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# Behavioral Assumptions Underlying Business Models Of Retail E-Commerce Ventures

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## Abstract

This paper focuses on two research questions: (1) What assumptions regarding changes in online consumer behavior are implicit in the business models of retail e-commerce ventures? (2) Based on potential match between a business model's assumptions and anticipated consumer response, what generalizations can be made about the potential success of retail e-commerce ventures? An interpretive framework that helps answer these questions is presented.

## Introduction

New business models of retail e-commerce are emerging at a fairly rapid pace. Simultaneously, Internet is transforming the existing business models of bricks-and-mortar retail. Despite heavy investment, e-tailers are still struggling to find the best ways to electronically complement traditional bricks-and-mortar business activities or to develop new Net-based businesses (Coltman et al., 2000). The number of e-commerce business models being tested in the marketplace is rising: Timmers (1998) found 11 distinct e-commerce while Overton and Davis (2000) assessed the health of 19 different (though not necessarily distinct) Net-based ventures. Shapiro and Varian (1998) suggest that managers often get lost in the "trees" of e-commerce models and fail to see the "forest" of core economic principles. While economic principles are crucial for e-commerce success, in our view it is major behavioral shifts that will shape the Internet economy. Retail e-commerce models are likely to succeed only when strategic assumptions of the marketer match the actual behavior of consumers. Specifically, we focus on these research questions: (1) What assumptions about changes in online consumer behavior are implicit in the business models of retail e-commerce ventures? (2) Based on potential match between marketer's assumptions and anticipated consumer response, what generalizations can be made about the potential success of retail e-commerce ventures?

## Proposed Framework and its Elaboration

Table 1 proposes our overall framework for understanding the types of shifts in consumer behavior

that retail e-commerce firms strive to create. In sections to follow, we explore different aspects of the framework.

## Overall Shift to Online Buying

Evidence from the industry to date suggests that major first-time electronic purchases often occur around special occasions such as Mother's Day or the Christmas season (Sliwa, 1999). Whether such first-time e-shopping results in a lasting commitment to the electronic mode or not depends on the satisfaction with the experience (Abbott et. al., 2000). According to the Internet shopping study by Ernst & Young (2000), the most important factor preventing consumers from buying online is the concern for security. Surveys indicate, however, that while 39.1% of respondents expressed concerns about credit card security, only 1.9% reported having a bad experience with buying online (Lohse and Spiller, 1998). Delivery is another area of concern. Despite an overall increase in satisfaction with e-shopping, Christmas 1999 e-shopping experiences led to disappointments for certain consumers when merchants were unable to deliver purchases in time for the holidays (Jupiter Communications, 2000). Such disappointing experience is likely to affect consumers' subsequent online shopping behaviors such as revisits or repurchases. By contrast, consumers are likely to make a lasting commitment to e-commerce after these initial experiences are deemed satisfactory. This is because relative to shopping offline, the convenience and control of online shopping engenders the powerful feeling of empowerment (Sheth and Sisodia, 1997).

Such behavioral commitment, termed here "near-irreversibility" (i.e., very low likelihood of switching back to the physical store as a primary buying site), or "toothpaste effect" (one cannot put toothpaste back after it is squeezed out), does not seem to occur across the board for all consumers or e-tailers. It is more likely to occur for (1) well-designed e-tail sites that make the shopping experience very smooth (Lohse and Spiller, 1998), (2) product categories that have a greater fit with the digital environment, and (3) users who are technology-oriented to begin with. For instance, in a global retail survey by Ernst & Young (2000), respondents cited three attributes of their favorite online retailers: good product selection, competitive prices, and ease of use. This evidence suggests that pioneering e-tailers with well-designed sites and services (Amazon.com) or late entrants who invest

heavily in improving upon the pioneers in the category (Schwab in electronic stock trading) are often able to influence the marketplace as a whole, accelerating the movement from conventional to electronic means of buying.

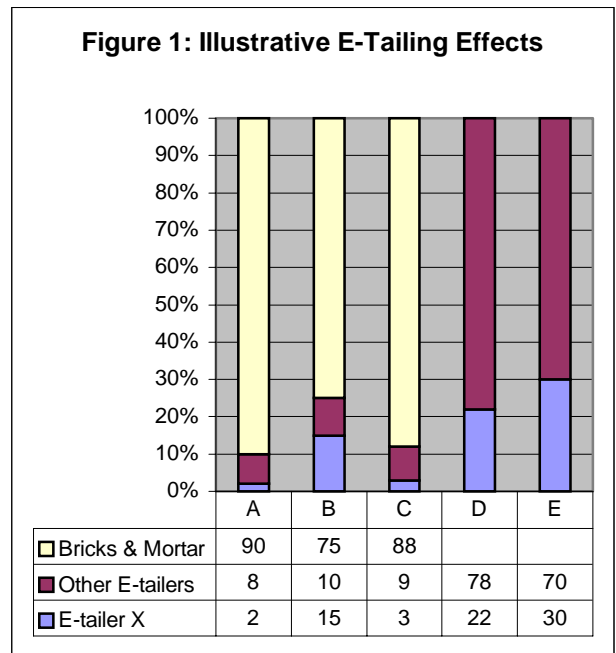
Table 1: A Framework for Consumer Behavior in Retail E-Commerce

Changes in consumer behavior	Success of a new retail e-commerce venture (Venture X) depends on the ability of Venture X to...
<b>A.</b> Overall shift from buying through physical retail stores to online buying	Promote overall shift from physical to online buying <ul style="list-style-type: none"> <li>➤ Create a new way of electronic buying and selling</li> <li>➤ Provide electronic transaction abilities in an increasing number of product categories</li> </ul>
<b>B.</b> Shift from buying through physical retail stores to online buying within a retail category	Promote shift from physical to online buying in X's retail category <ul style="list-style-type: none"> <li>➤ Lower costs and increase benefits of electronic evaluating and buying in that category</li> </ul>
<b>C.</b> Shift from physical retailers to e-tailer X	Attract customers away from competing physical retailers <ul style="list-style-type: none"> <li>➤ Lower costs and increase benefits of electronic (compared to physical) evaluating and buying of specific shopped item(s) at X</li> </ul>
<b>D.</b> Shift from competitive electronic retailers to e-tailer X	Attract customers of competing online retailers <ul style="list-style-type: none"> <li>➤ Lower costs and increase benefits of buying specific shopped item(s) from e-tailer X rather than other e-tailers</li> </ul>
<b>E.</b> Shift from comparison shopping to repeat visits to and affinity for e-tailer X	Promote repeat visits and affinity to e-tailer X <ul style="list-style-type: none"> <li>➤ Preferentially increase the frequency and length of visits to e-tailer X vs. other physical or electronic retailers</li> </ul>

Figure 1 depicts the effects described in Table 1 in a graphical form. The figure uses *hypothetical* data to show the potential impacts of a powerful e-tailer such as Amazon.com. The labels of the bars in Figure 1 (A through E) correspond to the five “shifts” in consumer behavior shown in Table 1. Bar A shows that e-tailing accounts for 20% of all shopping, with e-tailer X responsible for 2%. Bar B indicates that in a specific category (say books), e-tailing already accounts for 25%, with just e-tailer X representing 10%. Bar C shows the electronic and non-electronic buying in all categories in

which e-tailer X competes. Bars D and E pertain to electronic buying only. Bar D shows the share of retailer X in all electronic buying. Bar D shows the share of retailer X in all *repeat* buying by electronic methods. In this case, while e-tailer X is quite dominant in e-tailing in general (22% share of e-tailing), it is even more dominant in terms of increasing affinity. Of the entire repeat electronic buying behavior, 30% occurs at e-tailer X.

Of course, the hypothetical data in Figure 1 has been chosen to show more exaggerated e-shopping behavior in favor of electronic buying than the case at present. It serves to illustrate the competitive influences on electronic shopping as e-tailing becomes more popular.



### Shift to Online Buying in a Category

The “toothpaste effect” is likely to be even stronger at the level of particular retail categories (Bar B, Figure 1). For example, Amazon.com was established in July 1995 with “a mission to use the Internet to transform book buying into the fastest, easiest, and most enjoyable shopping experience possible” (Amazon.com). Its founder Jeff Bezos gave a great deal of thought to the selection of the initial category. He wanted an initial category for his e-tailing venture such that even the biggest, best-endowed physical competitor would be at a disadvantage. In fact, it took Barnes and Noble some time to recognize the emerging threat of Amazon and to develop a rival electronic strategy to combat the strength of this new competitor.

In general, near-irreversibility in a retail category is likely to occur under conditions of the following type:

- There is an assortment of products, specific item desired is known in a precise way, and a reasonable waiting time is acceptable. (Example: a specific book)
- There is a vast assortment of products, properties of the desired item can be described by simple, “genre-like” characteristics; and a reasonable waiting time is acceptable. (Example: a musical CD in a genre such as Jazz or Hip-hop that the consumer likes to listen to)
- There is a large assortment of products, specific and well-established brand preferences exist, and a reasonable waiting time is acceptable. (Example: a regular-use toiletry item)

Under such conditions, a new e-tailer with a very well designed site supported by good services can potentially impact the entire category by shifting substantial numbers of consumers (irreversibly) from the physical to the electronic mode.

By contrast, some categories would be resistant to the onslaught of e-tailing (Christensen and Tedlow, 2000). In categories with the following characteristics, e-tailing may not make many inroads and the e-shopping behavior would be reversible:

- Retail categories that have a heavy social component (Example: Fashion clothing)
- Products that must be physically examined before purchase (Examples: Fresh organic produce, musical instruments)

### **E-tailer Drawing from Physical Competitors**

The importance of special festive occasions in terms of shifting consumers from physical to electronic options was alluded to earlier. In some cases, specific e-tailing strategies are developed and timed with such festive shopping occasions in view. For example, Amazon.com added electronics and toys to its product mix in 1999 because industry watchers had predicted that the 1999 Christmas season would set a record in terms of e-shopping. To participate in such an expected major shift in behavior (and perhaps to accelerate it), Amazon chose toys and electronics – two popular categories for Christmas shopping. To the extent this strategy succeeds, retailers with large physical presence in these categories (Toys R’Us, Circuit City) would feel the competitive impact of Amazon’s new e-tailing ventures. Major physical retailers of toys and electronics such as Wal-Mart also announced a Web-based shopping option before the Christmas shopping season.

If we assume that the hypothetical data of Figure 1 is valid, then it shows that Amazon.com’s move into a wider range of e-tailing categories (Bar C) helped push the overall share of e-tailing in those categories to a level above the global 10% share of e-tailing. Moreover, in this hypothetical scenario, Amazon.com (which we are using as a prototype of an aggressive e-tailer X) garnered one-fourth (3% out of 12%) of all e-tailing in the categories (Bar C) it competes in versus one-fifth (2% out of 10%) of all e-tailing in general (Bar A). In this hypothetical data, we assume that the total retail market doesn’t expand at all or expands very marginally. Under such an assumption, a retailer would be able to gain share only at the expense of other retailers. Peterson, Balasubramanian and Bronnenberg (1997) made a similar assumption in analyzing the implication of Internet. They assumed that use of the Internet for marketing purposes will not increase overall consumer spending. A study by Shi and Salesky (1994) also made such an assumption. They argued that there is no intuitive reason why the Internet, or any service based thereon, will in and of itself cause consumers to spend more. Rather, use of the Internet in marketing to consumers will more likely result in a redistribution of revenues among channels or among members within a channel (Hagel and Eisenmann 1994). Under this assumption, the shift from bricks-and-mortar to bricks-and-clicks within the same retailer could become problematic: by opening an electronic channel the retailer may cannibalize its own market share.

In categories such as books and music, even though e-commerce volume remained very small (under 3 percent of the category) even 3 to 4 years after electronic retailers emerged, the impact on the physical retailers had become starkly evident. This was because the growth rates of the electronic retailers exceeded the overall growth rate of the category by a substantial order of magnitude. In other cases – for example, in grocery buying – e-commerce ventures had not made a noticeable impact on physical retailers even though electronic methods had been in existence for nearly a decade. In grocery retailing, even though e-tailers were growing faster than physical retailers, the total category volume was so immense that significant shifts in market structure (in terms of physical-electronic proportions) and consumer behavior were not expected to become evident within even long-term corporate planning horizons. By 2000, pioneering e-grocer Peapod ran out of cash and became a subsidiary of bricks-and-mortar grocery giant Royal Ahold.

### **E-tailer Drawing from Online Competitors**

Evidence from the world of practice indicates that online buying expands the total size of a retail category only marginally. In other words, the use of online shopping will not increase overall consumer spending (Peterson et. al., 1997). Rather, e-commerce will more likely result in a redistribution of revenues among

channels or among members within a channel (Hagel and Eisenmann, 1994). Even in cases where the total market expands with the emergence of e-tailing, it only expands marginally. This means a successful e-tailer draws business away from physical as well as competitive online sellers. Strong competition among online retailers in specialized categories (books, music) or retail formats (mall, full-line discount store) could occur under a number of conditions:

- E-tailing is not yet an established channel in the category. Because of increasing returns to scale and winner-take-most market characteristics, e-tailers that achieve the “leader” positions in the category are likely to enjoy long-term advantages. E-tailers, therefore, compete intensely with each other to try to achieve the advantageous position of a leader. (Example: Competition between drugstore.com, CVS.com, and PlanetRX in electronic drugstores)
- E-tailing has become a strongly established trend in the category. Now, the e-tailers compete intensely not merely to be recognized as a leader in the *electronic* part of the category but of the *category as a whole*. (Example: Competition between Amazon.com, Barnes & Noble including BN.com, and Borders Books including Borders.com in books)
- Particular e-tailers exhibit strong evidence of diversifying, with the potential to become *full-line* retailers, triggering competition from the electronic arms of established, leading full-line retailers. (Example: Competition between Amazon.com and Wal-Mart Online)

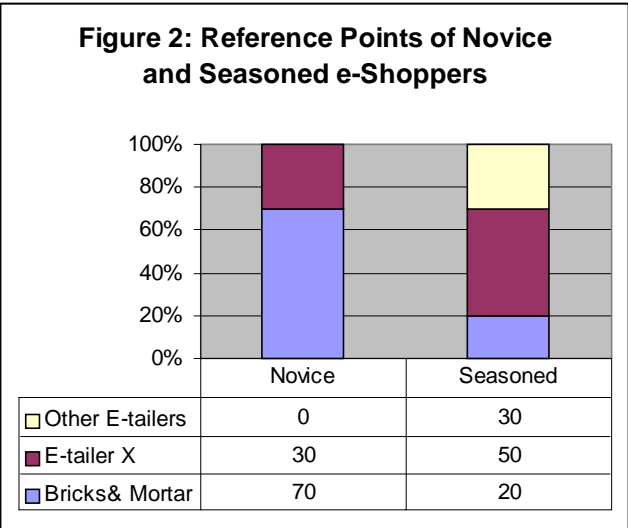
### Shift from Comparison Shopping to Affinity-based Behavior

Because of low search and switching costs, online buying behavior in general is often characterized by extensive comparison-shopping. The emergence of shopbots (such as BargainFinder, Mysimon.com, Shopper.com, Jango.com), bidding sites (such as Priceline.com), and online demand aggregators (such as Mercata, MobShop) aid and abet the tendency towards comparison-shopping.

In such an environment, traditional concepts of store loyalty are threatened. Yet, online retailers do seek ways of promoting repeat visits and fostering affinity for the site (e.g., Clickwards.com). In general, a leader in an e-tailing category is likely to garner an increasing share of repeat visits. This is in line with the “increasing returns to scale” phenomenon evident in networked Information Technology in general (Shapiro and Varian, 1998).

The probability of repeat visits to a site is likely to be strongly moderated by consumers’ perceived satisfaction.

This, in turn, is affected by various attributes of an e-tailing site (Abbott et. al., 2000). A key issue in perceived satisfaction is the point of reference employed by a customer. Possible points of reference for e-shoppers are: (1) the new e-tailer itself (subsequent visits compared to previous visits to that e-tailer), (2) other e-tailers, or (3) physical retailers. Figure 2 shows an illustrative, *hypothetical* situation where the novice e-shoppers (during their first few e-tailing experiences) use a physical retailer as a reference 70% of the time and use e-tailer X (where this shopper bought) as a reference 30% of the time. By contrast, seasoned e-shoppers (who have made large numbers of Internet-based purchases) are likely to shift their points of reference more to the electronic world.



Customer orientations and experiences are likely to affect repeat visits and affinity. One way this happens is through the different points of reference that seasoned users (with relatively high online shopping experience) and novice users (with relatively low online shopping experience) employ when assessing online shopping. As Figure 2 illustrates, the seasoned segment is likely to use other online e-tailers as points of reference. This means they would be more prone to electronic comparisons, whether through simple access to multiple sites or using the various comparison and bidding technologies. It would be difficult to entice such consumers to make repeat visits via affinity programs or customization, especially if they believe that they can get substantial price discounts by switching their business around among various e-tailers.

The novice segment, on the other hand, may respond to affinity programs and customization. The novice’s point-of-reference is likely to be a physical retailer. After launching its drugstore-on-the-web, CVS.com, for example, found that its novice users expected: (a) to see a picture of the physical CVS drugstore on the homepage, and (b) the ability to order drugs on the website but pick it

up at the neighborhood store. For these novice CVS.com shoppers, the bricks-and-mortar CVS pharmacy loomed large as a point of reference. In Japan, similar click-to-brick linkages (e.g., order by Web, pick up at nearby convenience store) were required for e-tailing to take off. As the demographics of the Web go more mainstream (Crockett, 1999), E-tailers face the complex challenge of convincing novice users that their service mixes match or exceed the physical competitors. This becomes difficult on dimensions where bricks-and-mortar retailers hold advantages, such as delivery time and atmospherics (Kotler, 1974; Pine and Gilmore, 1999). Furthermore, even as they attempt to entice novice users, e-tailers have to work hard to retain experienced users who have come to expect high levels of search, navigation, and customization standards of a website (Griffith, 1999).

Considerable work is needed on the various physical-electronic shifts in buyer behavior discussed in this paper. To probe the consumer and competitive impact of retail e-commerce further, we recommend that immediate research attention should be focused on selected subsets of main effects:

- The stimulation of overall online consumer behavior by the strategy of a particular e-tailer.
- The stimulation of online behavior within particular product categories.
- The competitive “cannibalization and draw” effects within as well as across product categories, considering online as well as offline players.
- Signals used by consumers and investors to dub a start-up e-tailing venture a “success” or a “venture with high potential for success.”
- Competitive entries that may result based on the perceived success (or success potential) of specific e-tailing ventures.

Further research could turn to the secondary and interactive impacts such as the following:

- Stimulation of online behavior – online and in a category – because of competitive strategy and tactical dynamics in a field of retailing. In other words, what types of competitive activities lead to an acceleration of online buying on the whole and in a particular category?
- Stimulation of online behavior – online and in a category – because of entries of new online competitors (those with prior physical presence, hence brand history, as well as new online players). Related to this is the question of how well does brand equity established in the bricks-and-mortar world translate into the clicks-and-mortar world. Major retailers like Wal-Mart, Sears, and K-Mart are grappling with this question now.

## Summary and Conclusions

The main thrust of the framework presented here is that successful electronic retailers promote near-irreversible shifts in consumer behavior at different competitive levels of the retail sector. Such shifts occur at the level of the overall retail market (from offline to online buying as a whole), at the category level (from offline to online buying in the category), and at the level of the particular e-tailer (buying from that e-tailer rather than offline or online competitors). An overall conclusion of this framework is that retail e-commerce models are likely to succeed when strategic and behavioral interpretations match in terms of content and timing.

We presented some secondary evidence and arguments, as well as illustrative examples, about the conditions that would promote these near-irreversible shifts in behavior. There is, however, a need for considerably more research on such behavioral shifts.

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