OLD STRATEGY + NEW TECHNOLOGY = INCREASED ONLINE PROFITS

FAYETTEVILLE, Ark. – Comparison shopping online results in lower price for consumers, but to retailers that means reduced profits. University of Arkansas researcher Cary Deck has found that a new twist on a common marketing practice – price matching – can maximize profits for online retailers.

Deck, assistant professor of economics in the Sam M. Walton College of Business, conducted his research along with Bart Wilson of the Interdisciplinary Center for Economic Science at George Mason University. Their results appear in the current issue of *Electronic Commerce Research*.

“Although price matching is a long-standing practice in bricks-and-mortar businesses, it is customer-driven. A customer must bring in an ad and request a price reduction,” explained Deck. “However, the technology of the Internet offers online retailers tools that are not available elsewhere. A seller can look at the search history of a potential customer, query rivals’ prices and react accordingly before posting a price to the customer.”

Browsers like Internet Explorer and Netscape keep track of which sites a customer visits during an online session. Retail sites can use a number of common network tools, such as cookies or scripting, to access that information.
While some tools can only determine that a consumer has visited a competitor’s site or how many different competitors have been visited, others can determine the type of merchandise and price quoted at each site. This information allows firms to instantaneously adjust the price they quote to a customer based on such transaction-specific factors as the amount of information the consumer has about the prices quoted by rivals.

Deck and Wilson conducted an experiment to determine if low-price matching could produce a significant increase in profits for retailers. They examined the impact of price matching versus no price matching for two online retail environments. In the low-search environment, most consumers visit only one retailer and are considered uninformed buyers. In the high-search environment, 75 percent of consumers comparison shop, visiting two or more online retailers.

Because of the large number of transactions examined, the experiment used automated buyers. The sellers were human subjects, who were paid a participation fee plus their earnings in the experiment. After an initial time period, the seller could choose to price match or not at any time and could make an unlimited number of changes in the pricing policy, but the sellers did not know how many buyers they would encounter during each session.

In each session, 1,200 computerized buyers visited the market at a rate of one every three seconds. To overcome learning effects, only transactions from the last half of each session were included in the analysis, which comprised 9,600 buyers.

The researchers found that low-price matching increases seller profits by more than 50 percent in the high-search environment, where most consumers are comparison shopping, but it has no aggregate effect in environments where few consumers comparison shop. In the high-search environment, low-price matching also lowers prices for consumers who do not comparison shop, but tends to result in higher prices for customers who do comparison shop.

These findings point out a basic difference between low-price matching and informational price discrimination, which has been strongly criticized on the Internet. In both pricing strategies, the retailer sets a price that is quoted to customers with no search history.

In informational price discrimination, the seller determines the number of rivals and, if possible, the lowest price a potential customer has been quoted and sets the price accordingly, often offering a lower price to consumers who have visited the most rivals. This reduces the price to the most informed consumers. As the number of informed customers rises, competition intensifies. While prices to all customers fall, so do the retailer’s profits.
In price matching, however, the retailer determines the lowest price that a potential customer has been offered and offers the same price. All things being equal, customers will generally buy from the current retail site rather than go back to a competitor who is offering the same price. Therefore, the price-matching pricing strategy will produce as many purchases as price discrimination, but at a higher price, which counteracts the downward pressure on prices produced by comparison shopping.

Since the online shopping environment allows almost instantaneous query of competitors’ prices and implementation of price matching, it can increase the possibility of tacit price collusion, according to Deck and Wilson. “Tacit collusion is achieving jointly beneficial outcomes without an overt agreement,” explained Deck. “The ability to see what other retailers have quoted makes overt collusion unnecessary, but it also provides a means for punishing defectors.”

If everyone else is low-price matching, for example, it is risky for a retailer to “defect” and offer a lower price. While realizing a one-time gain in sales, the defector could be “punished” in the long run by other retailers, who could single the defector out for undercutting.

Low-price matching is a familiar and legal practice in retailing. But it is uncertain if any online retailers have already implemented this pricing strategy.

“There is limited evidence on what firms are doing with cookies and other Internet tools,” said Deck. He cites as an example Amazon.com, which was caught engaging in informational price discrimination. When customers learned about Amazon’s variable pricing policy, the response was so negative that the firm offered to rebate customers the difference in the prices.

“Ironically, because it is more familiar to consumers and is advertised with competitive overtones, low-price matching is unlikely to raise the ire of customers, but it is potentially more harmful to consumers than informational price discrimination,” said Deck. “Ultimately, this is another case of be careful what you wish for; uniform prices are not necessarily competitive prices.”

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