



How "Social Contagion" Affects Consumers' Willingness to Try Online Retailers

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For traditional retailers, location, location, location is an all-too-familiar mantra, with stores made or broken by factors such as traffic flow, demographics and parking. But what about the brave, new and often perilous world of Internet retailing, where the physical location of a store is meaningless? How, when customers and competitors are geographically dispersed, does an online retailer's customer base evolve?

A recent study by Wharton marketing professor [David R. Bell](#) offers some intriguing answers. In his research paper, "Social Contagion and Trial on the Internet: Evidence from Online Grocery Retailing," Bell studied the effect of word-of-mouth or other "social contagion" factors on consumer willingness to try an online retailer. The study, co-authored by Wharton PhD candidate Sangyoung Song, used data provided by Netgrocer.com that spanned nearly 30,000 U.S. zip codes over the first 45 months of the online grocer's business life.

Bell's study found a significant "neighborhood effect," with a 50% increase in the base rate of consumers trying an online retailer's services once they talked about or otherwise observed its use locally. "The unique market context of the Internet retailer raises important and so far unstudied questions, especially the fundamental issue of the role existing customers play in recruiting or influencing potential customers," says Bell. "Our study addresses a new and important phenomenon: the space-time evolution of trial decisions for an online retailer, and we find that it's not the location of the store relative to the customers that's important, it's the location of the existing customer relative to potential customers."

The State of Online Retailing

The long-term prospects for online retailing are strong, industry experts say. Internet retail sales jumped 51% to \$114 billion in 2003, while online retailers collectively raised operating margins to 21%, according to a new study by Forrester Research. Perhaps most significantly, 79% of all online retailers were profitable in 2003. Online sales are expected to reach 6.6% of total retail sales in 2004, up from 5.4% in 2003, and retailers believe that 24% of last year's offline sales were influenced by the web.

As the industry has matured, online retailers have increasingly emphasized targeted marketing rather than the hugely expensive mass-media advertising campaigns of the industry's youth. While early marketing poured billions into television advertising, most Internet retailers now favor online media, investment in site improvements, promotions such as free shipping, and tailored advertising in focus chatrooms and message boards.

But in spite of the online retail industry's success in enhancing its online systems and marketing efforts, Bell's research suggests that a human touch is still important, even if it's nothing more than one neighbor observing another's Valentine's Day delivery from flowers.com. The role of emulation in online consumer decision making, Bell says, shouldn't be overlooked. "Other studies in economics and sociology have argued for and demonstrated the existence of neighborhood effects in a number of diverse contexts;



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however, they have not been shown to operate on the Internet," Bell's paper notes. "Some researchers have even speculated that the Internet may contribute to individuals becoming more diffuse and solitary in their behavior. Conversely, our empirical findings are consistent with the proposition that social interaction stimulates trial of a new Internet service."

Bell, whose previous research on traditional retailers has addressed everything from how store location and pricing affects shopping behavior to the benefits of pay-for-performance trade promotions, became interested in exploring the ways in which an online retailer's franchise grows after an MBA student introduced him to Lisa Kent, Netgrocer's CEO. "Almost all the variation in consumer behavior and sales you see with a traditional retailer is going to be explained by where you put that store," Bell says. "If you draw a circle within a two-mile radius of almost any kind of store, you have probably captured most of the customers. If you go out 100 miles, you aren't likely to see anyone at all. I was curious as to how the Internet would be different."

Kent gave Bell access to Netgrocer's sales data from the time of its May 1997 launch until January of 2001 - a complete and exhaustive list of all 382,478 transactions that had taken place nationwide. "I plotted over time and space how these customers evolved and grew," Bell says. "What we saw was the thing spreading out like a disease. When we started to look at these patterns in more detail, what we found was that the new customers were not appearing randomly on the map. They were appearing in places that were contiguous to areas that already had customers."

"It could be that you and I live in the same apartment building and one day you come home from work and see this box in front of my door with netgrocer.com written on it," Bell says. "Or maybe we work together and I mention my experience using netgrocer.com. We can't say whether it's passive observation or direct communication, but there seems to be, after controlling for everything else, a real social effect when it comes to online buying. We think this research would apply to any online business where there's potential for repeat or emulation."

What's critical for online retailers, Bell says, is to begin thinking about ways to fuel this process. "Maybe if you put a billboard up on a major highway and get people in a very urban, dense region like Philadelphia, Chicago or Los Angeles to buy first, it's going to spread a lot more quickly than if you do it somewhere else," he says. "Firms can begin to think about ways to exert some control over how this process spreads rather than just sitting back and letting the space-time diffusion happen organically."

Online retailers should also run experiments, says Bell, citing Netgrocer.com's practice of charging differential shipping fees based on order size and destination, a process that helps the firm test how marketing actions affect behavior. "Given the huge geographical reach of an Internet firm, it's possible to run very clean experiments in the sense that one can select very distinct regions, treat them differently and keep them separate from each other," he adds.

Bell also stresses the need to keep and analyze data such as customer ID numbers, order times and dates, order values and shipping zip codes, as well as good records about the company's own marketing efforts - how much was spent on various marketing strategies, at what times and where.

Interestingly enough, the neighborhood effect disappears for repeat purchases. Once consumers have their own experience, they rely on that and are more likely to disregard the actions of others. "We found that people who tried earlier and at higher levels - they spent \$80 rather than \$40 on the first order - were much more likely to be repeat buyers," Bell says.

Bell's research discovered myriad household characteristics of potential use to online retailers. Regions with larger populations of African Americans and Hispanics were slower to try an Internet retailer, evidence that is consistent with a so-called "digital divide" described by U.S. Department of Commerce annual studies that have revealed lower Internet access and usage rates among certain minority groups. Single-person households are another important group, and Bell's research found that regions with greater proportions of male-only households were likely to try an Internet retailer sooner. Conversely, large households, those with five or more members, were slower to trial.

Areas with greater numbers of wealthy and college-educated people were also quicker to try an online retailer, with an increase in young wealthy individuals adding an additional positive effect and higher percentages of elderly slowing trial times. A region's size in terms of land area was unimportant, but the number of households, population density and urbanization were all critical, resulting in a "significant positive effect on the time to first trial," according to the paper.

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