Customer segmentation with purchase channels and media touchpoints using single source panel data

Satoshi Nakano⁎, Fumiyo N. Kondo

University of Tsukuba, 1-1-1 Tennoudai, Tsukuba-shi, Ibaraki, Japan

1. Introduction

The multichannel retail environment has developed over the past decade. As the number of firms selling their products both online and offline has increased, achieving synergy by integrating sales and communication channels has assumed greater importance (Zhang et al., 2010). The development of communication channels based on multimedia such as mobile devices and social media has enabled the firm to build a direct relationship with the customer (Ganesan et al., 2009; Van Bruggen et al., 2010). The firm can now build an interactive relationship by providing product information through its own website or through social media platforms, such as Facebook and Twitter, in addition to traditional communication channels. Conversely, from the point of view of customers, opportunities for customers to select information are increasing. They can now obtain the information they need whenever and wherever they want without visiting bricks-and-mortar stores, since they can purchase anything online. Subsequently, it has become more important for firms to understand how customers utilize multiple channels and media and how to integrate them seamlessly (Dholakia et al., 2010; Verhoef et al., 2015).

One effective way is to design channel strategies based on customer segmentation (Neslin et al., 2006). A number of studies have examined the characteristics of multichannel customers (e.g., Kushwaha and Shankar, 2013; Chintagunta et al., 2012; Gensler et al., 2012; Valentini et al., 2011; Ansari et al., 2008; Thomas and Sullivan, 2005). In addition to this background, studies have begun to emerge that do not simply focus on customers’ purchase channels, but instead reference their purchase stages including information search stage and purchase stage. (Konos et al., 2008) proposed a Latent-Class Cluster Analysis scheme based on customers’ channel use that considers the information search and purchase stages as well as the individual differences in their psychographic and demographic covariates. This scheme has become a universal scheme adopted in several studies (Wang et al., 2014; Keyser et al., 2015; Sands et al., 2016). Sands et al. (2016) extended the scheme to evaluate communication channels more precisely by taking into account the influence of mobile devices and social media.

However, there are certain limitations in these studies because the results are based on self-reported surveys. Among past studies of multichannel customer segmentation, the problem of common method bias pertaining to survey data has been pointed out. Additional validation based on actual behavioral data has been recommended as a future study issue (Konos et al., 2008; Wang et al., 2014). Validating the scheme by using actual behavioral data is also important for making use of the abundant digital marketing data now available. Indeed, firms’ customer databases offer various behavioral log data, including both online and offline behavior. Hence, there are increasing opportunities to create synergies among sales and communication channels by promoting marketing automation (Jarvinen and Taamminen, 2016).

This study posits that one way of developing multichannel customer segmentation research is (a) segmenting customers based on actual behavioral data, which means creating actionable segments for a firm’s promotional activities, and (b) understanding customer characteristics in the segment by combining survey data, rather than just grasping actual behavior. In particular, when using only actual behavioral data, it is difficult to understand the psychological characteristics behind customer behavior. Conventionally, researchers have used survey data...
to capture individual differences in the customer’s perception of channels, while purchase history data such as consumer panel data have been adopted to capture actual behavior. In other words, different types of data have been studied separately. By contrast, we aim to achieve an integrated interpretation of actual behavioral patterns and the perception behind such behavior.

We aim to achieve this goal by using a new kind of data source: single source panel data in the Japanese market in which purchase scan panel data, media contact log data, and survey data are tied to the same ID. The processes of collecting data, including behavior logs and surveys, and turning these data into single source data linked to each individual have evolved rapidly (Taneja and Mamoria, 2012). Over the past five years in the Japanese marketing research industry, multiple large marketing research firms (e.g., INTAGE Inc., Video Research Ltd., the Nielsen Company Japan) have been developing a system to provide single source panel data. In addition, the e-commerce market size in Japan has increased 1.8 times in the past five years, and owing to the increase in online purchase of low involvement, more frequently purchased categories such as groceries, cosmetics, and sundries (Ministry of Internal Affairs and Communications, 2017). Hence, as the usage trends of the purchasing channel and media contacts continue to change, we expect to be able to provide a holistic view of customer behavior by using these new kinds of data.

In summary, this study follows past segmentation studies to understand individual differences based on purchase stage, and expands them by using single source panel data including actual behavioral data and survey data. We assess two types of purchasing channels (bricks-and-mortar and online stores) and three types of media touchpoints for information searches (mobile, PC, and social media). We focus on the market as a whole from a consumer-centric perspective, not focusing on specific firm channels. In this research, bricks-and-mortar stores include supermarkets, convenience stores, drugstores, department stores, and specialty stores, while online stores include Internet supermarkets, e-commerce sites, and direct sales sites of brands. In addition, this study deals with a segmentation case study of a Japanese market never conducted in this way before.

### 2. Multichannel and multimedia customer segmentation

#### 2.1. Literature review

In this section, we review research streams on multichannel customers and their segmentation studies as well as identify the primary issues.

#### 2.1.1. Multichannel customer behavior in multiple purchase stages

Research related to multichannel customers has been conducted in various contexts. Verhoef et al. (2015) classified these studies into three major topics: (1) impact of channels on performance; (2) shopper behavior across channels; and (3) retail mix across channels. This study falls within the second topic, focusing on the multichannel shopper segmentation and their individual differences. In addition, from the perspective of the multichannel shopper behavior contexts, Neslin et al. (2006) identified six determinants as the customer channel choice drivers: firms’ marketing efforts (Valentini et al., 2011; Ansari et al., 2008), channel attributes (Gensler et al., 2012; Chintagunta et al., 2012), social influence (Frambach et al., 2007), situational factors (Chintagunta et al., 2012; Mathwick et al., 2002), channel integration (Falk et al., 2007; Bendoly et al., 2005), and individual differences (Konus et al., 2008; Inman et al., 2004).

Channel integration between purchase channels and communication channels is one research stream. A customer employs multiple channels for either information search or purchase in the decision process (Kumar and Venkatesan, 2005). In early studies, Kim and Park (2005) examined the consumer shopping channel extension. They found that search intention for product information via an online store is a strong positive predictor of online purchase intention. Further, one notable consumer behaviors is the “research shopper” phenomenon (Verhoef et al., 2007). A research shopper is a person who uses one channel for information search and a different channel when making purchases. A generally observed pattern is to search for information on the web and then purchase in bricks-and-mortar stores. These studies show consumers may use the information gained online for both offline purchasing and online purchasing. To capture these kinds of behaviors and achieve appropriate communication, it is thus necessary to distinguish between purchase channel and information search channel.

#### 2.1.2. Customer segmentation studies

Table 1 summarizes past studies of customer segmentation. In terms of offline channel purchase behavior, Gupta and Chintagunta (1994) proposed a Latent-Class Cluster Analysis using demographic covariates to determine segment membership. They showed the validity of the scheme by directly incorporating the effects of the demographic characteristics on segment membership. In terms of online channel purchase behavior, Bhatnagar and Ghose (2004) segmented e-shoppers, finding that consumers are more concerned about web attributes associated with perceived losses (e.g., security of information and vendor reliability). With respect to the multichannel literature, the segments are mostly based on preferred shopping channels with clear definitions assigned, and are expressed in the dependency of the number of channels. For example, comparisons can be made between customers who only use bricks-and-mortar stores (single channel customers) and those who use both bricks-and-mortar and online stores (multichannel customers).

<table>
<thead>
<tr>
<th>Type of segmentation</th>
<th>Multi-channel setting</th>
<th>Purchase stages</th>
<th>Multi-device/media</th>
<th>Individual differences</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychographic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gupta and Chintagunta (1994)</td>
<td>Offline channel</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>Actual data (purchase scan panel)</td>
</tr>
<tr>
<td>Bhatnagar and Ghose (2004)</td>
<td>e-shoppers</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>Survey</td>
</tr>
<tr>
<td>Thomas and Sullivan (2005)</td>
<td>Multichannel</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>Actual data (retailer database)</td>
</tr>
<tr>
<td>Wang et al. (2014)</td>
<td>Multichannel</td>
<td>Search &amp; purchase</td>
<td>–</td>
<td>–</td>
<td>Survey</td>
</tr>
<tr>
<td>Sands et al. (2016)</td>
<td>Multichannel</td>
<td>Search, purchase &amp; after-sales</td>
<td>Internet, Mobile, Social media</td>
<td>–</td>
<td>Survey</td>
</tr>
<tr>
<td>This study</td>
<td>Multichannel</td>
<td>Search &amp; purchase</td>
<td>PC, Mobile, Social media</td>
<td>–</td>
<td>Actual data (purchase scan panel, media panel) &amp; survey</td>
</tr>
</tbody>
</table>

Table 1: Types of customer segmentation.
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات