

WHY EXPECT LOWER PRICES ONLINE? EMPIRICAL EXAMINATION IN ONLINE AND STORE-BASED RETAILERS

Shao-Kang Lo
Chinese Culture University
No.55, Hwa-Kang Road, Yang-Ming-Shan, Taipei 11114, Taiwan
shaokang@faculty.pccu.edu.tw

Ai-Yun Hsieh
National Taiwan University of Science and Technology
No.43, Sec. 4, Keelung Rd., Da'an Dist., Taipei 10607, Taiwan
d9808104@mail.ntust.edu.tw

Yu-Ping Chiu
National Taiwan University of Science and Technology
No.43, Sec. 4, Keelung Rd., Da'an Dist., Taipei 10607, Taiwan
d9808105@mail.ntust.edu.tw

ABSTRACT

This study extends prior research by examining consumer expectations regarding the lower price of products found in online shopping stores and considers the role of overhead cost in consumer decision-making. By using a laboratory experiment method, we verified the difference in the perceived overhead cost between the two types of retailers and the relationship between perceived overhead cost and internal reference pricing. This study involved 123 subjects. The findings show that consumers perceive online retailers' overhead costs as lower than store-based retailers' overhead costs and that lower perceived overhead prices cause consumers to have lower internal reference prices. This study supplements e-commerce research, can assist retailers in understanding consumers' perceptions of overhead cost and product prices, and serves as a reference for online retailers attempting to create pricing strategies.

Keywords: Overhead Cost, Price Perception, Internal Reference Price, Online Retailers, Store-Based Retailers

1. INTRODUCTION

Because of the immense commercial potential of online shopping, the number of products and services found online is increasing^{1,2,3,4}. Consumers do not see a difference between products purchased online and at store-based retailers. However, there are systematic differences in how consumers perceive and react to the price of products purchased online^{5,6,7}. Consumers believe that the prices of products purchased online should be less than those at store-based retailers^{5,8,9,10,11,12,13} and that it is unfair when Internet prices are equal to or higher than those of store-based retailers¹⁰. Some studies have shown that lower online prices are not only a consumer expectation; online prices are actually lower than store-based prices, although this may depend on the type of product^{1,14,15,16,17}.

Previous studies have presented discussions on why most consumers expect to obtain lower prices online. The main reason is that consumers believe that online retailers have lower overhead costs than do store-based retailers^{1,5,8,18}. Most consumers believe that online retailers use low costs to attract consumers and that online retailers benefit from cost advantages more from this than a brick and mortar store-based retailer⁵.

Although prior studies have concluded that perceived lower overhead cost explains why consumers expect to find lower product prices online, supporting evidence is lacking. Thus, this study verifies whether consumers believe that online stores have lower overhead costs and whether this belief affects their internal reference price toward products. To simplify the statement that consumers perceive online prices should be lower than store-based prices, we call this belief the Expectation of Lower Prices Online (ELPO) according to Lo et al.¹⁹. In addition, we term the belief that online retailers' overhead costs should be lower than those of store-based retailers the Expectation of Lower Overhead Cost Online (ELOCO) to enable easy future citation. The empirical results of this study are important to online vendors to understand consumers' perceptions of overhead cost and product prices, and to consider how to raise product price by reversing consumers' perception of online overhead costs.

2. THEORETICAL BACKGROUND

2.1 The Expectation of Lower Prices Online

Numerous studies have examined factors influencing online shopping behavior. Van Tassel and Weitz²⁰ demonstrated why online shopping appeals to consumers: convenience, complete product information, and competitive prices. Ernst and Young²¹ argued that convenience and greater savings are

the main motivators for shopping online. Bakos²² found that lower prices attract consumers to online markets. Yu²³ indicated that consumers who shop online are more concerned with monetary value, lower market price, and special offer goods. Ramanathan²⁴ showed that comparative prices and refunds and returns are desirable criteria for customers to return to the same website to shop. Therefore, product price is one of the reasons consumers choose to use virtual retailers^{25,26}. When shopping online, 85% of consumers research price information²⁷. Consumers also expect online prices to be lower than store-based prices. Previous study has coined the term for this belief, known as Expectation of Lower Prices Online (ELPO)¹⁹. The ELPO is a belief that exists in a consumer's mind, for example, Jensen et al.⁸ found that consumers expect online prices to be 8%-10% lower than those of store-based retailers. Also, some market surveys showed that ELPO was indeed reflected in a real market. For example, Hardesty and Suter⁹ demonstrated that Internet prices are 8% lower than the prices of store-based retailers. Lee and Gosain¹ showed that online stores decreased sale prices of niche products by about 7%.

2.2 The Expectation of Lower Overhead Cost Online

To understand why consumers expect lower prices online, studies have examined the perception of overhead cost. Overhead costs can be defined as expenditures used to maintain a business and to support production that are not directly related to a specific project²⁸. Most consumers believe that products sold in online stores have a cost advantage over store-based retailers for overhead, administrative, and transaction costs⁵. They also believe that online retailers have lower inventory and selling costs, facility costs, operation management costs, personnel expenses, and so on^{1, 5, 8, 29}. Thus, consumers believe that the overhead cost for online stores is lower. This study calls this belief the Expectation of Lower Overhead Cost Online (ELOCO), a term that could be used for future online marketing research.

Although previous studies have argued that consumers' price perception is influenced by the ELOCO, these studies have not provided empirical evidence to support these claims. This study proves that consumers believe that online retailers have lower overhead costs than do store-based retailers. Thus, we offer the following hypothesis:

H1: Consumers perceive online retailers as having lower overhead costs than store-based retailers.

2.3 Perceived lower overhead cost decreases consumers' internal reference price

When consumers consider the relationship between a retailer's costs and a product's price, they believe that a product's price reflects its cost²⁹. Consumers can accept a high product price if they believe that the associated overhead costs are high. Furthermore, when a product's cost decreases, consumers feel that retailers should offer it at a lower price. This concept is congruous with the principle of dual entitlement³⁰.

Consumers typically believe that online stores have lower overhead costs than do store-based retailers, and expect that this lower cost of doing business is reflected in the price^{8, 29}. Therefore, when perceiving that the overhead cost is lower than that for store-based retailers, consumers expect lower prices online^{5, 8, 9, 10, 11, 13}. We predict that lower consumer perceptions of overhead costs indicate higher margins of perceived price reduction. Therefore, consumers' internal reference prices, which refers to a point on the internal judgment scale that is used as the standard to judge offer prices³¹, is lower in online retailers than in store-based retailers. We offer the following hypothesis:

H2: A lower consumer perception of overhead cost indicates a lower internal reference price for a product.

3. METHODS

3.1 Procedure

We used a laboratory experiment method to measure participants' expectations of overhead costs and their internal reference price toward specific products offered by the different types of retailers. To improve the accuracy of our experiment, half of our participants used an online retailer that resembled a well-known online shopping mall's Web page. Participants were then asked to browse specific product information that had been placed on the Web site. The second group was asked to browse a print advertisement of a brick and mortar shopping mall that has a store logo and contained products with brand and product information. Participants were randomly assigned to one of the two groups. After participants browsed the product information, we asked them to measure their expectations regarding the retailer's overhead costs and their internal reference prices toward the experiment's products.

3.2 Stimulus Development and Measuring Dependent Variables

To prevent invalid results because of unfamiliarity with the products by a participant, common electronic products were used. A total of 42 pilot test

participants measured their familiarity with five products: a PDA phone, a digital camera, an MP4 player, a video game, and a set of earphones. The MP4 player had the highest grade and we chose it as the experiment product [mean = 5.88, on a scale of 1 (*not familiar at all*) to 7 (*very familiar*)]. We used the fictitious brand name “ROBOCO” to eliminate any external influence that would affect internal reference price based on participants’ prior experience or knowledge. Furthermore, to ensure that participants could identify whether the experiment was taking place online or in a store-based retailer, 53 subjects were recruited for the pilot test to evaluate their familiarity with three online shopping channels (Yahoo! Shopping, GOHAPPY, and Payeasy) and three store-based retailers (RT-Mart, Carrefour, and A-Mart). We then used a 7-point scale, ranging from 1 (*not familiar at all*) to 7 (*very familiar*) to select the most recognizable online and store-based retailers, which were Yahoo! Shopping (mean = 6.21) and Carrefour (mean = 6.05), respectively.

Perceived overhead cost is an ambiguous but relevant concept. To quantify and analyze this variable, we defined perceived overhead cost as a ratio of participants’ perceived overhead cost toward the specific store type to the retailers’ total revenue. There were 14 percentage levels: 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, and 70%, which represent scores 1 to 14, respectively. A higher perceived overhead cost resulted in higher scores.

Previous studies have indicated that fair price perception is the basis of internal price referencing^{14, 32, 33, 34}. This study used the fair price conceptualized by Lichtenstein and Bearden¹⁴ to measure the internal reference price. The question we asked participants was, “What do you think is a fair price for this store to charge for this product?” In response to open-ended questions, participants were asked to write the value that they believed to be the fair price. This study offered an external reference price (suggested retail price: NT\$1500) to prevent excessive variation caused by open-ended responses.

4. RESULTS

4.1 Participant Descriptive Statistics

This study adopted convenient sampling method to recruited 142 participants from a university. After the experiment, we inspected all the questionnaires and omitted answers that gave an internal reference price that was higher than the external reference price. In addition, we deleted any questionnaires in which the participant’s identification of the experiment

location was incongruent with the store type that the experiment simulated. Thereafter, 123 participants remained, including 50 men and 73 women with an average age of 24.3 (s.d. = 4.38). For Web-usage patterns, the participants had used the Internet for an average of 9.5 years (s.d. = 1.57).

4.2 Hypotheses Tests

We employed an independent sample t-test to test H1. The results are shown in Table 1. Participants believed that online retailers' overhead costs are lower than those of store-based retailers ($d = 1.91$, $p = .001$), supporting H1. Then, we tested H2, and the results are shown in Table 2. Regression analysis verified that participants' perceived overhead cost had a positive relationship with internal reference price ($\beta = 10.90$, $p = .006$). Therefore, H2 was supported.

Table 1. Difference in consumer perception of overhead costs between online and store-based retailers

Dependent Variable	Section	<i>n</i>	<i>M</i>	<i>s.d</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
Perceived overhead cost	online	65	5.44	2.814	4.530	.001*	.817
	store-based	58	7.35	1.732			

Note: *n*=participants in set; *M*=mean; *s.d.*= standard deviation; *t* = *t* value; *p* = *p* -value; Cohen's *d* = effect size

Table 2. The relationship between perceived overhead cost and internal reference price

Dependent Variable	Independent variable	β	<i>SE</i>	<i>t</i>	<i>p</i>	<i>R</i> ²
Internal reference price	perceived overhead cost	10.90	3.96	2.75	.006*	.030

Note: β is the regression coefficient; *SE* = standard error; *t* = *t* value; *p* = *p* value; *R*² = R-squared

5. DISCUSSION

The Internet allows consumers to conveniently search for products and enables vendors to sell products without time and space limitations. When consumers use an online store to review or order products, their perceptions and behaviors differ from those they display for brick and mortar

store-based retailers. Understanding how consumer behavior changes regarding online and store-based shopping is crucial for marketers.

Previous studies have indicated that consumers believe that products sold online are cheaper^{5, 8, 9, 10} and that consumer perceptions of overhead cost inform this belief. That is, consumers believe that online retailers have lower overhead costs and that a product price should reflect the cost¹⁰. This study confirms these assertions; we verified that consumers perceive online retailers' overhead costs as being lower than those of store-based retailers. Furthermore, we demonstrated a positive relationship between perceived overhead cost and internal reference price. For this reason, participants of this study perceived the internal reference price of the experiment product at an online retailer ($M=1166.69$) as significantly lower than that at a store-based retailer ($M=1288.44$; $p = .001$).

This study is unique in two aspects: First, its main objective was to verify the findings of previous research, and our empirical results explain why consumers expect online product prices to be lower. Second, this study is the first to demonstrate that consumers perceive online retailers' overhead costs as lower than those of store-based retailers. This study has termed this belief the Expectation of Lower Overhead Cost Online (ELOCO), which is a useful term subsequent citation in future online marketing research.

This study provides online and store-based retailers useful information and helps them to understand the ELPO is formed by consumers' expectation of lower overhead cost online, namely ELOCO. To raise the expectations of a higher online price, online retailers can consider how to alert consumers that their overhead cost is equal to that of store-based retailers. According to the principle of dual entitlement³⁰, consumers perceive a cost-justified increase of price to be fair. Thus, online vendors can raise their gross profits by adjusting product information to enhance consumers' perceived overhead cost. For store-based retailers, to compete with online channels, store-based retailers may offer prices that are the same as online retailers. Consumers, however, will almost always consider an online price as lower than an offline price no matter what actual price an offline vendor provides. Thus, it is more important to enhance the added value that only an offline sellers can deliver to avoid a price comparison between online and offline channels. For retailers with both online and offline channels, it was not suggested that they sell the same product in different channels with a different price although the ELPO exists. To avoid channel conflict, retailers should consider selling different products in different stores based on product characteristics, for example, place products with high task equivocality in offline channels, and place products with low task equivocality in online channels.

This study has two limitations that should be addressed by future research. First, this study randomly assigned participants to one of the two channels, and asked them to write down the perceived overhead cost toward the store and the internal reference price toward the product. This study was done to verify previous literature, however, it does not go on to discuss subsequent purchasing behavior. According to practice observation, price does indeed influence consumers' purchasing behavior, however, even if the ELPO, consumers are not necessarily willing to buy all the goods on the Internet. It is interesting to extend from the perspective of product categories to discuss purchasing behavior in difference channels. Second, this study only discussed the perceived overhead cost in online and store-based retailers. Future research may consider other factors that can influence consumers' internal reference price to provide a more comprehensive framework in ELPO related research.

6. CONCLUSION

In conclusion, the present study used an experimental method to verify the literature on consumers' expectation of a lower price online and the belief of lower overhead cost online. Consistent with the literature, this study found that consumers perceive online retailers as having lower overhead costs than store-based retailers, and also found that a lower consumer perception of overhead cost indicates a lower internal reference price for a product. The results allow us to reinforce prior research and suggest strategies for online retailers.

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