

Matching E-tailing Strategies to Customers' Behavior: Three Levels of Interaction

Bela Florental, Ph.D.
Assistant Professor of Marketing
College of Business Administration
Butler University
E-mail: bflorent@butler.edu

Abstract

Although a growing body of research is developing to address the different e-business practices in the electronic marketplace, e-tailing strategies have only been investigated as part of the study of general e-business strategies. However, researchers recognise that innovative and unique modes of e-tailing operations have emerged in recent years. Therefore, this paper introduces an organising framework that categorises the strategies of e-tailers on three levels of interaction: product, process, and partnership. The framework also addresses the perceptions and preferences of customers in relation to e-tailing strategies. Based on the proposed framework, research opportunities and lessons for practitioners are suggested.

Keywords: e-tailing, on-line interaction, perceptions, preferences.

Introduction

Several frameworks have been suggested to describe the whole range of business strategies that companies may employ in the fast evolving electronic marketplace. These have included descriptions of strategies such as the use of recommendation agents and e-customisation (Ansari, Essegai, and Kohli, 2000; Ansari and Mela, 2003; Häubl and Murray, 2003). However, these frameworks have not distinguished between strategies that are specific to e-tailing and those which may be used in a more general business context, for example by manufacturers who have an on-line presence. This distinction is important because innovative and unique e-tailing modes of operation (as might be exemplified by companies such as Priceline.com) have recently emerged to improve competitiveness in this volatile market (Kalyanam and McIntyre, 2002; Yadav and Varadarajan, 2005).

To better understand how e-tailers can compete with e-manufacturers (manufacturers that have on-line stores) an organising framework is proposed. The framework suggests three levels of interaction – product, process, and partnership – to assess on-line strategies. At the product level, personalisation of product attributes based on customer preferences is addressed. At the process level, recommendation agents are evaluated. And at the partnership level, long term relationships with customers are examined.

The framework addresses not only e-business strategies but also the preferences and perceptions of customers. The hierarchical structure of the framework makes it possible to examine e-business strategies across the three levels. For example, a certain product-related strategy (e.g. introducing a new product category) might require a specific process-related strategy (e.g. redesigning the search engine). The product level is the primary level, embedded in the process level, which, in turn, is embedded in the partnership level.

This paper is structured in four sections. In the first section the differences between e-tailers and e-manufacturers are discussed, in terms of on-line strategies. In the second section the proposed

organising framework is presented, which provides a way of examining the on-line interactions between e-tailers and their customers. In the third section e-tailing strategies and the perceptions and preferences of customers for these strategies at each level of interaction are examined. The paper concludes with a discussion which includes suggestions for new research opportunities and lessons for practitioners with respect to the proposed framework.

E-tailer strategies vs. E-manufacturer strategies

With the introduction of the Internet, many manufacturers who used to sell their products only through retailers now sell through their web sites directly to customers (Varadarajan and Yadav, 2002). At the same time, some off-line retailers have established an on-line presence (i.e. multi-channel strategies) and some new modes of e-tailing have emerged, for example Shopping.com and mySimon.com (Kalyanam and McIntyre, 2002; Yadav and Varadarajan, 2005). To maintain their competitiveness, some e-tailers have offered customers strategies that are different from those of on-line manufacturers. For instance, mySimon.com offers price comparisons across manufacturers. Compared to e-manufacturers, e-tailers are usually able to offer their customers a greater variety of product alternatives, a wider range of prices, and more product-related information. E-manufacturers on the other hand can offer other advantages, such as the opportunity to customise their products, for example, that e-tailers cannot offer.

Multi-channel retailers (retailers with on- and off-line presence) have also improved their competitive advantage in recent years. Blockbuster, for instance, offers mail-in rentals and in-store exchange of movies. However, the number of e-tailers (retailers with only on-line presence) has been increasing, and they have developed unique ways of delivering value to their customers (e.g., movie downloads). These e-tailers not only compete with e-manufacturers but also with multi-channel retailers (e.g. Netflix.com is in direct competition with Blockbuster). The proposed organising framework classifies e-business strategies into three levels of business-customer interaction but focuses on e-tailers and their ability to compete with other businesses on each level. In the following section the three levels of interaction and the hierarchical structure of the framework are presented.

The Organising Framework for E-business Strategies

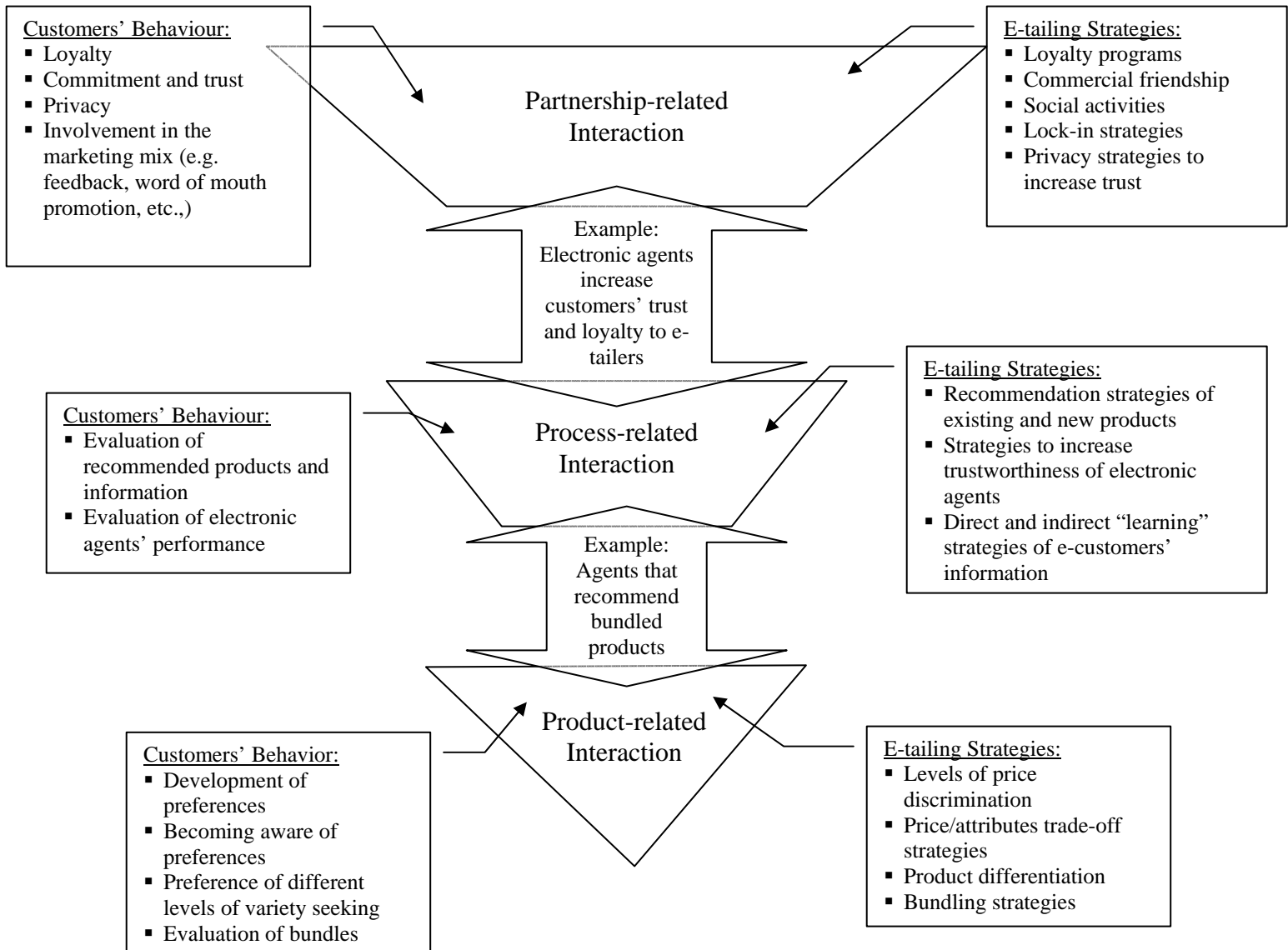
The proposed framework organises e-business strategies into one of three levels of interaction, and suggests a hierarchical structure of dependencies among the strategies across those levels (see the Figure). For example, product personalisation strategies are categorised into product level, but will have an influence on the strategies of electronic agents, whose activities are categorised at the process level.

The Three Levels of Interaction

As illustrated in the Figure, the interactions between e-businesses and customers can be categorised into three levels: a) product, b) process, and c) partnership. The product level includes strategies of product personalisation/customisation that match customer preferences. Physical products, services and information can be personalized / customized as separate products, bundles, or both. Price strategies are included in this level, as price may be considered an attribute of the product.

The process level includes e-business strategies that facilitate the product level activities. The different types of electronic agents that assist customers in the on-line shopping process are classified into this level. For example, an attribute-based search agent that helps customers sort through numerous product alternatives in a short period of time is considered to be a process level strategy. Customers' perceptions of information provided by the electronic agents and their perception of the agents themselves are also included in this level.

Figure: Three Levels of Interaction between E-tailers and E-customers



The partnership level focuses on e-business strategies that develop long-term relationships with customers and result in loyalty, commitment and trust. Different types of partnerships can be established with customers, depending on the amount of information they are willing to share. Customers who share their preferences, for example, are more likely to develop a stronger partnership with e-businesses than those who do not. A weaker partnership can be formed with customers through indirect collection of information about their past purchases or browsing patterns. The relationships between the e-business strategies are examined through the hierarchical structure of the framework below.

The Hierarchical Structure

An inverse triangle with connecting arrows between interaction levels is proposed as the framework's structure (see the Figure). This structure serves several purposes. First, it suggests

a hierarchy among the three levels. The inverse triangle starts with the product level strategies as its base. The process level is built on the product level and the partnership level is at the top of the triangle relating directly to the process level and indirectly to the product level. For example, customers can customise and evaluate product alternatives (product level) using recommendation agents (process level) Repeat purchases and other product related activities using recommendation agents (e.g. reading reviews by other customers) could increase the customer's commitment and loyalty to that e-business (partnership level). Thus, each level of interaction depends on the lower levels.

Second, the structure also suggests that each level of interaction involves additional shopping activities that are not directly related to the lower level. At the process level for instance, customers can view reviews or ratings by other customers, which broadens the basis for their interaction with the e-business. This level draws in recreational shoppers, who have no intention to purchase, but want to broaden their product-related knowledge. Similarly, the partnership level interactions will be based initially on e-customer activities at the process level, but will also involve broader shopping-related activities, such as electronic word-of-mouth.

Finally, the arrows connecting levels of interaction are bi-directional and indicate that each level enhances the possible interactions of the related level/s, and benefits from interactions with those levels. For example, process level interactions can benefit from partnership activities, such as loyalty programs and product activities, such as past purchases of personalized products. On the other hand, process level interactions (e.g. using recommendation agents) can enhance product level interactions (e.g. product customization) and partnership level interactions (e.g. loyalty) when e-customers perceive the recommendations to be reliable. The structure suggests that the partnership level does not have a direct relationship to the product level; those two levels are connected through the process level. In most cases, partnership activities, such as loyalty shown through repeat purchases, usually involve some process level activities (e.g. the use of recommendation agents) although they relate to product level activities, such as evaluation of the product.

E-business strategies and e-customers perceptions and preferences that relate to the three levels of interaction are presented next. The competitive advantage of e-tailing is examined in relation to e-manufacturers at each level of interaction. Relationships of strategies across levels are discussed.

Product-related Interactions

The literature identifies a variety of product-related strategies that can be used in the marketplace. E-tailers can employ some of them to compete better with e-manufacturers. Table 1 summarises the definitions of e-tailing strategies and gives examples of the following subjects: preference elicitation, price discrimination and price/attribute trade-offs, product differentiation, and bundling.

Table 1: Summary of Product-related E-tailing Strategies

Subject	References	Concepts Related to E-tailing	Examples of E-tailing Strategies
Preference elicitation and product personalization strategy	Simonson (2005)	Four groups of customers identified: (a) Group 1: poorly developed, unstable preferences and poor awareness of them. (b) Group 2: poorly developed, unstable preferences and good awareness of them (c) Group 3: stable, well developed preferences and poor awareness of them (d) Group 4: stable, well developed preferences and good awareness of them	(a) Group 1 and 4: offer large assortment of personalized product alternatives. (b) Group 2 and 3: do not offer personalized product alternatives.
Price discrimination and price/attributes trade-offs	Murthi and Sarkar (2003)	Three types of price discrimination strategies identified: (a) First degree – different prices to different individual customers for the same product (b) Second degree – different models of the same product for different prices (c) Third degree – different prices to different segments	(a) First degree – e-mail personalized prices (e.g. e-coupons) for a limited time period. (b) Second degree –offer personalized high price/high quality alternatives separately from other alternatives. (c) Third degree – within a segment, expose customers to other customers’ choices of high price/high quality alternatives.
Product differentiation	Tirole (1988) Murthi and Sarkar (2003)	Two types: (a) Horizontal – product attribute differentiation (b) Vertical – price discrimination	(a) Horizontal: <ul style="list-style-type: none"> ▪ In “product” space, allow customers to personalize attributes of technologically advanced products that correspond to product performance. ▪ In “information” space, offer customers personalized information that corresponds to their involvement. (b) Vertical: see price discrimination strategies above.

Subject	References	Concepts Related to E-tailing	Examples of E-tailing Strategies
Price vs. product bundling	Stremersch and Tellis (2002) Bakos and Brynjolfsson 1999	Differentiated between: (a) Price bundling – two or more products offered as a package at a discounted price (b) Product bundling – integrated package of two or more products offered at a higher price than when sold separately	(a) Price bundling – offer unlimited possibilities of price bundles across product categories, manufacturers, and brands. (b) Product bundling – offer integrated packages of products, services, and information.
Pure vs. mixed bundling	Stremersch and Tellis (2002)	Differentiated between: (a) Pure bundling – offering only the bundle and not each product separately (b) Mixed bundling – offering the bundle and each product separately	(a) Pure bundling – offer personalized packages of product, services, and related information. (b) Mixed bundling – offer personalized packages at price discounts and also each product at regular price.
E-customers' perception of bundles	Stremersch and Tellis (2002) Yadav and Montoe (1993); Yadav (1994) Harris (1997)	E-customers' perceptions and evaluations of bundles: (a) Price perceptions – customers perceive price as a loss and savings as a gain (b) Product perceptions – customers perceive product quality based on product combinations (c) Three-stage evaluation process – <ul style="list-style-type: none"> ▪ Scanning – determine which product alternatives are included in the bundle ▪ Anchor selection – select a product alternative that is most important for the evaluation ▪ Anchoring and adjusting – other alternatives are evaluated according to the anchor selection. Upward and downward adjustments are made 	(a) Price perceptions – <ul style="list-style-type: none"> ▪ A price bundle: present one price bundle and not a breakdown of prices. ▪ A price promotion bundle (discounted price): present separate savings and not an aggregate saving of the bundle. (b) Product perceptions – when offered price promotion bundles customers might perceive the quality of the products in the bundle as low. (c) Three-stage evaluation process – offer bundles of same quality products as the anchoring and adjusting stage can devalue the quality of a bundle with various levels of quality.

Product Personalization Strategy based on Preference Elicitation

Research shows that customers do not always have stable or well-developed preferences, and, even if they do, they may not be aware of them (Simonson, 2005). Simonson (2005) identified four customer groups based on their preference awareness and stability. Not every group can be approached using a product personalisation strategy (Table 1). When using a product personalisation strategy to target Groups 1 and 4, e-tailers usually can outperform e-manufacturers when they carry a large assortment of product options in a single product category. This strategy may not be successful with customers in Group 2, who need first to develop their preferences, or with Group 3 who are inclined to make emotion-laden purchases and end up dissatisfied with them (Simonson, 2005).

Price Discrimination and Price/Attribute Trade-offs

On-line price discrimination strategies (Varadarajan and Yadav, 2002) can be classified into three degrees (Murthi and Sarkar, 2003). First-degree discrimination strategies can be suitable for customers in Groups 1, 2, and 3. Because these groups have not yet developed their preferences and/or are not aware of them, they will be more inclined to accept a one-time, personalized price offer from a trustworthy e-business (Garbarino and Johnson, 1999; Simonson, 2005). This is especially true for passive deal-prone consumers who will accept price promotions without much consideration for low price products (DeVecchio 2005). Second-degree strategies are more suitable for customers in Group 4, where retailers can capitalise on the customer's preference for high-priced, high-quality product options. The first- and second-degree strategies can provide a competitive advantage for e-tailers only when they offer personalized price/product options that e-manufacturers do not offer.

Third-degree strategies can be used with Group 2 customers who are receptive to recommendations from others purchasing similar items (Simonson, 2005). Amazon.com is an example of the use of this technique. It constantly exposes customers to the purchasing decisions of other customers with the same profile during the shopping process. E-tailers are usually more competitive than e-manufacturers with respect to this strategy. For the same product option, e-manufacturers usually have less heterogeneous data about a customer's purchases (brand variety) than e-tailers do. Therefore, they seldom provide customers with such information because they might be perceived as unreliable when promoting their high price products.

Horizontal Product Differentiation

As indicated in Table 1, retailers can practice horizontal and vertical product differentiation strategies on-line. Vertical product differentiation strategies are considered to be price discrimination strategies because they offer different product/price combinations. Horizontal product differentiation strategies can be practiced in "product" space or "information" space (Murthi and Sarkar, 2003; Varadarajan and Yadav, 2002).

With reference to "product" space, one option is to differentiate products based on the trade-off between risk and return (e.g. existing vs. alpha version of a product). Customers are inclined to prefer a high-risk, high-performance product alternative to a low-risk, low-performance alternative if they are highly involved in the product category or if they can observe similar purchases by other customers (Simonson, Kramer, and Young, 2004). Capitalising on this, e-tailers can outperform e-manufacturers by offer a larger variety of high risk, higher performance alternatives to Groups 2 and 4 (more involved customers), and low risk, lower performance alternatives to Groups 1 and 3 (less involved). For customers in Group 2 they can use the "information" space to provide evidence of high-risk, high-performance purchases by similar customers.

Bundling Strategies

With the development of the Internet, e-businesses have discovered the almost unlimited possibilities of bundling strategies that can be offered to meet customers' preferences. In this section bundling strategies will be differentiated in terms of product bundles as opposed to price bundles and mixed bundles as opposed to pure bundles. This section will conclude with a discussion of customers' perceptions of the various bundling strategies.

Price Bundling and Product Bundling Strategies. Stremersch and Tellis (2002) differentiate between price and product bundling strategies (see Table 1). E-tailers can be more competitive than e-manufacturers in offering customers personalized price bundles, as they can create bundles across product categories, manufacturers, and brands. For instance, airlines usually limit themselves to only a few hotel chains and car rental companies whereas Priceline.com can offer customers a wider variety of packages.

With reference to product bundling strategies, e-tailers will usually be less competitive than e-manufacturers in offering personalized bundles of physical goods. This integration process is usually a manufacturing decision (Stremersch and Tellis, 2002). E-tailers though, can be more competitive than e-manufacturers in offering personalized services and bundles of information goods (Bakos and Brynjolfsson, 1999). Offering personalized information/service bundles, even when these are provided free, can be a useful strategy for e-businesses when customer information is gathered through registration, preference elicitation, or browsing patterns (Ansari and Mela, 2003; Murthi and Sarkar, 2003). Customers' use of information bundles (e.g. personalized e-mails) could also increase purchases of physical goods (Ansari and Mela 2003).

Hybrid bundles of physical goods, information goods, and services can be personalized to suit a customer's interests, hobbies and *ad hoc* needs. For example, a monthly subscription package of mail-in movie rentals, coupled with access to movie previews on-line and e-mail notification of special product offers (e.g. CDs, MP3s, books, and T-shirts) can be personalized to different segments so that higher profits are earned by the e-business (Bakos and Brynjolfsson, 1999; Stremersch and Tellis, 2002). The package can be modified when customer preferences change or new *ad hoc* needs emerge (e.g. substituting music downloads with software downloads).

Pure Bundling and Mixed Bundling Strategies. Stremersch and Tellis (2002) also differentiate between pure and mixed bundling strategies (see Table 1). In highly competitive environments, mixed bundling strategies are more effective (Stremersch and Tellis, 2002). To better differentiate themselves in the marketplace, e-tailers are able to offer unique product bundles at price discounts that e-manufacturers cannot match, in addition to offering the products separately at a regular price (e.g. book bundles at Amazon.com).

Evaluation of Bundles. Customers' perceptions of and preferences for different bundle types will determine not only the way in which e-businesses present the prices and savings of the bundles but also what products should be bundled together (Table 1). For example, customers may perceive the quality of a new product as low if it is a brand extension of the more established product in the bundle (Harris, 1997).

Yadav (1994) identified a three-stage bundle evaluation process (Table 1), which allows customers to evaluate more complex or larger scale bundles (Yadav, 1994). E-businesses should be sensitive to the processes that customers use in anchoring and adjustment, as a bundle that has a strong anchor with moderate additional alternatives is likely to be evaluated as a poorer bundle. However, this process is not symmetrical in the other direction. A weak anchor with moderate alternatives does not push the overall bundle evaluation upward as much (Harris, 1997; Yadav, 1994). E-tailers that compete for market share of vacation packages should anchor themselves to the most important alternative in their bundle. If the anchoring alternative is the hotel chain, for example, they might want to match the offer of the car rental to the perceived quality of the hotel chain.

Process-related Interactions

The process level focuses on the methods e-businesses use to ensure a match between customers' preferences and product offerings. E-tailers can successfully compete with e-manufacturers when employing electronic agents to aid customers in their purchasing decisions. Customers' evaluations of the recommendations and the electronic agents are presented for this level. Table 2 summarizes e-tailing strategies and customers' perceptions at the process level.

Table 2: Summary of Process-related E-tailing Strategies

Subject	References	Concepts Related to E-tailing	Examples of E-tailing Strategies
Electronic agents	Häubli and Trifts (2000); Häubl and Murray (2003) Ansari et al. (2000)	Can be defined as: (a) Shopping aids (b) Recommendation aids (c) Personal assistants	Offer shopping aids to: (a) Compare prices across on-line stores (e.g., MySimon.com); (b) Find products within an on-line store (e.g., Amazon.com); (c) Provide recommendations for new or existing products (e.g., RealMovieCritic.com); (d) Assist in the task of product personalization (e.g., Landsend.com).
Direct and indirect "learning"	Murthi and Sarkar (2003) Ansari et al. (2000)	(a) Direct "learning" – asking customers to provide personal information (e.g., name, address, e-mail) and attribute-based preferences (b) Indirect "learning" – can be done in several ways: <ul style="list-style-type: none"> ▪ Learning individual customer's past behavior ▪ Aggregating data across customers (e.g., collaborative filtering) ▪ Using both individual level and aggregate level information 	(a) Direct "learning": <ul style="list-style-type: none"> ▪ Subscriptions generate personal information from customers. ▪ Offer customers a list of attributes to choose from for their purchases. (a) Indirect "learning": <ul style="list-style-type: none"> ▪ Individual level – "learning" - customers' past purchases, the price paid, and browsing behavior. ▪ Aggregate level –predicting customers' preferences based on past behavior of similar customers.

Subject	References	Concepts Related to E-tailing	Examples of E-tailing Strategies
Variety seeking preferences	Simonson (2005)	Three levels of behavior: (a) No variety seeking – prefer the same product for each purchase (b) Moderate variety seeking – switch among a small group of products (c) High variety seeking – switch among a large group of products	(a) No variety seeking – personalize the same offer based on customers’ past purchases. (b) Moderate variety seeking – offer a personalized list of alternatives where customers’ past purchases are listed first. (c) High variety seeking – offer a large list of alternatives personalized by price, attributes, brands, or other filtering information.
E-customers’ evaluation of recommended alternatives	Häubl and Murray (2003) Huffman and Kahn (1998) Cooke et al. (2002)	Includes: (a) Attribute-based evaluation process (b) Recommendation of unfamiliar products	(a) Attribute-based evaluation process – influence the attributes customers consider in their evaluation process. (b) Recommendation of unfamiliar products – promote unfamiliar products when mixing them with familiar products.
E-customers’ evaluation of electronic agents	Gershoff et al. (2001); Gershoff et al. (2003) Bechwati and Xia (2003)	Includes: (a) Agent’s diagnosticity – determined by how much the agents provided variation in past recommendations (e.g. movie ratings) and how much the agent’s past recommendations are in agreement with e-customer’s evaluations (b) Agent’s ability to save customers cognitive effort	(a) Agent’s diagnosticity – agent’s reliability can be increased when it makes more extreme recommendations and incorporates customers past opinions in its recommendations. (b) Agent’s ability to save customers cognitive effort – provide customers with cues about the types and the number of databases the agent is searching through.

Electronic Agents

Electronic agents have become popular for different shopping tasks on-line. They are mostly used to assist customers with making purchasing decisions and/or conducting information searches (Alba et al., 1997; Ansari et al., 2000; Häubl and Trifts, 2000). In employing electronic agents, e-tailers can be more competitive than e-manufacturers, in providing product-related information (e.g. price comparisons) across brands, manufacturers, and/or web stores. In order for electronic agents to perform these different shopping tasks, they need first to “learn” a customer’s preferences (Häubl and Murray, 2003; Murthi and Sarkar, 2003).

Direct and Indirect “Learning” Methods

Electronic agents can “learn” customer information directly, indirectly, or as a combination of both (Ansari et al., 2000; Murthi and Sarkar, 2003). The more relevant the information these electronic agents collect, the more appropriately they can assist consumers with their purchases (Ansari et al., 2000). In direct “learning” the agents need to know the customer’s attribute-based preferences in order to recommend relevant product alternatives (Ansari et al., 2000). Therefore,

these agents are more suitable for customers that have stable preferences and are aware of them (Group 4) and less suitable for customers who cannot express their preferences (Groups 1-3; Ansari et al., 2000). Also, the agents frequently present a limited number of attributes, because (a) customers tend to consider a small number of attributes for each product category (Häubl and Murray, 2003; Huffman and Kahn, 1998) and (b) the agents need to find common attributes, which could few in number, across product alternatives (Häubl and Murray, 2003).

When customers have undeveloped preferences, are not aware of them, and/or refuse to reveal them, an indirect “learning” method can be employed (Häubl and Murray, 2003; Murthi and Sarkar, 2003; Simonson, 2005). Indirect “learning” of customer preferences can be done at two levels: individual and aggregate (Table 2). At the individual level (e.g. past purchases) “learning” customers’ preferences indirectly is “fast, accurate and unobtrusive to the customers” (Murthi and Sarkar, 2003, p. 1353). The drawback is that data is collected within a single web store and the reason why customers prefer one web store to another, for instance, cannot be examined (Murthi and Sarkar, 2003).

At the aggregate level, e-businesses can predict a customer’s product and browsing patterns based on the behavior of similar customers (Ansari et al., 2000; Murthi and Sarkar, 2003). However, when customer heterogeneity is not adequately taken into account predicting customer preferences using aggregate data can be problematic (Ansari et al., 2000; Murthi and Sarkar, 2003). In addition this method cannot provide the customer with any explanation to support the recommendations (Ansari et al., 2000; Murthi and Sarkar, 2003). This can reduce customer confidence in the agent and its recommendations (Bechwati and Xia, 2003; Cooke, Sujun, Sujun, and Weitz, 2002; Häubl and Murray, 2003). A more sophisticated method that uses both the individual and aggregate levels of “learning” was developed by Ansari et al. (2002) to overcome some of the problems mentioned above.

E-tailers can increase their competitiveness compared to e-manufacturers by using indirect and direct “learning” agents. Usually, e-tailers have access to larger aggregate data sets than e-manufacturers and can therefore provide better suggestions for their customers. They can also provide customers with comparative information on a larger scale than e-manufacturers can (e.g. attribute-based comparison of brands across manufacturers). The customers will determine the range and the type of options that are recommended, based on the strategies they use to seek options.

Variety Seeking Preferences

Different strategies can be used to cater to a customer’s specific level of variety seeking behavior (Table 2). Customers who do not have a preference to seek variety can be classified as Group 4 in terms of preference formation (well-developed/highly aware). E-tailers can compete for this segment by offering them the same products using one of the price discrimination strategies. Customers who have a moderate preference for variety seeking can be also classified in Group 4, but their preferences may not be successfully predicted by e-businesses (Simonson, 2005). To compete for this segment, e-tailers might use electronic agents that suggest a few unfamiliar alternatives (e.g. brands) that were purchased by similar customers, coupled with familiar alternatives that were purchased in the past.

Customers with a high preference for variety seeking can be classified as Groups 1, 2, or 3 in terms of preference formation (undeveloped and/or unaware of preferences). E-tailers can compete for these segments by using electronic agents that offer unique bundles of product alternatives (“product” space) and product information (“information” space). For example, Priceline.com allows customers to personalize a list of alternatives based on price and dates. In addition, customers can receive information about places to eat, shop, or tour during their vacation. The large number of options the search agent provides coupled with detailed information for each option can help variety seeking customers develop, or become more aware of, their preferences.

Customer Evaluation of Recommended Alternatives

The form in which information is presented has an impact on the formation of the customer's preference, product evaluation, and purchasing decision (Cooke et al., 2002; Häubl and Murray, 2003). In terms of product evaluation, customers most frequently use attribute-based and not alternative-based processes to evaluate products (Häubl and Murray, 2003; Huffman and Kahn, 1998). The attribute-based evaluation process may be of great service to customers in Groups 1, 2, and 3 (undeveloped and/or unaware of preferences; Huffman and Kahn, 1998; Simonson, 2005). The attribute-based process can help these customers learn or develop their preferences to reduce the number of options they evaluate. It may result in increased satisfaction with the process and a greater readiness to make a purchase (Huffman and Kahn, 1998, p. 492). When customers use this process, they also increase their perception of covering all the possible options in the consideration set (Huffman and Kahn, 1998).

Attribute-based recommendation agents can help e-tailers increase their competitiveness when they reduce the need for a customer to search for pre-purchase information across web stores (Häubl and Trifts, 2000) and can influence the attributes customers consider when making a purchase (Häubl and Murray, 2003). Customers are more likely to consider the suggested attributes if a rationale is provided, which will further reduce a customer's desire to extend the search (Cooke et al., 2002; Häubl and Murray, 2003).

Selling new or unfamiliar products is a challenge for e-businesses (Cooke et al., 2002). Customers usually do not have well-established preferences and thus may rely heavily on the agent's recommendation (Cooke et al., 2002; Simonson, 2005). On the other hand, customers may be averse to unfamiliar recommendations that the agent suggests (Cooke et al., 2002). The agent usually provides customers with additional information about these products to reduce this aversion. But when information about unfamiliar options creates a contrast effect between familiar and unfamiliar choices, a lower evaluation of the unfamiliar options could result (Cooke et al., 2002). In order to overcome this problem, agents should provide a mix of unfamiliar and familiar products in addition to the information about unfamiliar products (Cooke et al., 2002).

Customers' Evaluation of Electronic Agents

In terms of customers' evaluation of electronic agents, questions such as how reliable and how trustworthy the agents are have been researched. Also, customer satisfaction with performance of agents has been examined. Table 2 summarizes e-tailing strategies to improve the customer perception of agents' diagnosticity and their ability to save cognitive effort.

Customers usually evaluate agents based on their past performance (Cooke et al., 2002; Gershoff, Broniarczyk, and West, 2001; Gershoff, Mukherjee, and Mukhopadhyay, 2003). They do so because sometimes agents might contradict each other in providing recommendations (Gershoff et al., 2003). An agent's diagnosticity is of particular importance to customers when unfamiliar products are recommended. Agents are considered more diagnostic and hence more reliable when they provide less uniform recommendations (West and Broniarczyk, 1998) and when they provide recommendations that are in agreement with the customer's past opinions (Cooke et al., 2002; Gershoff et al., 2001). In becoming more competitive, e-tailers may need to have better information about a customer's past opinions (especially the extreme ones) than e-manufacturers, so that they can calibrate their recommendation agents better (Gershoff et al., 2003).

Customers also evaluate agents on how much cognitive effort the agents can save them. When searching for product information, customers usually make trade-offs between the cognitive effort they exercise and the accuracy of the information they receive (Bechwati and Xia, 2003). Therefore, customers will be more satisfied with an agent that saves them significant cognitive effort without compromising on the quality of the information (Bechwati and Xia, 2003). E-tailers can increase their competitive advantage and customer satisfaction when designing agents that

signal the extensive search that they have performed (e.g. number of data bases) and provide highly accurate information.

Partnership-related Interactions

The third level of the framework focuses on the short-term and long-term e-business strategies that increase the trust, loyalty and commitment of new and existing customers. It is named the partnership level, because customers are encouraged to participate in operation-based activities of the e-businesses (e.g. word of mouth, feedback). The literature of Customer Relationship Management (CRM) identifies three levels of partnership-based interactions. These are presented below, and the relationships to the previous two levels (product and process) are discussed.

Three Levels of Partnership

“Customers vary in their relationships with a firm on a continuum from transactional to highly relational bonds” (Garbarino and Johnson, 1999, p. 70). Transactional customers buy products or services without tying themselves physically, mentally, or emotionally to the business (Garbarino and Johnson, 1999; Noble and Phillips, 2004). They may, for instance, refuse to join a loyalty program, and forgo the opportunities to receive coupons via e-mail.

Relational or collaborative customers are physically, mentally, or emotionally involved with the business they buy from (Bettencourt, 1997; Garbarino and Johnson, 1999; Price and Arnould, 1999). Collaborative customers, for example, might promote an e-business through electronic word of mouth (Bettencourt, 1997) or give suggestions on how to improve its operation. Few customers are purely transactional (Garbarino and Johnson, 1999); most of them are collaborative to various degrees (Garbarino and Johnson, 1999; Noble and Phillips, 2004). Therefore, e-businesses need to personalize their customer relationship programs to accommodate different degrees of collaboration. Berry (1995) suggested three levels of partnership-based interactions (basic, medium, and high). Table 3 summarizes the e-tailing strategies that can be offered at each partnership level.

Table 3: Summary of Partnership-related E-tailing Strategies

Subject	References	Concepts Related to E-tailing	Examples of E-tailing Strategies
Basic level	Noble and Phillips (2004)	This level includes:	(a) Simplify the initiation of loyalty programs (e.g. fewer stages of on-line registration).
	Garbarino and Johnson (1999)	(a) Loyalty programs	(b) Offer substantial tangible benefits (e.g., less frequent but more substantial price discounts).
	Bettencourt (1997)	(b) Tangible benefits	(c) Well-planned loyalty programs increase overall customer satisfaction with the purchase.
		(c) Overall satisfaction	

Subject	References	Concepts Related to E-tailing	Examples of E-tailing Strategies
Medium level	Noble and Phillips (2004)	This level includes:	<ul style="list-style-type: none"> ▪ Send personalized e-mails that reflect customers' preferences and interests. ▪ Recognize customers as an elite or preferred group. ▪ Offer on-line social interaction with the e-tailer (e.g. feedback) and other customers (e.g. chat rooms) ▪ Establish trust by offering substantial benefits through the loyalty programs.
	Ansari and Mela (2003)	(a) Commitment and loyalty	
	Price and Arnould (1999)	(b) Social bonds and commercial friendship	
	Garbarino and Johnson (1999)	(c) Customer's trust in retailer's activities	
	Harris and Goode (2004)		
High level	Noble and Phillips (2004)	This level includes:	<ul style="list-style-type: none"> ▪ Use lock-in strategies (e.g., ask for personal information) to increase switching costs. ▪ Provide customers with higher control over their personal information. ▪ Make customers aware of the different uses they make of their private information.
	Garbarino and Johnson (1999)	(a) Enduring trust and commitment	
	Harris and Goode (2004)	(b) Privacy policies	
	Hoffman et al. (1999)		
	Murthi and Sarkar (2003)		

Basic Level Partnership

At the lowest level of commitment, e-tailers can increase a customer's repeat purchases and customer satisfaction through unique loyalty programs that offer more tangible benefits (e.g. points for purchases on-line) than e-manufacturers. Customers might not commit to a program that requires a substantial effort (e.g. a detailed registration form) and provides very limited tangible benefits (e.g. small price discounts; Noble and Phillips, 2004). Customers who are highly satisfied with an e-tailer's loyalty program might become medium level partners (Rodgers, Negash, and Suk, 2005).

Medium Level Partnership

Customers at the medium level have developed some level of commitment and loyalty to the e-business. Developing social bonds with customers and enhancing their trust in the e-tailer's unique activities can deepen the medium level partnership (Tsai, Huang, Jaw, and Chen, 2006). A unique on-line newsletter that is personalized to customer interests is one example of strengthening medium level partnerships. However, over-communicativeness might lead to the customer being annoyed and to the termination of the relationship (Noble and Phillips, 2004).

Another example is the development of a commercial friendship with customers which includes self-disclosure activities, cooperation, and repeated social interactions (Price and Arnould, 1999). A commercial friendship can be practiced on-line (e.g. feedback and chat rooms). Many customers might feel comfortable giving feedback to e-businesses and networking with other

customers on-line (Kalyanam and McIntyre, 2002). E-tailers can foster stronger commercial friendships with their customers compared to e-manufacturers when they set up unique social interactions among them. An example might be the on-line party for the launch of the new Harry Potter book.

The medium level activities should increase a customer's trust in the partnership (Garbarino and Johnson, 1999). Establishing trust with e-businesses is particularly important because physical contact is not possible (Harris and Goode, 2004). Transaction uncertainty can be reduced if an e-tailer is perceived as trustworthy (Grabner-Kraeuter, 2002). E-tailers can lose customer trust and loyalty when they offer hollow loyalty programs (Noble and Phillips, 2004). Customers may feel "cheated or deceived by the benefits of the relationship program" (Noble and Phillips, 2004, p. 297). Once trust is established, customers can become higher level partners (Berry, 1995; Noble and Phillips, 2004).

High Level Partnership

Trust can lead to higher levels of loyalty and a commitment to a relationship (Garbarino and Johnson, 1999; Ha, 2004; Harris and Goode, 2004). However, to establish enduring trust on-line, privacy policies need to meet customer preferences. Table 3 presents examples of e-tailing strategies that can meet these preferences (e.g. increased perception of privacy) and thus establish enduring trust.

Two questions about on-line privacy may concern customers: (1) how e-businesses use private information about customers; and (2) whether e-businesses sell customer information to other organizations. E-businesses usually record customers' browsing patterns (Hoffman, Novak, and Peralta, 1999). Though the information can be used to make personalized recommendations, customers might perceive this activity as a breach of privacy and feel that this information can be used against them (Hoffman et al., 1999; Noble and Phillips, 2004). For instance, price discounts might not be offered to a customer who usually searches for premium products. E-businesses also view customers' personal information as an asset and hence may trade it with other e-businesses (Kalyanam and McIntyre, 2002; Laudon, 1996). To increase customer trust in on-line activities, e-tailers might develop innovative privacy policies (e.g. compensate customers for selling their private information). These policies can increase the perception that customers have of their own control over their personal information, might provide a competitive advantage over e-manufacturers, and can increase switching costs.

Discussion

Based on an extensive review of e-business literature, this paper presents an organizing structure of competitive strategies e-tailers can practice in response to customer expectations and e-manufacturers' capabilities. The organizing framework suggests a three-level hierarchical structure that associates concepts within and across levels. For example, association between price discrimination and price bundling can be seen within the product level. A relationship between preference formation (product level) and indirect "learning" strategies (process level) can be recognised. This representation of e-tailing strategies opens possibilities for new research opportunities and new modes of e-tailing practices.

New Research Opportunities

Within the product level, researchers have examined bundles of goods separately from bundles of information. This framework suggests that bundles of goods and information may be valued by customers. Potential research could involve the examination of (a) customers' willingness to pay and (b) competitive price differentiation and personalization strategies of these on-line bundles. A research opportunity across levels could be to assess customers' perceptions of recommendation agents (second level interaction) that deliver mixed bundles of goods and information (first level

interaction). So far researchers have examined recommendation agents either for goods or for information, but many e-tailers deliver mixed bundles.

In relation to the process level, customers' perception of and preference for the different "learning" strategies (direct vs. indirect) have been under researched. Customers might prefer a direct "learning" to an indirect "learning" of their preferences so they can have more control over their privacy. Furthermore, these preferences (second level) may impact customers' trust and commitment to e-tailers (third level). Thus, examining customers' preferences for the type of learning an e-tailer uses and their impact on trust and commitment are additional research avenues that can be pursued.

In relation to the partnership level, not many researchers have evaluated the competitive advantage provided by lock-in strategies that are based on the amount of information customers reveal to e-tailers. Different lock-in strategies might result in different levels of commitment. Assessing perceptions of these strategies and their impact on commitment levels could be a contribution to the existing marketing literature.

According to Murthi and Sarkar (2003) e-tailers can offer customers different levels of privacy. Researchers could examine how the levels of privacy impact the level of trust and commitment that customers exhibit to the e-tailer. In connecting the process level to the partnership level, customers' perceived control over their privacy could be researched in relation to their preferences for direct or indirect "learning" strategies.

Lessons for Practitioners

The framework presented in this paper describes competitive strategies e-tailers can use within and across levels of interaction to leverage e-consumers' perceptions and Internet technologies (the Figure and Tables 1, 2, and 3). Understanding how e-tailing strategies on one level of interaction influence customer responses on other levels of interaction could enhance the relationship between e-tailers and their customers. For example, e-tailers who provide information about the search process employed by a recommendation agent could enhance customers' perceptions of the accuracy of the production information (product level), reduce search activities (process level), and increase the e-tailers' trustworthiness (partnership level). Another example is when e-tailers allow customers to choose the method of "learning" they prefer. This strategy refers to the process level, but may impact customers' willingness to commit and form a stronger partnership with these e-tailers. At the product level, this may increase customer satisfaction with product options that were personalized according to their preferred method.

Limitations

Although the review of the literature related to the on-line marketplace has not been exhaustive, a significant number of papers related to on-line research was examined. The proposed framework organizes the existing and potential e-business strategies into three levels of interaction emphasising the competitiveness that can be secured by using these e-tailing strategies. Particular attention has been given to customer perceptions and preferences in relation to these strategies.

It can be argued that sometimes a clear distinction between the three levels is hard to maintain. Even so, the hierarchical structure proposed in this paper helps researchers and practitioners examine specific e-tailing strategies in the context of other e-tailing strategies, and evaluate their impact on one another. Connections and distinctions between e-tailing strategies across and within the different levels of interaction can be easily identified using the proposed framework.

Some strategies examined in this paper can be practiced by both e-manufacturers and e-tailers. However, suggestions to differentiate between them have been made in order to show how e-tailers can offer added value to customers to a greater extent than e-manufacturers can (e. g.

bundles across brands). The strategies that can set e-tailers apart from e-manufacturers will create the competitive advantage e-tailers are looking for in the on-line marketplace.

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