A Consumer Preference Formation Perspective on Pioneering Advantage in Electronic Marketplace

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ABSTRACT
In physical markets, the pioneer or first-mover often enjoys large market share because of its early entry. This large share is often a result of high entry barriers for late entrants and high switching costs for consumers. In electronic markets, however, switching costs across online retailers are relatively lower and entry barriers are minimal. This paper extends the stream of competitive advantage research to e-commerce settings. Specifically, it conceptualizes and assesses the pioneering advantage of online retailers from the perspective of consumer preference formation. Several propositions were developed for future empirical testing.

INTRODUCTION
In recent years, e-commerce has reshaped the landscape of competitive advantage among companies (Evans and Wurster 1999). It transforms the way companies conduct their business and electronic merchants and gradually grabs a significant market share from competitors in the physical market. To gain an edge in this new economy, there is no time to analyze and plan. Given the speed of change, being first is often enough to create an advantage (Kardes and Gurumurthy 1992; Downes and Mui 1999). For example, Amazon.com was able to obtain first-mover advantage when it was established in 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 Benzos gave a great deal of thought in the selection of an initial category. He wanted a category for his e-tailing venture such that even the biggest, best-endowed physical competitor would be at a disadvantage. As the first commercial web site, the venture was novel, attracting attention of large number of Web surfers. In fact, its major rival—Barnes and Noble took a while to recognize the emerging threat of Amazon and to develop a strategy to combat the strength of its new competitor. BN.com is now counted as one of the top ten most visited sites in the U.S. in 1999 (Economist 1999).

Whether the success of Amazon was a result of pioneering advantage, or whether it was due to its technological innovation, is an important research question. The existence of inherent first-mover advantage and competitive advantage has been documented in the literature (Robinson 1988; Robinson and Fornell 1985). In physical markets, market pioneer or first-mover often enjoys enduring high market share advantage because of its early entry. This large share results from creation of high entry barriers for late entrants and high switching costs for consumers. In electronic markets, however, consumers’ costs of switching among online retailers are relatively low and entry barriers for new players are minimal (Auger and Gallaugher 1997; Klein 1998). The choice of being a first mover or an early follower is a critical one for managers, yet available research or practice-based evidence provides little guidance. It is not clear that a market characterized with lower switching costs and entry barriers will guarantee that first-to-market firms like Amazon will still be dominant as the market evolves (Collman et. al 2000).

Given the lower entry barriers in electronic markets, pioneering efforts may ultimately prove to be of limited value. Provided high customer switching costs do not exist, the follower-entrants are often well positioned to exploit their existing strategic resources base and core competencies. Question such as how companies could retain competitive advantage becomes an important issue. Does timing of entry in electronic market affect companies’ competitive advantage? If first-mover advantage exists in electronic markets, how can it be explained and analyzed? What are the mechanisms affecting consumers’ decision-making process in which companies could gain competitive advantage in e-commerce? These are only a few but important questions to be addressed.

In addition to radically transforming the business climate, e-commerce provides consumers more shopping and media options. It has been suggested that online consumers are empowered because the Internet allows them to compare prices, products, and services across a wide variety of stores in a matter of minutes (Abbott et. al 1999; Sheth and Sisodia 1997). In all markets, attracting and retaining customers has become an important issue. We argue that in electronic markets, customer attraction and retention are even more crucial than in physical markets. Online marketers will be able to sustain their competitive advantage by shifting consumers’ preference, leading to a higher repeat visits and market share. In addressing these issues, previous literature in the stream of consumer preference formation assessing competitive advantage could provide some guidance (Carpenter and Nakamoto 1989; Senguta 1995; Hintzman 1986), provided it can be reinterpreted in the context of electronic marketplaces.

The objective of this paper is to extend the stream of competitive advantage research to e-commerce settings. Specifically, the goals of the paper are to conceptualize and assess the pioneering advantage construct in e-markets from the perspective of consumer preference formation. Rather than tackle the whole field of e-commerce strategy, the paper limits its focus to online retailers.

Before any further discussion, a few observations need to be made regarding the scope of this study. First, given the complex market structure of the retail sector, shifts in consumer preference among retailers could occur at various levels—(1) overall shift from physical market to online market, (2) shift from buying through physical retailers to online retailers to online market, (3) shift from physical retailers to a particular online retailer, (4) shift from competitive online retailer to another retailer (Dholakia et. al 2000). For example, consumers may prefer physical retailers on the whole over online retailers or vice versa. Similarly, they may choose online retailers over physical retailers for specific product categories. Since the focus of this paper is on electronic markets, the level will be on the overall preference of consumers for online retailers vs. physical retailers.

Second, as Carpenter and Nakamoto (1989) argue, the consumer learning process produces a competitive advantage apart from influencing consumer’s ideal combination of attributes. In physical markets, the pioneer can thus become strongly associated with the product category as a whole and, consequently, become the “standard” against which later entrants are judged. The emergence of electronic markets, however, may blur the notion of pioneer in the category. For instance, it is possible in the book industry that Barnes and Noble is the “standard” in the category against which e-pioneer Amazon is judged in the consumer learning process. At the same time, Amazon could be the standard in electronic markets against which BN.com (the electronic unit of Barnes and Noble) is judged. To solve this problem, we argue that the use of such a referent standard depends on the length and depth of consumers’ online shopping experience.
Third, as e-commerce enters a new phase, established firms—particularly branded goods suppliers and physical retailers—are slowly beginning to get involved (Evans and Wurster 1999). This will shift attention from growth strategies adopted by first movers (i.e., Amazon and E*Trade) to strategies that deliver sustainable competitive advantage for more traditional firms (Coltman et. al 2000). It is not clear, however, whether established brick-and-mortar retailers (e.g., Barnes and Noble and Wal-Mart) would automatically gain competitive advantages in the electronic markets. Therefore, two types of online retailers are considered in this paper—pure-play online retailers and brick-and-click retailers (online retailers with physical presence). Because physical presence is one of online store attributes influencing consumers’ satisfaction with (Abbott et. al 1999) and preference for online retailers, it will serve as a marker of distinction among online retailers.

Lastly, as mentioned earlier, the focus of this paper is on the retailer level. The stream of past studies has assessed competitive advantage at a product level in the physical market. In electronic markets, however, it is the cyberbrands (e.g., Yahoo.com, Amazon.com) that are prominent. For example, Barwise (1997) suggests that in a busy, over-communicated, and untrustworthy world, consumers continue to gravitate towards brands as a way to simplify choices. In a recent survey on e-commerce, Ernst & Young found that 69 percent of respondents stated that brand name plays a significant role in their online buying decisions (Ernst & Young 1999). Thus, conceptually it seems justified to examine pioneering advantage at the level of online retailer brands.

The paper is organized as follows. First, we begin with a review of relevant literature of consumer preference formation in the domain of pioneering advantage. Based on this review, propositions are developed regarding consumer preference for pioneers and late entrants among online retailers. Finally, we conclude with potential implications of this research.

THEORETICAL FOUNDATIONS

In the literature, pioneering advantage can be analyzed within the framework of consumer learning mechanisms. Two streams of research are relevant. The first one is based on the idea of a “prototype model” (Schmalensee 1982; Carpenter and Nakamoto 1989; Kardes and Gurumurthy 1992), wherein pioneers are perceived as being “prototypical” of the schema in a product category, thus giving them a sustainable competitive advantage. The second stream is based on the notion of an “exemplar model” (Hintzman 1985; Sengupta 1995) which provides an alternate learning process of consumers. Rather than comparing with a single prototype, consumers categorize a new product by assessing whether it resembles many of the remembered exemplars from a category. Thus, according to this model, not one but a number of instances of a category can be highly salient perceptually and distinct in memory.

Prototype Model

Schmalensee (1982) has suggested that consumers are initially skeptical about the quality of any brand that enters the market. Yet, when consumers become convinced that the first entrant in the product category is satisfactory, the early entrant acts as the standard of comparison by which later entrants are judged. It is for this reason that it becomes difficult for followers to persuade consumers to learn about their late-entering alternative brands.

Kardes and Gurumurthy (1992) have described this order-of-entry effect as differential learning. For instance, consumers often find the pioneer to be novel and attention drawing while its followers appear to be redundant in comparison. The novelty of the pioneer promotes learning about its features, while the redundancy of the followers’ attributes inhibits learning concerning their qualities. Consequently, consumers tend to learn and remember more about the pioneer and will thus develop more favorable evaluations toward the pioneer.

Consistent with learning theory in general, Carpenter and Nakamoto (1986) argued that the process by which consumers learn about brands and form preferences for them has an important role in creating an advantage for pioneers, and that this process has two components. First, in the early stages of many markets, consumers may know little about the importance of the product attributes or their ideal combination. Thus, a successful early entrant can have a major influence on how attributes are valued and on the ideal attribute combination. Amazon, for example, may have had a significant impact in its early years on the formation and evolution of individuals’ preferences for buying books online. This influence can shift individuals’ preferences to favor the pioneer over later entrants, leading to a market share advantage for the pioneer. In essence, following successful experiences with a pioneering brand, buyers come to perceive the combination of attributes possessed by the brand as the ideal combination.

The second component of prototype model is based on the notion that consumers hold schemas for a product category (Sujan et al 2000). Pioneers are perceived as being “prototypical” of the schema, thus giving them a sustainable competitive advantage. A schema is defined as a memory representation of a particular stimulus domain (Fiske and Taylor 1991). A schema contains information about the category it represents and is often used to categorize a new stimulus. Thus a schema about the category “online bookseller” may contain attributes such as “one-click shopping”, “search function” etc., as well as the interrelationship between these attributes. A new online bookseller possessing these typical attributes may be categorized as an “online bookseller”, without much effort.

Exemplar Model

As a counterpart to the prototype perspective, the exemplar approach (e.g. Brooks 1978; Hintzman 1986), suggests that one remembers separate instances (or exemplars) one has actually encountered, rather than some average prototype one has abstracted from experience. In this view, people categorize a new instance by seeing whether it resembles a lot of remembered exemplars from a category, rather than by comparing it with a single prototype. Thus, according to the exemplar view of schemas, a number of instances of a category (not just a single prototypical instance) can be highly salient perceptually and distinct in memory.

In a concise review, Fiske and Taylor (1991), note that the exemplar view has several advantages over the prototype view of schemas in being able to explain a number of schema-related issues with greater ease. The exemplar view most directly accounts for people’s knowledge of specific examples that guide their understanding of a category. For example, to refute an assertion that all luxury cars come with power windows, one may retrieve a specific counter-example from the category “luxury cars.” This illustration of reliance on concrete instances suggests the idea of exemplars and supports the thesis that an exemplar viewpoint allows for the salience of different category members.

Further, people often know a lot about the possible variation of members within a category. A prototype theory cannot represent information about variability. However, it is easy to describe people’s knowledge of such variation by positing exemplars. Again, such knowledge of variability implies that the consumer is in a position to retrieve specific examples of a category.

In sum, a key difference between the prototype model and the exemplar model in the context of the pioneering problem is that the prototype model posits that the schema contains an abstract, general, generalized representation of the category, whereas the exemplar
model suggests that the schema contains differentiated, individual instances of the category. Based on the exemplar model, different members of a category could all be salient, and similarities and differences between these members can easily be perceived.

In explaining pioneering advantage, several moderating variables have been suggested to deepen the explanations regarding the use of prototype or exemplar among consumers. These moderating variables include amount of elaboration and heuristic processing.

Amount of Elaboration and Heuristic Processing

Development of heuristics based on category knowledge saves cognitive effort in decision-making (Alba and Hutchinson 1987; Sherman and Crotty 1984). Within the product category, later entry is difficult because consumers tend to know and favor the pioneering brand. They have no reason to experiment with later entering brands. This suggests that consumers may use brand name of the pioneer as a heuristic in decision making under low elaboration conditions (Petty and Cacioppo 1986; Petty, Cacioppo and Schumann 1983), allowing them to make a sound choice with little cognitive effort. Thus, consumers may compare new brands to the pioneer using holistic or category-based processing, without exerting the effort necessary to process brand information at the attribute level. This argument is in line with prototype model. On the other hand, if consumers make attribute-level brand comparison which requires more cognitive effort, they may know that later entrants have the same attributes as the pioneer and evaluate them similarly. In such cases, the exemplar model may be at work.

This argument suggests that preference asymmetry may be enhanced by category-based processing in which prototype model would be used. On the other hand, if consumers tend to process information at the attribute level, thus employing the exemplar approach, then the pioneer’s competitive advantage may be weakened even without differentiation.

PROPOSITIONS

In the electronic environment, consumers learn about the attributes of online retailers and form preferences for them. It has been proposed that online store attributes—which are extensions of physical store attributes—influence consumers’ satisfaction and their loyalty to the online store (Abbott et al. 1999). Satisfaction is also likely to determine their preference toward a particular online retailer. Theoretically, the formation of preference could be derived from the two forms discussed—the prototype and the exemplar approach. These two approaches enable us to develop propositions about how the formation of preference could determine competitive advantage in electronic markets. Testing these propositions would reveal whether online retailers could gain competitive advantage by timing their entry to specific e-markets and by emulating specific types of retailers.

Pioneering Advantage in E-markets

Coltman et al. (2000) argue that in an industry dominated by rapid technological innovations, high-risk investments and market uncertainties, pioneering efforts may ultimately prove to be of limited value in a marketplace where barriers to entry are low and the rules of the market are still evolving. Based on this contention, it is worth investigating whether pioneering advantages exist in e-markets in which the pioneers can shift consumers’ preferences to favor them over later entrants. Theoretically, the prototype model explains pioneering advantage by suggesting that the pioneer has a unique distinctiveness derived from its being the prototypical representative of the category. In such cases, consumers form a preference structure that favors the pioneer, making it difficult for later entrants to compete away the pioneer’s market share. Thus, along with the arguments made by Carpenter and Nakamoto, we propose that online shoppers will prefer pioneering online retailers than later entrants in the electronic marketplace.

P1: Online shoppers’ preference is greater for pioneering online retailers than for late entrants.

Who is the Prototype?

The prototype model is based on the notion that consumers hold overall, aggregate schemas for a product category. Pioneers are perceived as being “prototypical” of such schemas, which gives them a sustainable competitive advantage. Since online shopping is a very recent development but many product categories for online shopping are well established, it is not clear which prototype consumers use to make their judgment in e-markets for a given category. For example, it is possible in the book industry that Barnes and Noble is the pioneer and standard in the category against which Amazon is judged in the consumer learning process. At the same time, Amazon could be the pioneer and standard in the e-market in which BN.com is judged. We argue that the use of which prototype (e.g., online vs. bricks-and-mortar) depends on consumers’ online shopping experience in their learning process of online shopping.

When dealing with online shopping, most buyers require assurances that the goods are unused, properly identified, and legitimately obtained before they will source them from an unknown supplier (Coltman et al. 2000). It has also been found that security and quality of products are the two main factors preventing consumers from online shopping (Ernst & Young 2000). This suggests that consumers will tend to favor larger, incumbent and well-established retailers because consumers would feel more secure dealing with a known retailer in the new and alien setting of the electronic market. For novice online shoppers, it is likely that they know little about the store attributes or their ideal combination. They are likely to be concerned with security and quality of products. Online retailers with physical stores could provide more security and assurances regarding an easy merchandise return policy. Therefore, the pioneering brick-and-click retailer in the product category will influence novice shoppers’ preference and serve as the prototype by which pure-play retailers are judged. In other words, for novice shoppers, the pioneer in the physical market (who has established a relatively early online presence) has more advantages than pure-play online retailers.

For consumers who are experienced with online shopping, satisfactory experiences are likely to reduce their skepticism of online retailers. For such experienced consumers, the pioneering pure-play online retailer will serve as the prototype. Thus, the following propositions are offered.

P2a: For novice online shoppers in a product category, brick-and-click retailers (pioneer in physical market) are likely to serve as the prototype and preferred in the electronic market.

P2b: For experienced online shoppers in a product category, pure-play (pioneer in electronic market) retailers are likely to serve as the prototype and preferred in the electronic market.

Exemplar versus Prototype

Depending on the level of elaboration, the literature suggests that two types of information processing would be used—category-based and attribute-based processing. When category-based processing is utilized, consumers tend to use heuristics—such as their
assessment of the pioneer—to make their decisions. Thus, the pioneer will become the prototype that would make it very difficult for later entrants to gain competitive advantage. On the other hand, attribute-based processing requires higher cognitive effort. In such instances, all brands would be compared. Consequently, pioneering advantage is weakened.

In e-markets, as the innovation of online shopping continues to diffuse, consumers’ relative level of knowledge increases over time. Studies have found that increased knowledge regarding the product category produces greater elaboration (Petty and Cacioppo 1986), facilitating an attribute-based processing that would weaken pioneering advantage. As the level of online shopping experience increases, consumers are likely to adopt attribute-based processing rather than category-based processing. Therefore, for novice online shoppers, category-based processing will be employed in which pioneering retailers (in the market as a whole) will be the prototype. Such established retailers would, thus gain a pioneering advantage when novice shoppers turn to online buying. As their level of experience increases, the shoppers will be able to compare online retailers by store attributes. Similarly, for experienced online shoppers, their increased knowledge facilitates attribute-based processing across online retailers. Such processing would weaken any pioneering advantage. This leads us to the following proposition:

$P_3$: Online shoppers’ preference for the pioneer diminishes as their level of online shopping experience increases.

Furthermore, the adoption of exemplar processing would enable consumers to compare a number of online retailers based on their attributes. When online shoppers decide to purchase a product in which they have already experienced online retailers in a product category, their choice will be based on a consideration set that contains either one online retailer (e.g., the pioneer) or more than one online retailer (i.e., the pioneer and later entrants). As their knowledge and experiences increase, it is likely that their consideration set will include a number of online retailers to which both the pioneer and the late entrants will be compared. Thus, in addition to containing the pioneer, their consideration set may include the followers.

$P_4$: Online shoppers’ consideration set is more likely to contain the followers as their level of online shopping experience increases.

**IMPLICATIONS**

The implications of the propositions presented here are three-fold. First, given the unique characteristics of e-commerce, researchers have questioned whether pioneering advantage exists. Theoretically, the prototype model (Carpenter and Nakamoto 1989) suggests that apart from influencing consumers’ ideal combination of attributes, consumers’ learning process produces a competitive advantage for the prototypical pioneer. The pioneer can become strongly associated with the product category as a whole and as a result become the standard against which all later entrants are judged. However, there is no empirical evidence suggesting that such formation will yield pioneering advantage in e-markets. Studies based on the first proposition would facilitate an understanding of whether or not online shoppers prefer pioneering online retailer to later entrants.

If the proposition is supported, it can contribute to the stream of research in which pioneer serves as the prototype and has a pioneering advantage. Additionally, support for the first proposition would indicate that the formation of preferences by online shoppers is based on the existence of prototypes. On the other hand, if the proposition is not verified, key practical implications would ensue. In such a case, it is possible that in e-commerce markets with low entry barriers, fast-moving technology, and rapid and successive innovations, being a pioneer is not necessarily advantageous.

Second, since online shopping is still a relatively new phenomenon and many product categories are already well established in the physical market, it is not clear which prototype online shoppers would use for comparison. In our view, the use of prototype depends on consumers’ experience in the length and depth of their learning process about online shopping. There is practical evidence that many established physical retailers are reluctant to enter or late in entering the e-commerce arena. Testing the second proposition could reveal whether brick-and-click retailers could enjoy competitive advantages with novice online shoppers by having established name recognition or tangible physical retail stores as references. For experienced online shoppers—since they are likely to assess online retailers based on online store attributes, simply having a physical presence or being the first in physical market does not provide competitive advantages for the online retailers.

Lastly, two types of information processing could occur as consumers’ online shopping experience increases. The increasing knowledge of online shopping could influence consumers’ decision and affect pioneering advantage. Specifically, online shoppers’ expertise would eventually impact pioneering advantage because attribute-based processing would be adopted, leading to an enlargement of their consideration set for online retailers, including pioneer and later entrants. Therefore, pioneering advantage would be weakened.

**CONCLUSION**

The notion of pioneering advantage is an intriguing one that has sparked numerous research studies in the fields of marketing, business strategy, and economics. Within these ongoing research streams, the major point of departure of this study is the focus on the pioneering advantage in electronic markets and on online retailer settings. Such settings are different from the focus of the previous literature that has examined pioneering phenomena for branded products in physical markets. Understanding pioneering advantage in e-commerce is an important research area. This paper is only a beginning.

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