You Buy Where You Buy Fresh Foods: Understanding The Role of Sensory and non-Sensory Products in Multichannel Store Loyalty Transference

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Abstract

This study aims to understand the transference of consumer loyalty from offline to online channels in the grocery sector, with a specific focus on sensory (fresh foods) and non-sensory (processed foods) products. This study utilized household panel data from 512 households in the Seoul capital area from 2016 to 2023 in multichannel retailers. The findings of two-part analysis indicate the dynamic mechanisms of loyalty transference. When consumers initially select online grocery stores, they tend to prefer retailers where they purchased more processed foods offline, due to the expectations for homogeneous quality. In contrast, as consumers gain experience in online grocery shopping, consumers tend to spend at the online store where they purchase more fresh foods offline. These findings provide multichannel strategies to match consistent processed food assortments across every channel and improve fresh foods departments offline.

Keywords: Multichannel Loyalty Transference, Sensory Products, Grocery Shopping

Track: Retailing & Omni-Channel Management

1. Introduction of Paper

Digitalization and advancements in cold chain logistics have shifted grocery shopping from offline to online platforms, and this trend was accelerated during and after the COVID-19 pandemic (Tyrväinen & Karjaluoto, 2022). In response to this trend, many traditional brick-and-mortar grocery retailers are expanding their service channels into online to defend their market share against emerging e-tailers. Leveraging their brand equity in the offline market, brick-and-mortar retailers seek to transfer customer loyalty from their offline stores to online.

A key advantage of offline-based multichannel grocery retailers is that they have physical shelf spaces. Offline-based retailers can provide customers with tangible and sensory experiences, allowing them to directly evaluate product quality. This advantage is strengthened in occasions of sensory goods shopping, such as fresh foods and apparel. Product categories with sensory characteristics require consumers to physically touch and feel items to assess their quality. As a result, those product categories might have bigger influences when consumers form their store loyalty. This study suggests that store loyalty developed through sensory products shopping experiences is more readily transferable to other shopping channels compared to non-sensory products.

The primary research questions of this study are therefore twofold: (i) to empirically examine the store loyalty transference within multichannel retail mix (ii) to explore how sensory and non-sensory product categories impact store loyalty transference.

Previous literature indicates that consumers tend to remain loyal to online stores that are part of the same chain as their preferred offline stores (Farag, Dijst, and Faber, J, 2007; Melis, Campo, Breugelmans, and Lamey, 2015). Familiar brand names serve as credibility cues, leading consumers to believe that the chain will provide a consistent shopping experience across channels. Therefore, the first research hypothesis of this study is as follows:

H1. The greater the loyalty to the specific offline channel, the greater the loyalty to the online channel of the same chain.

The second research objective is theoretically anchored in the 'analogical transfer paradigm.' This paradigm posits that when consumers perceive a meaningful link between a base domain and an extension of that domain, they transfer their affect and beliefs from the base to the extension (Gregan-Paxton, 2001). In the context of our study, characteristics of offline grocery stores can be mapped to those of their online channels via their relational bonds, such as shared brand names. Thus, consumers may rely on their offline shopping experiences when selecting online stores. This study specifically investigates the role of

sensory experiences in this process. In grocery retailing, fresh foods could have bigger influences on consumers' store loyalty transference, compared to processed foods products based on the reasons below.

First, most fresh foods are unbranded (Kleih, Lehberger, and Sparke, 2023). Unlike processed foods, which often rely on brand credibility (Fernqvist & Ekelund, 2014), the lack of branding for fresh foods means that consumers depend more on the reputation of the retail outlet than that of product brand (Bech-Larsen & Esbjerg, 2006; Pearson, 2003). Second, while processed foods have standardized qualities across all channels, fresh foods exhibit significant variability. Due to the inherent heterogeneity of fresh products (Kumar, 2008), consumers perceive higher risk and uncertainty when purchasing them. The perceived risk on fresh foods increased especially in online channels where consumers' sensory evaluation is limited (Weitzel & Ernst, 2019). Therefore, unlike purchases of processed foods, offline experiences with fresh foods may serve as a stronger credibility factor in loyalty transference. Accordingly, the second research hypothesis is as follows:

H2. Loyalty to an offline channel for fresh foods shopping has a greater influence on loyalty to the online channel of the multichannel retailer compared to processed foods shopping.

Despite extensive research supporting loyalty transference from offline to online (Rafiq & Fulford, 2005; Frasquet, Mollá Descals, and Ruiz-Molina, 2017), the role of specific product types on this process has not been thoroughly examined. This study aims to fill this gap by observing consumer loyalty transference patterns in multichannel grocery shopping and determining which product type—fresh foods or processed foods—more effectively facilitates store loyalty transference.

2. Method

This study uses household panel data collected by the Rural Development Administration of Korea. The dataset comprises 512 households in the Seoul capital area from 2016 to 2023, including daily grocery expenditure records and individuals' sociodemographic information (e.g., sex, age, and number of vehicles). Because this dataset records the precise and detailed names of shopping sites, it enables tracking the channel and store preferences at the individual panel level. This study utilizes receipt data from three major multichannel retailers in South Korea that emerged from hypermarket chains, all of which have similar numbers of stores, product assortments, and brand awareness. These retailers also provide similar product assortments across their online and offline channels, and most Korean

consumers are aware of the relationships between their online and offline channels.

According to Oliver (1999), 'consumer loyalty' comprises of both an attitudinal (e.g., customer satisfaction) and a behavioral component (e.g., retention; frequency of purchase; share of wallet spending). In empirical studies, store loyalty is often measured with either share-of-purchase (SOP) or share-of-visits (SOV). This study adopts the behavioral perspective and captures consumer loyalty through SOP and SOV.

To test **H1**, this study utilizes a multivariate ordinary least squares (OLS) regression analysis. To examine the relationship between offline store loyalty and online store loyalty, the dependent variable in the first regression model is each individual's online SOV for each retailer, and the independent variable is each individual's offline SOV for the same retailer. The model controls for each individual's online visit rate, sex, age (measured as birth year), and the number of vehicles.

To test **H2**, a two-part model analysis is conducted to determine the impact of fresh foods and processed foods on 1) the probability that an individual will visit each retailer's online store, and 2) the expenditure amount in that retailer's online store. The first part models the binary outcome of whether an individual has visited a retailer's online store. The second part models each retailer's online SOP among those who have previously visited the retailer's online store. To compare the influence of offline grocery categories, the main independent variables are each individual's offline SOP in fresh foods and processed foods shopping. In addition, the model controls for each individual's percentage of online purchases, sex, age (measured as birth year), and the number of vehicles.

3. Results

For H1, the results of the OLS regression analysis are showed in Table 1. The analysis showed that specific retailer's offline SOV positively predicts the retailer's online SOV ($\beta = .15$, $p < .001$). This finding supports H1 and is consistent with the literature suggesting that offline store loyalty extends to online store loyalty. Therefore, consumers tend to frequently visit the online stores of the same retailers they often visit offline.

Independent Variable	Coefficients	p-value
offline SOV for each retailer	0.1479	0.0000 (***)
sex	-0.0023	0.8030
age	0.0004	0.1200
number of vehicles	-0.0013	0.4570
percentage of shopping in online	0.1244	0.0000 (***)
retailer A (ref: retailer C)	0.0049	0.3410
retailer B (ref: retailer C)	0.0033	0.5200
Adjusted R-squared: 0.065	F-statistic: 16.35 on 7 (df: 1528)	

.p<0.1*p<0.05 **p<0.01 ***p<0.001

Table 1. results of the multivariate ordinary least squares (OLS) regression analysis (DV: online SOV for each retailer)

For H2, this study ran a two-part model analysis to demonstrate the influence of offline store loyalty for fresh foods and processed foods on online store loyalty. The first part of the model examined whether a retailer's offline SOP in fresh and processed foods influenced the likelihood of individuals shopping at the retailer's online store more than once. The results of the first part of the model are in Table 2. The findings indicate that the higher a retailer's offline SOP in processed foods (β = 3.51, p < .01) the higher the probability that individuals have shopped in the retailer online more than once. Conversely, a retailer's offline SOP in fresh foods (β = -0.32, p > .1) does not significantly predict whether individuals shopped at the retailer's online store more than once. Therefore, consumers tend to choose online stores belonging to the same chain where they have purchased more processed foods. The results of first part of two-part model do not support H2.

However, the second part of the model (Table 3) showed opposite results. The retailer's offline SOP in fresh foods positively predicts the retailer's online SOP (β = 0.41, p < .01). By contrast, retailer's offline SOP in processed foods did not have significant impact the retailer's online SOP (β = -0.02, p > .1). Thus, the results of second part of two-part model supports H2.

Independent Variable	Coefficients	p-value
offline SOP in fresh foods for each retailer	-0.3235	0.7989
offline SOP in processed foods for each retailer	3.5110	0.0018 (**)
sex	0.5874	0.0695 (.)
age	0.0201	0.0152 (*)
number of vehicles	0.0636	0.2036
percentage of purchases in online	55130.0000	0.0000 (***)
retailer A (ref: retailer C)	-0.6950	0.0000 (***)
retailer B (ref: retailer C)	-0.9988	0.0000 (***)
Hosmer and Lemeshow R-squared: 0.202		

.p<0.1*p<0.05 **p<0.01 ***p<0.001

Table 2. results of the first part of two-part model analysis
(DV: whether individuals have visited a retailer's online store more than once)

The reversed results of two-part model suggest that the mechanism of consumers' multichannel loyalty transference is different in store selection and expenditure stages. For instance, at the initial stage of online grocery shopping, consumers may tend to select the retailer where they frequently purchase processed foods, as shown in the first part of the model. It is because processed foods usually have homogeneous and stable qualities across multiple channels. However, in terms of SOP, which predicts repeated relationships with retailers, consumers exhibit loyalty transference influenced by their fresh foods purchases. That is, once they have experienced online grocery shopping, they would be attracted to the stores where they frequently purchase fresh foods offline.

Independent Variable	Coefficients	p-value
retailer's offline SOP in fresh foods	0.4107	0.0063 (**)
retailer's offline SOP in processed foods	-0.0274	0.8433
sex	-0.0241	0.5280
age	-0.0008	0.4681
number of vehicles	-0.0019	0.7173
percentage of purchases in online	507.2000	0.1446
retailer A (ref: retailer C)	0.0306	0.1626
retailer B (ref: retailer C)	0.0730	0.0017 (**)
Adjusted R-squared: 0.117	F-statistic: 7.208 on 8 (df: 367)	

.p<0.1*p<0.05 **p<0.01 ***p<0.001

Table 3. results of the second part of two-part model analysis
(DV: online SOP for each retailer)

4. Discussion

This study examines how sensory and non-sensory products influence multichannel loyalty transference. The two research questions were empirically investigated using a large grocery receipt dataset from major retailers in the South Korean grocery market. The results provide clear evidence that consumers tend to shop at online stores belonging to the same chains where they frequently shop offline. Regarding the second research question, it was found that the mechanism of offline-to-online store loyalty transference is dynamic. When consumers choose groceries online initially, they are less familiar with and uncertain about the online shopping environment, which leads them to favor retailers where they often buy more processed foods. This is because they can expect product quality as same as in offline shopping. However, as consumers continue their online shopping, they tend to spend more at retailers where their offline fresh foods shopping experiences were satisfactory. In other words, after gaining experience with online grocery shopping, their initial preference for processed foods does not serve as a milestone anymore. Instead, they favor the stores where they prefer to shop for fresh foods offline. These dynamic results align with the online store choice decisions literature (Melis et al., 2015), which suggests that consumers' online store choices could evolve over time as they gain more online grocery shopping experience.

This study contributes to the existing multi-channel literature in several ways. First, it extends the literature by investigating (i) a large set of purchase data spanning both online and offline channels over the long term, (ii) taking into account consumers' shopping habits (such as individuals' percentage of online shopping), and (iii) focusing specifically on the grocery

sector. As online grocery shopping has been recently emerging in South Korea, findings of these study provide valuable managerial insights for grocery retailers. Moreover, based on the characteristics of grocery retailing, this study separately examined the influence of sensory products (fresh foods) and non-sensory products (processed foods). While previous multichannel studies have revealed the robust link between offline and online experiences (Frasquet et al., 2017; Melis et al., 2015), less attention has been paid to understanding which product categories play a more significant role in store loyalty transference. This study theoretically assumed that offline fresh foods shopping experiences could be transferred to online shopping situations, despite the limited ability to touch and feel products online. By two-part model analysis, this study further examined the different effect of sensory and non-sensory buying experiences on the formation of online store loyalty. To our knowledge, this is the first study to observe consumers' loyalty transference patterns in terms of product categories and reveal the contrasting influences of sensory versus non-sensory products.

For managers of multichannel store environments, these findings provide useful insights. Specifically, this research offers (i) a deeper understanding of how consumers form multichannel loyalty, and (ii) guidelines on how to adjust the multichannel retail mix to attract new consumers to online stores and retain them. To attract offline customers to online, retailers have to ensure that the online assortment of processed foods matches that of offline channels. By enhancing the assortment integration of processed foods retailers can mitigate consumers' perceived risks and uncertainties when purchasing groceries in unfamiliar online environments. In order to retain online, they should focus on maintaining and improving their fresh foods departments in offline stores. Clean, trustworthy, and a wide range of fresh foods shelves would enhance customers' loyalty to the retailer's brand name, and they would willingly spend their money in their online stores as well.

Nevertheless, this research has several limitations. First, this study adopted behavioral measures to operationalize consumer loyalty, which may not fully capture consumers' perceptions and beliefs (Bustos-Reyes & González-Benito, 2008). Since consumer loyalty involves repeated emotional attachment and satisfaction (Martenson, 2007), it would be valuable to conduct additional surveys with the panel participants to measure store loyalty from an attitudinal perspective. Second, as this study utilized receipt data from a wide range of stores, it was unable to capture detailed store characteristics (e.g., store size, location, and product assortment), which can directly influence offline store choices. Future research should incorporate these asp factors to precisely capture offline store loyalty.

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