The Effect of House Ads on Multichannel Sales☆

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Abstract

Similar to in-store displays in brick-and-mortar stores, house ads promote a set of specific products for customers who have reached the website. In contrast to general display advertising whose primary goal is to bring traffic to the website, these self-promotional ads are aimed to highlight specific products and enhance conversion. We analyzed more than 300 house ad campaigns to study the effect of this type of promotional display on customer behavior across channels. We included not only direct effects on SKU sales in all channels, but also the promotional effect at the category level. Our model uses aggregated data that are easy to collect for most multichannel retailers, facilitating its implementation in similar settings. We found that (1) despite observing positive cross-channel effects, the primary effect occurs on online sales, (2) the effects are usually short-lived, and (3) there are no spillover effects on the corresponding category. We characterize the effects that house ads have on the whole system in terms of design variables such as type of display, and scope and duration of the campaign. Our evidence suggests that the effectiveness depends on the product category and that regular banners are the most effective in generating traffic. Interestingly, the depth of the promotion plays no role on the effect of the house ads’ effectiveness. Based on the results, we provide suggestions for improving routine promotional planning.

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Keywords: House ads; Online display advertising; VAR models; Multichannel retailing

Introduction

Sales promotions have been historically one of the most studied elements in the retail industry. A common distinction made when analyzing different branches of the promotional mix is between feature and display. While feature is typically distributed in newspaper inserts, display is carried out in the store to highlight some special value offerings for specific products. These elements can have different effects in boosting sales, and may even have a combined effect that goes beyond the simple sum of the two (Neslin 2002). In online retailing, the vast majority of research has been conducted to analyze the effect of display advertising on browsing and purchasing behavior. The primary goal of display advertising (e.g., banner ads on different websites) is to bring customers to a retailer’s website, just as feature is devoted to increasing store patronage. For instance, social networks such as Facebook and Twitter that have jointly accounted for 33% of the digital display advertising in the US in 2017,1 provide a complete advertising platform to third parties.

We use the names house ads2 or internal display to classify any promotional information presented on the retailer’s website that is devoted to signaling some specific attributes of a single product (or a narrow family of them), just as display does in brick and mortar stores. In this research, we investigate the effect of house ads on the multichannel sales of a department store at the SKU level empirically. In contrast to the abundant research on display advertising, the effect of house ads remains largely unexplored.

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1 eMarketer. March 26, 2017.
2 In the industry jargon, house ads are also called self-promotion ads, on-site display, or internal links.
The use of house ads is a common practice in online retailing. Nowadays, virtually all retailers’ websites include a series of banners on their homepages highlighting specific products, complete product categories, or some special events. Although it is possible for firms to include external banners, in this investigation we restricted our attention to digital displays that help customers to navigate within the website once they have landed at the retailer’s web page. Apart from the identity of the advertiser, there are important differences between internal (in-house) and external display advertising. For internal displays, the retailer has direct control over the content, size, and frequency of the ads, and the destination of the underlying hyperlinks, and even the context in which those banners are displayed. Thus, the content of house ads typically focuses on informing customers about specific promotions of either a specific SKU or a complete product category. Additionally, the selection of which banner to show at each point in time can be determined based on internal business rules, and those changes have almost no cost beyond that of the graphic design.

A clear understanding of the effect of house ads is useful because it can lead to designing more effective campaigns that take the temporal length of the effect into account, promoting product categories in which customers are more sensitive to this promotional vehicle, and leveraging any interaction with other elements of the marketing mix, such as direct marketing or price discounts. From a strategic point of view, it is important to characterize the nature of the effect of internal promotions on sales performance. Do house ads affect only the promoted product, or is there a positive spill-over effect at the category level? Answering this question can change how firms decide on the set of products to be displayed. If internal displays benefit only the sale of the promoted products, retailers can charge manufacturers to feature them, just as they are charged for certain shelf positions in brick and mortar stores. This can lead to a new source of monetization of the online channel. Indeed, according to Fortune Magazine, audience monetization can generate a 10% incremental revenue for e-commerce players.3

One of the major changes that the retail industry has faced in recent decades is the advent of additional channels to complement product offerings in traditional stores. We therefore consider it important to adopt a multichannel perspective. Currently, customers use many of these channels actively even on a single purchase occasion. For example, before going to an offline store, they might research online (Verhoef, Neslin, and Vroomen 2007) and be exposed to house ads. The literature has documented some cross-channel effects from other promotional tools (Dinner, Van Heerde, and Neslin 2014; Liakontone, Teixeira, and Wilbur 2015). In our investigation, we evaluate how various internal campaigns, occurring only on the website, affect both online and offline sales. Quantifying the cross-channel effect could provide important insights into how firms should balance multiple retail channels.

In this paper, we analyze the cross-channel effect of house ads on a set of endogenous variables that are related temporally. Specifically, we attempt to answer the following questions:

(i) How do house ads affect website visitation and sales on all available channels? (ii) How long do these effects last? (iii) What combinations of displays and products are most effective? and (iv) Is there any spill-over effect at the category level?

When the retailer places a website banner for a given SKU, customers might be motivated to visit the corresponding product page inducing various multichannel behaviors. Some customers might want to compare alternatives, which may drive more online category sales. Other buyers might go to the closest store to purchase the product. In both cases, the customers’ responses might require some time to materialize. The delay between the activation of the online display and the purchase varies considerably depending on the response to the promotion. To deal with this dynamic we use a time series approach.

To conduct our empirical investigation, we used eight months of transactional data from a multichannel department store that sells through both brick-and-mortar and online stores. In our dataset, along with sales on all channels and the number of online visits at the SKU level, we considered more than three hundred products that have been displayed on the homepage of the website, and the exact size and location of the display.4 Considering that we observed activity from diverse SKUs, we can characterize the nature of the relationship, identifying the type of display that is most effective in stimulating sales, and determining what type of product it makes the most sense to display. To incorporate customer dynamics, we first used a vector autoregressive approach for each SKU in the sample, and then ran linear regressions to characterize how the impact of house ads depends on the product category, the attributes of the banners, and the interactions with other promotional vehicles. Our results indicate that, for most products, the effect of the online displays on sales lasts for only two days or less. However, an important portion of the campaigns exhibit longer effects (in 17% of the campaigns the effect lasted for more than a week). In terms of the effects on sales, we found evidence of both online and offline increments, but the effect is, in general, greater for online sales. Interestingly, we found almost no effect at the category level and therefore only promoted items benefit from house ads. Our results suggest that the company should consider the multichannel effect of house ads when evaluating the success of each campaign. The brief effect of these promotions indicates that the company needs to change these promotions dynamically. Also, given that most of the effect is at the SKU level, the company should select the items to be displayed carefully, and perhaps involve manufacturers in the decision-making process.

The rest of this paper is organized as follows: In the next section, we present a brief literature review regarding online display and multichannel retailing. We then describe our modeling framework explaining how we capture the most relevant customer dynamics. Next, we discuss our empirical analysis including a detailed description of the data we used and the results derived


4 For simplicity, we focus on the inclusion of digital ads on the homepage of the transactional website of the firm. In our empirical setting, the front page receives a large percent of customer visits and most of the internal display activity.
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