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AN EMPIRICAL INVESTIGATION OF REPUTATION AND PRICE DISPERSION IN ELECTRONIC COMMERCE

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Abstract

Online retailer reputation has been suggested as an important source of price dispersion on the Internet. In this study, we empirically assess the relationship between retailer reputation and price dispersion using data collected from BizRate.com. 200 electronic products are included in the study. The results should help us better understand electronic markets.

Introduction

Electronic marketplaces enabled by the Internet and other information technologies are believed to be more efficient than conventional marketplaces in the sense that more consumer welfare can be generated by the reduction of transaction costs (Malone, Yates, and Benjamin 1987). In an Internet-based marketplace, consumers have easier access to more sellers and their price information and become better informed about market conditions (Bakos 1997). As search costs for price information go down, we would expect to see less price differences for commodity products on the Internet. However, several empirical studies have shown that the Internet marketplace has not eliminated or even reduced price dispersion despite the wide use of comparison shopping search agents (Bailey 1998, Clemons, Hann, and Hitt 1998, Brynjolfsson and Smith 2000, Lee and Gosain 2000).

One potential source of persistent price dispersion on the Internet is retailer reputation. It is observed that online consumers frequently purchase products from retailers with an established brand even though they charge higher prices (Smith, Bailey, and Brynjolfsson 2000). This suggests that when consumers are presented with a list of online retailers with whom they don't have any previous experience, they are using retailer reputation as a discriminating factor in making purchase decisions. In other words, given the same price, consumers are likely to purchase products from a retailer who has better reputation. Knowing that, online retailers with good reputation may charge higher prices. On the other hand, retailers with tarnished reputation may resort to lowering their prices to attract customers. As a result, price dispersion would remain in electronic marketplaces. However, no study has empirically verified that retailer reputation is an important source of price dispersion.

In this study, we examine the relationship between a retailer's reputation and the price they charge on a set of identical products. We use rating score provided by BizRate.com (www.bizrate.com) as a proxy of store reputation. In Section 2, we provide a review of relevant literature. Section 3 presents the hypotheses studied in this research. The data collection methods are discussed in Section 4. Section 5 discusses future plans.

Previous Studies

Several studies have examined the issue of price dispersion on the Internet. Bailey (1998) compared prices of matched books, compact discs, and software sold in conventional stores and on the Internet from 1996-1997. He found that price dispersion in online stores was not less than that in conventional stores. In another study of book and CD prices from 1998-1999, Brynjolfsson and Smith (2000) also found significant price dispersion in the online channel. The average online price difference was between 25-33%. Lee and Gosain (2000) studied the price dispersion of CDs in brick-and-mortar and online stores. They found price dispersion of old-hit albums is much higher than that of current-hit albums (8-51% vs. 7-32%). Clemons, Hann, and Hitt (1998) compared the prices of airline tickets sold over the Internet and found online travel agents charged similar tickets differently by

as much as 20%. All these studies are drawing a picture that price dispersion has not diminished even though online consumers have easier access to price information on the Internet.

Smith, Bailey, and Brynjolfsson (2000) suggested several reasons why price dispersion has persisted in the electronic marketplaces. They include product heterogeneity, convenience and shopping experience, awareness, retailer branding and trust, lock-in, and price discrimination. Among these explanations, however, it seems that retailer branding and trust is the only one that can explain price dispersion in a market where consumers heavily use price comparison agents. In such a market, consumers would have very accurate price information and be able to easily identify the vendor with the lowest price (Chen and Hitt 2001).

The impact of reputation in electronic markets has been studied in different contexts. Pavlou and Ba (2000) examined the effects of seller feedback scores on settlement prices in auctions. They found sellers on eBay with higher feedback scores obtained higher bids from buyers and they got even higher price premium for more expensive products. They suggested that feedback score was used by buyers as a signal of reputation, which influenced their trust of the seller. Malaga and Werts (2000) compared the impact of various online reputation mechanisms, such as third party seals, brand loyalty, and seller guarantee. They found existing brand name was the most effective way to establish reputation among consumers.

Hypothesis Formation

Online retailers can build reputation by participating in third party rating services such as those provided by Gomez and BizRate. In the rating system used by BizRate, for example, each customer who made an online purchase from an online store will be given the opportunity to take a survey about their shopping experience immediately after placing the order as well as a follow up survey after the expected delivery date. All customer feedback are then converted into an overall rating score for the online retailer. The rating score is updated on a weekly basis. Therefore, the rating of an online retailer can change over time depending on how they perform. In a sense, such a rating score may be considered as the reputation score.

The reputation score can signal to future customers as to what kind of service they are likely to get from an online store. Potential customers may be willing to pay a price premium for better store reputation (Shapiro 1983). The primary reason is that customers can reduce their risk by using stores with high reputation scores (Pavlou and Ba 2000). Unlike typical transactions in a conventional marketplace where money and product exchange takes place almost simultaneously, in an online transaction, customers usually pay first and then have to wait for the store to perform its part of the bargain (Smith, Bailey, and Brynjolfsson 2000). Therefore, it is the customer who bears much of the risk in the online transaction. Consequently, stores with good reputation can include that premium in their price quote. It is also necessary for stores with better reputation to charge higher price because there are costs associated with obtaining and maintaining better reputation in the marketplaces. At the same time, stores with lower reputation store may find it necessary to lower their prices in order to compete. In any case, there should be a positive correlation between reputation score and price

H1. Online retailers with higher reputation scores will charge higher prices than online retailers with lower reputation scores

The risk associated with an online transaction for a customer is positively correlated with the value of the product. Therefore, the reputation premium that customers are willing to pay tends to be larger for more expensive products. In addition, the costs for providing better service are also going to be higher for more expensive products. Therefore,

H2. Online retailers with higher reputation scores will charge higher price for more expensive products

The degree of competition plays a major role in how retailers determine prices in a marketplace (Kotler and Armstrong 1999). When a lot of online stores are selling the same products, there would be many of them having similar reputation scores. So, in order to compete, online retailers have to give up some reputation premium. For those online retailers with lower reputation scores, intense competition means that they have to drop their prices even lower in order to win over customers. Such price cuts would also negatively impact the reputation premium of highly reputable online retailers.

H3. Online retailers with higher reputation scores will charge higher price when less competition is present

Data Collection and Methodology

In this study, we compare online prices of electronic products offered by stores with varying reputations. We randomly selected 200 electronic products from a product catalog published by Tweeter, an offline retailer. For each product, we used BizRate.com to search for online stores that offer this product. The price information and store reputation information were then saved for further analysis. For store rating scores, we collected not only the overall rating score but also ten individual attribute scores. To verify the information we obtained from BizRate, we followed the link to each store to make sure that the price information was correct and also tried to gather the shipping costs for delivery to Pennsylvania. We also obtained manufacturer suggested retail price (MRSP) of each product for reference.

Discussion and Conclusion

We have completed data collection. Data analysis is currently under way. Results and discussion will be presented the conference.

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