Impact of the Internet on Retail Industry: Insights Into Consumer Choice of Multichannel Shopping

Wenxuan CHEN¹, Xiangrong JIN¹² and Jianliang YE¹²

¹School of Economics, Zhejiang University, Hangzhou, 38# Zheda Road, Hangzhou, Zhejiang Province, China
²Centre for Research of Private Economy, Zhejiang University, Hangzhou, 38# Zheda Road, Hangzhou, Zhejiang Province, China

Abstract: This article characterizes how offline search costs, consumers’ switching costs to purchase online, and product search-like attributes affect consumer multichannel shopping and hence the competition between online and offline retailers. When the search cost is higher or the product is closer to a standard good, the online retailer tends to be better off, while the offline retailer is worse off due to the absence of window shopping. In some cases, online retailers can even set a higher price than their offline counterparts, which suggests that the rapid growth of online retail does not stem merely from low prices online. In addition, comparing the equilibria in a sequential model with those in a simultaneous-move model, we find that an offline retailer can strategically enhance the possibility for “window shopping” to occur, improving her benefit. In other words, the incumbency of an offline retailer endows her with a first-mover advantage.

Key words: Window shopping, Channel selection, Online retail, Offline retail

1. INTRODUCTION

With the popularization of the internet, e-commerce and, specifically, e-retail has received extensive acceptance as a new retail revolution, following department stores, chain stores and supermarkets (Shy, 2014). These three previous retail revolutions sequentially witnessed vertical and horizontal integration, geographical economies of scale and the adoption of cost-efficient self-selection and even self-service; all of these factors have been further promoted by the rise of e-commerce. Foremost, e-retail firms have undergone increasingly widespread horizontal and vertical integration, broadening their business scope as well as shortening the consumer-producer distance. Next, e-commerce alleviates the time and space conflicts between demand and supply, endowing consumers and distributors with greater freedom and control over trade. Coupled with these improvements, e-retail brings lower rental and labour costs, enhanced efficiency of resource allocation and circulation, and faster information flow between consumers and producers by shortening the supply chain.

Our paper attempts to address the effect of differences between online and offline retail channels, product attributes and population characteristics on the competition between e-retail and offline retail. Understanding these differences will help to clarify the relationship between online and offline retail, and could eventually promote the transformation and upgrading of retail industry and even throughout the entire commodity circulation system.

Our model partly follows that established in Shy (2014). First, we make a similar assumption that consumers cannot ascertain whether the product is suitable until a product inspection occurs in a physical store. Second, the uncertainty corresponds to the search-like attributes of the product. Search goods or standard goods, such as electronic goods, household appliances and stationary, exhibit lower product uncertainty. By contrast, experience goods or non-standard goods, such as apparel, cosmetics and snacks, suggest higher uncertainty, requiring some type of testing to remove the uncertainty. Additionally, our model also focuses on the competition between an online and an offline store in the possible presence of window shopping (Shy, 2014).

However, our model differs from Shy’s in several aspects. To start with, our model concentrates on differences in the characteristics of the two retail channels rather than those in the characteristics of the product and its related services, pre-sale or after-sale; this allows us to rule out the effect of product quality on purchase channel selection. Next, in our model, we divide shopping into two phases: search and purchase. In the search phase, online shopping is easy for consumers to use when searching for information and comparing products, is free of business hour constraints and frees consumers from most social contact. By contrast, shopping offline is experiential and interactive but holds transportation costs and other search costs. We assume that, measured in terms of opportunity cost, the online search cost is zero, but the offline search cost, including but not limited to transportation cost, is influenced by the potential buyers’ consumption motives, shoppers/browsers versus searchers (Soopramanien and Robertson 2007), and by some personal characteristics such as income level, as well as by the development of the offline retail, such as commercial intensity, commercial layout, and services such as a shopping guide. In the purchase phase, in contrast with purchasing offline, online purchase brings
quicker orders and payments, but higher perceived financial and psychological risks plus the uncertainty of when the product will be acquired. These characteristics plus the required computer skills and Internet access largely determine a given consumer’s willingness to switch from purchasing offline to purchasing online, which will be measured by switching cost in our model. Finally, we analyse a simultaneous-move model followed by a sequential model, which is not included in Shy, to see how the incumbency of offline retail influences the results.

With such a setup, this article contributes to the literature with the following findings: 1) even without differences in whether service is bundled with the sale of a product (Shin 2007; Shy 2014), window shoppers can coexist with direct online shoppers and offline shoppers due to heterogeneous switching costs; 2) window shopping, in favour of offline shopping, tends to be eliminated as search costs increase and the product approaches becoming a standard good, which could help retailers avoid intense price competition and even encourage online retailers to set a higher price than their offline counterparts; 3) although the potential online retailer appears to manipulate window shopping to “steal” the market, the offline retailer, as an incumbent, decides whether to allow window shopping and obtains a small first-mover advantage by enhancing the possibility for window shopping to occur.

2. THE MODEL

2.1. Setup

Following Shy (2014), the market consists of two monopolistic retailers, namely, an online retailer (O) and a brick-and-mortar retailer or, as we call it here, an offline retailer (W), both of whom sell the same product with value $v(>0)$ to one unit continuum of consumers at price $p_k, k = O, W$. Offline retail, as the traditional form of retail, occupies the entire demand market before online retail comes into existence. Adopting the new form of retail channel is somewhat costly for consumers (Chen and Hitt, 2000; Chen and Hitt, 2002), especially those with lower computer skills, higher financial risk perception, or stronger experiential imperatives. Each consumer is identified by her switching cost from offline to online purchasing, $s_i \geq 0$, which measures the consumer’s stickiness or loyalty to offline retail.

The product is suitable for each consumer with a probability of $\sigma \in (0,1]$ (Shy, 2014), and only after taking a trip to the physical store at the expense of search cost, can potential buyers realize whether the product is suitable. All potential buyers are fully informed of both prices, $p_k, k = O, W$ and of their own preferences before they make any decision. Consumers have three choices when purchasing products: purchase it directly online (O), travel to inspect the product and then buy it in store (W), or be a window shopper (WO) who inspects the product in store before buying it online. A realized buyer purchases one unit from either type of retailer. The potential buyers’ decisions can then be described in Figure 1.

![Figure 1. Potential Buyers’ Purchase Decision](image)

Let $B = \{W, WO, O\}$ be the consumer’s purchase choice set. “O” denotes “buys directly online”; “WO”, “inspects first and if suitable, buys online”; and “W”, “inspects first and if suitable, buys in store”. Another consumption pattern “web to store” is omitted in $B$ because the effect of this pattern can be studied in the reduction of search cost, which is a major parameter in our model. Thus, given the prices $p_k, k = O, W$, a consumer with certain preference $s_i$ choosing $B_i \in B$ has net utility $u(B_i \mid p_W, p_O, s_i)$ as follows:
According to (1.1), we then define three purchasing types of consumers:

\[ B_w \left( p_w, p_o \right) = \left\{ s_i : u(W | p_w, p_o, s_i) \geq u(B_i | p_w, p_o, s_i), B_i \in B \right\} \]

\[ B_{wo} \left( p_w, p_o \right) = \left\{ s_i : u(WO | p_w, p_o, s_i) \geq u(B_i | p_w, p_o, s_i), B_i \in B \right\} \]

\[ B_o \left( p_w, p_o \right) = \left\{ s_i : u(O | p_w, p_o, s_i) \geq u(B_i | p_w, p_o, s_i), B_i \in B \right\} \]

which, as Figure 2 shows, can be reduced to

\[ B_w \left( p_w, p_o \right) = \{ s_i > \max \{ s_w, s_r \} \} \]

\[ B_{wo} \left( p_w, p_o \right) = \{ s_o < s_i \leq s_r \} \]

\[ B_o \left( p_w, p_o \right) = \{ s_i \leq \min \{ s_o, s_w \} \} \]

where

\[ s_r = p_w - p_o, s_w = \tau + \sigma p_w - p_o, s_o = \frac{\tau}{1 - \sigma} - p_o \]

which is derived from comparing the expected utilities of the different purchase choices in (1).

\[ u(B_i | p_w, p_o, s_i) = \begin{cases} \sigma v - p_o - s_i, & B_i = O \\ \sigma (v - p_o - s_i) - \tau, & B_i = WO \\ \sigma (v - p_w) - \tau, & B_i = W \end{cases} \] (1)

**Figure 2.** Division of Market Share with or without Window Shopping

The e-retailer and the offline retailer are faced with different demands, with respective sizes

\[ n_w \left( p_w, p_o \right) = \sigma \int_{s = s_w(p_w, p_o)}^{s_o} dF(s) \]

\[ n_o \left( p_w, p_o \right) = \sigma \int_{s = s_o(p_w, p_o)}^{s_o} dF(s) + \int_{s = s_w(p_w, p_o)}^{s_w} dF(s) \] (5, 6)

where \( F(\cdot) \) is the c.d.f of \( s_i \), and \( f(\cdot) \) is the p.d.f of \( s_i \). Without losing generality, we assume that the marginal costs of the two retailers are equal to zero. For algebraic simplicity, also let both fixed costs equal zero. Hence \( \pi_k(p_o, p_w) = p_t n_k(p_w, p_o), k = W, O \).

**Definition:** The equilibrium can be defined as \( (B^*_w, p^*_w, p^*_o) \), which satisfies

1. **Lemma 1.** \( p_w > \frac{\tau}{1 - \sigma} \) and \( p_o > p_o \) ensure \( B_{wo} \left( p_w, p_o \right) \neq \emptyset \), i.e., “Type I” occurs, with both retailers facing positive demands.
Lemma 2. \( p_w \leq \frac{\tau}{1-\sigma} \) and \( \tau + \sigma p_w - p_o > 0 \) ensure \( B_{wo}(p_w, p_o^*) = \emptyset \), i.e., “Type II” occurs, with both retailers facing positive demands.

Figure 3 illustrates the distribution of equilibria.

The condition under which window shopping does not occur, \( p_w \leq \frac{\tau}{1-\sigma} \), indicates that given the search cost and the product attributes, the offline price must be sufficiently low to discourage the potential buyers visiting the physical store from purchasing online. In other words, the offline retailer determines whether to induce window shopping.

According to (5) and (6), demand for both retailers is as follows:

\[
\begin{align*}
\eta_o &= \begin{cases} 
\sigma(p_w - p_o) & p_w > p_o \geq \frac{\tau}{1-\sigma} \\
\sigma(p_w - p_o) + (1-\sigma)\left(\frac{\tau}{1-\sigma} - p_o\right) & p_w > \frac{\tau}{1-\sigma} > p_o \\
\tau + \sigma p_w - p_o & p_w \leq \frac{\tau}{1-\sigma} \text{ and } \tau + \sigma p_w - p_o > 0 \\
0 & p_w \leq p_o \text{ and } \tau + \sigma p_w - p_o \leq 0
\end{cases} \\
\end{align*}
\]

\( n_w = \begin{cases} 
\sigma[1-(p_w - p_o)] & p_w > p_o \geq \frac{\tau}{1-\sigma} \\
\sigma[1-(p_w - p_o)] & p_w > \frac{\tau}{1-\sigma} > p_o \\
\sigma[1-(\tau + \sigma p_w - p_o)] & p_w \leq \frac{\tau}{1-\sigma} \text{ and } \tau + \sigma p_w - p_o > 0 \\
\sigma & p_w \leq p_o \text{ and } \tau + \sigma p_w - p_o \leq 0
\end{cases} \) \( (7) \)

2.2. Simultaneous-move model

First, we assume that the two retailers in the market set prices simultaneously. Hence, using the first order conditions of both profit functions to derive the best response functions for both retailers.

\[
\begin{align*}
p_o(p_w) &= \begin{cases} 
\tau \quad p_w > p_o \geq \frac{\tau}{1-\sigma} \\
\tau + \sigma p_w & p_w > \frac{\tau}{1-\sigma} > p_o \\
\tau + \sigma p_w & p_w \leq \frac{\tau}{1-\sigma} \text{ and } \tau + \sigma p_w - p_o > 0 \\
0 & p_w \leq p_o \text{ and } \tau + \sigma p_w - p_o \leq 0
\end{cases}
\end{align*}
\]  \( (9) \)
the product, allowing both retailers to set prices and increase the economic intuition is as follows: when a product is more of a standard or a search good, the expected loss of buying it from the online retailer or, equivalently, the incentive to inspect the product, 

\((1-\sigma)p_o\), decreases, enhancing the online shoppers’ willingness to pay. Consequently, the online retailer tends to raise the price, and the traditional counterpart follows suit. In fact, a larger \(\sigma\) mitigates the product uncertainty of shopping online and hence the downward price distortion. Therefore, a higher probability of suitability could narrow the spread and reduce competitive intensity.

In summary, higher search costs, an enhanced barrier to offline retail, and the product being a standard good, reducing the necessity for an in-store inspection, tend to eliminate window shopping and make the offline retailer worse off. In other words, offline retail benefits from the presence of window shopping.

\[
\begin{align*}
\left( p_w^{\text{eq}}, p_o^{\text{eq}} \right) = & \begin{cases} 
\left( \frac{2+\tau - \sigma + 2\tau}{4-\sigma}, \frac{2-\tau - 1+\tau}{3\sigma} \right) & p_w > p_o \geq \frac{\tau}{1-\sigma} \\
\left( v, - \right) & p_w \leq p_o, \text{and } \tau + \sigma p_w - p_o > 0 \\
\left( \frac{2+\tau - \sigma + 2\tau}{4-\sigma}, \frac{2-\tau - 1+\tau}{3\sigma} \right) & p_w \leq p_o, \text{and } \tau + \sigma p_u - p_o \leq 0 \\
\end{cases}
\end{align*}
\]

We assume \(\tau \leq 2\) to ensure that the offline price is non-negative.

Figure 4 and Figure 5 illustrate the best lines of response for the two retailers, revealing all the scenarios for equilibria and the respective equilibrium prices given search costs and the probability of product suitability. Hereinto, Scenario 4(a), 4(b), 5(a) induces window shopping while others do not. No consumer chooses “O” in 4(a) because search cost is extremely low relative to product suitability, which ensures that removing product uncertainty at the expense of search cost is always reasonable. This also explains why such a scenario does not emerge in Figure 5 (the search cost given is not too low). In scenarios 4(c) and 5(b), the corner solution predominates. The price offline is surpassed by that online in scenarios 4(e) and 5(d).

From the perspective of static analysis, 1) a greater search cost or product suitability prevents window shopping from occurring. Intuitively, a higher search cost means a greater cost to travel to the store for a product inspection, and a greater probability of product suitability reduces the incentive for product inspection; hence, consumers are discouraged from window shopping. 2) \(\tau\) increases \(p_w\) in “Type I” and decreases it in “Type II”, but increases \(p_o\) in both equilibria, thus decreasing the online-traditional spread and even reducing it to be negative because \(p_o\) grows more rapidly. The economic intuition is as follows: a higher search cost raises the barrier to traditional shopping and hence intensifies market segmentation, allowing both retailers to set monopolistic prices and narrowing the online-traditional spread. In other words, a higher search cost could reduce the competitive level. 3) \(\sigma\) increases \(p_o\) and \(p_w\) and decreases the online-traditional spread because \(p_o\) grows more rapidly. The economic intuition is as follows: when a product is more of a standard or a search good, the expected loss of buying it from the online retailer or, equivalently, the incentive to inspect the product, 

\((1-\sigma)p_o\), decreases, enhancing the online shoppers’ willingness to pay. Consequently, the online retailer tends to raise the price, and the traditional counterpart follows suit. In fact, a larger \(\sigma\) mitigates the product uncertainty of shopping online and hence the downward price distortion. Therefore, a higher probability of suitability could narrow the spread and reduce competitive intensity.
Figure 4. Equilibria and Equilibrium Prices Change with Search Cost (\( s_i \sim U[0,1] \))

Figure 5. Equilibria and Equilibrium Prices Change with Product Suitability (\( s_i \sim U[0,1] \))

2.3. Sequential model

Now we consider the situation in which an offline retailer is an incumbent while an online retailer is a potential entrant. Thus, the retailers set prices sequentially. The timeline is as follows:

1. An offline retailer in the market sets its price;
2. An online retailer observing the offline price decides whether to enter the market;
3. If entering, the online retailer sets a price to maximize its profit given the offline price; otherwise, the offline retailer monopolizes the market.

Using backward induction, if the online retailer enters, given the online price, the best response function of the e-retailer is (9). The online retailer enters the market as long as it will gain a normal profit. Since no fixed cost exists for the retailers, the online retailer always enters. Given that the online retailer enters and given her best response function, the offline retailer tends to maximize her profit as follows:
Solving the problem above derives the best response function of the offline retailer satisfying

\[
p_{w}^{\text{eq}}(p_{o}) = \begin{cases} 
\frac{2}{3}(1 + p_{o}) & p_{w} > p_{o} \geq \frac{\tau}{1-\sigma} \\
\frac{2(1 + p_{o})}{4 - \sigma} & p_{w} > \frac{\tau}{1-\sigma} > p_{o} \\
\frac{2(1 + p_{o} - \tau)}{3\sigma} & p_{w} \leq \frac{\tau}{1-\sigma} \text{ and } \tau + \sigma p_{w} - p_{o} > 0 \\
\frac{2 - \tau + \frac{2 + \tau}{\sigma}}{2} & p_{w} \leq \frac{\tau}{1-\sigma} \text{ and } \tau + \sigma p_{w} - p_{o} \leq 0 
\end{cases}
\]

Let (9) and (12) be met at the same time. The equilibrium prices in the sequential game are as follows:

\[
(p_{w}^{\text{eq}}, p_{o}^{\text{eq}}) = \begin{cases} 
\left(\frac{1}{2}\right) & p_{w} > p_{o} \geq \frac{\tau}{1-\sigma} \\
\frac{2 + \tau - \sigma + \left(2 - \sigma \right)\tau}{4 - 2\sigma} & p_{w} > \frac{\tau}{1-\sigma} > p_{o} \\
\frac{2 - \tau + \frac{2 + \tau}{\sigma}}{2} & p_{w} \leq \frac{\tau}{1-\sigma} \text{ and } \tau + \sigma p_{w} - p_{o} > 0 \\
\left(\nu, \right) & p_{w} \leq p_{o} \text{ and } \tau + \sigma p_{w} - p_{o} \leq 0
\end{cases}
\]

Figure 6 illustrates the best response lines for the two retailers, revealing all the scenarios of equilibria and respective equilibrium prices relative to those in the simultaneous-move game. Comparing the offline best response functions in (12) with those in (10) reveals that in the presence of switching costs, incumbency or being the first to set price allows the offline retailer to increase the price level. Accordingly, the online price level increases. That is, both retailers are better off in the sequential game.

Figure 6. Equilibria and Equilibrium Prices Change in the Sequential Game (\(s_{i} \sim U[0, 1]\))

2.4. Comparison between the two models

Figure 5 and Figure 6 reveal five scenarios, denoted by Scenario \(i, i = 1,2,3,4,5\), including 1) “Type Ⅰ” with no “O”; 2) “Type Ⅰ” with all three consumption patterns; 3) “Type Ⅱ” with a corner solution, i.e., \(p_{w} = \frac{\tau}{1-\sigma}\); 4) “Type Ⅱ” with an inner solution; and 5) “Type Ⅱ” with an inner solution but \(p_{o} > p_{w}\). From
(11) and (13) arise the cutoffs that allow these five scenarios to occur in both models; these are listed in Table 1 and depicted in Figure 7.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Cutoffs Simultaneous-move model</th>
<th>Cutoffs Sequential model</th>
<th>Equilibrium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>( r \leq \frac{1}{3}(1-\sigma) )</td>
<td>( r \leq \frac{1}{2}(1-\sigma) )</td>
<td>“Type I” 1 with “WO” and “W”</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>( \frac{2}{1+2\sigma}(1-\sigma) &lt; r &lt; \frac{2}{3}(1-\sigma) )</td>
<td>( \frac{2\sigma}{4+\sigma} &lt; r &lt; \frac{2(1-\sigma)}{3-\sigma} )</td>
<td>“Type I” II with “O”, “WO” and “W”</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>( \frac{2}{3}(1-\sigma) \leq r &lt; \frac{2}{1+2\sigma}(1-\sigma) )</td>
<td>( \frac{2(1-\sigma)}{3-\sigma} \leq r &lt; \frac{2(1-\sigma)}{1+\sigma} )</td>
<td>“Type II” with a corner solution</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>( \frac{2}{1+2\sigma}(1-\sigma) \leq r &lt; \frac{2-\sigma}{1+\sigma} )</td>
<td>( \frac{2(1-\sigma)}{1+\sigma} \leq r \leq \frac{4-2\sigma}{2+\sigma} )</td>
<td>“Type II” with an inner solution</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>( \frac{2-\sigma}{1+\sigma} &lt; r \leq 2 )</td>
<td>( \frac{4-2\sigma}{2+\sigma} &lt; r \leq 2 )</td>
<td>“Type II” with an inner solution but ( p_O &gt; p_W )</td>
</tr>
</tbody>
</table>

![Figure 7](image_url)  
(a) Simultaneous-move game  
(b) Sequential game

*Figure 7. Comparison between Cutoffs of All Scenarios*

The sets of cutoffs in the two models have some things in common. First, the shapes of the lines that mark the cutoffs are basically the same. As the product becomes more of a standard good, it becomes less likely that window shopping (Scenario 1 or 2) will occur, and the possibility for the online retailer to outprice its counterpart is much greater (Scenario 5). This is because when consumers are less motivated to inspect the product, it increases the attractiveness and hence the market power of online retail. Second, Scenario 1 and Scenario 2 could coexist, which means that multiple equilibria occur when search cost is very (but not extremely) low. Third, given the search cost, no more than four kinds of scenarios can be elicited as product suitability changes (see in Figure 5). However, any probability for product suitability can induce all five scenarios as search cost changes (see in Figure 4 and 6).

These results can be observed in reality. China witnessed extensive window shopping in the early development of e-commerce, especially for non-standard goods such as apparel. This implicitly reveals that the offline search cost in China is extremely low, possibly due to low opportunity cost and high commercial intensity. However, if the e-retailer can further reduce the search cost for online shoppers, such as improving the search engine, customizing results, or strengthening the search-like attribute of the product, for example including a video or related comments in the product description, window shopping could be easier to deter and direct shopping online preferred. It is worth noting that some products, such as beverages or small appliances, are sometimes more expensive online because consumers are busy, reluctant to travel, or too distant from brick-and-mortar stores.

However, there are some differences between the simultaneous-move model and the sequential model. First and foremost, in the sequential game, all of the cutoff lines move upwards to some degree because the offline retailer sets the price first. Therefore, window shopping (Scenario 1 or 2) is relatively more likely to emerge in this setting, which is reflected in that \( r < \frac{2(1-\sigma)}{3-\sigma} \) is easier to meet compared to \( r < \frac{2}{3}(1-\sigma) \) (see Table 1). This result implies that although both retailers are better off in the sequential game, the offline retailer enjoys a small first-mover advantage because she is better off in the presence of “window shopping”. Intuitively, although
window shopping appears to be manipulated by the online retailer to infiltrate or “steal” the market, the offline retailer decides whether to allow window shopping, which is reflected in the necessary condition for window shopping to occur,

\[ p_w > \frac{r}{1-\sigma}. \]

When the offline retailer is allowed to set the price first, she will increase the possibility for “window shopping” to occur. This accounts for the trend in which, challenged by online retailers, a growing number of firms with strong dominance or long incumbency are making an effort to reduce search cost offline and even to establish showrooms for window shopping.

3. CONCLUSION

This article characterizes how search costs, consumer switching costs, and product search-like attributes affect consumers’ channel selection or consumption patterns and hence the competition between online and offline retailers. There are two types of equilibria, with or without window shopping. Lower search costs and a lower probability that the product will be suitable predispose consumers to inspect the product and hence induce window shopping, which benefits offline retail. In contrast, higher search cost and greater product suitability probability encourage consumers to buy the product directly online, making the offline retailer worse off.

One of our contributions to the existing literature lies in showing that, when window shopping is eliminated, online prices can be equal to or even higher than offline prices if the product suitability and search costs are extremely high. This could be used as an argument against the currently accepted viewpoint in China that online retail cannot be competitive without a price discount. For now, due to the presence of window shopping, prices online are usually distorted downward, which reduces the profitability of retailers. Therefore, online retailers should make an effort to convey more information on products’ search-like attributes and improve the search experience for those shopping online to be more profitable.

This article also explores the effect of incumbency among offline retailers on consumers’ channel selection and channel competition. We find that the offline retailer, the incumbent, tends to enhance the possibility of window shopping to occur, which makes her better off. That is, the offline retailer enjoys a first-mover advantage in the sequential game. To address the competitive pressure from online retail, offline retailers with strong incumbency or market dominance could establish showrooms to maintain market power.

REFERENCES


