazon is building its first bricks-and-mortar store (Bensinger 2014).

The allure of adding physical stores is a larger and more satisfied customer base and hence more revenues. However,

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physical stores require huge investment and take the traditional direct marketer out of its comfortable "in-house" operation. This raises the following questions related to the revenue impact of additional physical stores:

- Does the physical store cannibalize the firm's Internet or catalog operation?
- If so, which is cannibalized more, the Internet or the catalog?
- What is the impact on the total level of product returns and exchanges?
- Do customers respond by spreading out purchases among channels, resulting in an increase in purchase frequency but a decrease in order size per purchase occasion?
- How do marketing communications influence the impact of new stores?
- What is the net impact of adding a physical store on total firm revenues?

The purpose of this paper is to (1) develop a multichannel framework for examining the impact of channel additions, (2) develop hypotheses related to the above questions that can be tested using this framework, and (3) test these hypotheses using data for a multichannel retailer. Our empirical method uses a "multivariate baseline", and thus another contribution of the paper is to demonstrate the applicability of this approach.

Previewing our results, we find that the addition of the physical store cannibalizes the catalog channel but leaves the Internet untouched, increases purchase frequency but has little impact on order size per purchase, and increases the volume of returns. We calculate the addition of the physical channel increases average weekly total revenues by 20%. This is due mainly to the increase in purchase frequency overcoming the cannibalization of the catalog and the increase in returns.

From a broad perspective, our goal is to provide insight into the "multichannel cross-elasticity" matrix articulated by Neslin and Shankar (2009), that is, the impact of introducing Channel A on revenues from Channel B. Zhang et al. (2010, p. 173) state, "Marketing researchers have attempted to address some of the 'cells' in this matrix. . ., yet much more needs to be done." Our intended contribution is to help fill this need.

Literature Review

The Impact of the Channel Additions

Researchers have investigated whether adding the Internet enhances or cannibalizes existing sales. Deleersnyder et al. (2002) analyzed the circulation of 67 newspapers that added an Internet version of their print newspaper. They found the impact was most often insignificant, but when significant, likely to be positive. Biyalogorsky and Naik (2003) examined the impact of adding an Internet channel on sales in a bricks-and-mortar store. They found the impact to be directionally negative but not statistically significant. Lee and Grewal (2004) found in a study of 106 firms that faster adoption of the Internet enhanced stock market performance if the Internet was adopted as a communications medium, while its impact on performance was neutral if it was adopted as a sales channel. Weltevreden (2007) found little short run impact of the Internet on center-city shopping, but that cannibalization could occur in the long run. More recently, Van Nierop et al. (2011) found that an informational website decreased offline purchase frequency and order size as some consumers close to the store reduced shopping trips (Pauwels et al. 2011).

The above offers important and interesting insights, but focuses entirely on the Internet. There is reason to believe the impact might be quite different when adding the physical channel. First, the Internet likely caters to a different market segment than do retail stores or catalogs (Alreck and Settle 2002; Kushwaha and Shankar 2013; McGoldrick and Collins 2007). Second, channels differ in the "value proposition" they offer the customer (Grewal, Iye, and Levy 2004; Grosso, McPherson, and Shi 2005). Verhoef, Neslin, and Vroomen (2007) suggest that the Internet excels on search convenience and information comparisons, while the store excels on service, assortment, after-sales support, and risk reduction. Third, there are differences in the consumer decision-process in shopping at various channels. For example, the Internet might be more goal-directed whereas retail stores and catalogs might be more conducive to recreational browsing.

Avery et al. (2012) took an important step forward in their analysis of the impact of adding a retail store channel on catalog and Internet sales. They theorize this impact will depend on the capabilities of the new channel viz-à-viz existing channels. They identify two key aspects of these capabilities: (1) complements versus substitutes – to the extent that the new channel's capabilities are substitutes, the impact on other channels will be negative, and (2) transparent versus experiential capabilities – to the extent that the new channel's capabilities are new and therefore not well-known to customers (experiential) as opposed to immediately transparent, the impact will be exerted more in the long term. The authors posit that the retailer's brand name and associations are an important experiential capability. Avery et al. use zip-code matching to create a control group, and find that the introduction of a new retail channel decreased catalog and Internet sales in the short run but increased them in the long run. This suggests that in their case, the capabilities of the retail channel were mostly substitutable but also highly experiential.

Avery et al.'s work is a significant contribution. We build on their work in several ways: (1) Substantively, we consider order size as well as frequency, and we also consider returns and exchanges. This enables us to calculate total revenue impact and decompose it into purchase frequency, purchase quantity, returns, and exchanges. (2) Methodologically, we use a baseline approach to infer the "control" rather than relying on matching. (3) Theoretically, we base our hypotheses on a number of factors that moderate the customer decision process, including consumer shopping goals, market segments, expertise, research shopping, and marketing.

Determinants of Customer Channel Choice

Factors that influence customer channel choice include channel attributes, customer characteristics, marketing, and shopping