

Retailing on the WWW: The Use of Electronic Product Catalogs

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There are an ever-increasing number of methods for consumers to shop for products. From in-store shopping, to mail order catalogues, to phone orders, to television channels devoted solely to product sales, shopping avenues continue to progress to new and different frontiers. One of the newest means of retail (also one of the most promising for the future) is electronic product catalogs (EPCs) on the World Wide Web. This relatively new format for displaying and purchasing products has developed quite extensively as the WWW itself has progressed. Several retail companies have expanded their business from the catalogue and the store onto the Internet.

Electronic product catalogs provide firms an opportunity to showcase their products to a larger market on the Internet. Electronic product catalogs provide information on the products typically including textual descriptions and photos, or, in some cases, including audio clips and video clips as well.

There are several key factors involved in creating EPCs that will attract customers. These basic criteria are very similar to those that must be met to have success across any sales format. They include representative and interesting product display/description, prompt delivery, a variety of payment options, and responsive customer service. In this study, these key factors are compared in computer, beverage, music, and clothing industries.

The study suggests that between the four industries examined, some basic similarities and differences in EPC use exist. The results show more similarity among the industries in product description, and speed of delivery. More differences appear in the level of product information

supplied, the ability to compare products, and the level of customer support provided.

Theoretical Background

The theoretical background supporting the research draws on three streams of literature. Electronic commerce supports the WWW development issues examined, retail and patronage theory underlies the shopping experience examined, and a discussion of the catalog industry provides an industry context.

Electronic Commerce

Electronic commerce supported by the WWW provides new opportunities for retailers (Angell and Heslop 1994; Applegate and Gogan 1995; Bournellis 1995; Cronin 1994; Ellsworth and Ellsworth 1994; Hoffman and Novak 1994; Hoffman, Novak and Chatterjee 1996; Maglita 1995). The use of electronic product catalogs builds on traditional catalog retailing as the WWW format provides a brand new type of "store front" for more focused retailing activities (Churbuck 1993; Hoffman, Novak, and Chatterjee 1996; Stewart 1993; Sussman 1995; Verity 1994).

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Retailing and Patronage Behavior
In exploring the role of electronic commerce in retailing, there are several retailing axioms that are useful in defining the issues. Patronage behavior theory has long been used within the retailing environment to diagnose and prescribe retailing management solutions (Darden and Lusch 1983). According to patronage theory, two of the key factors that influence consumer shopping preferences are retail formats and product characteristics (Sheth 1983).

Catalog

The second largest format of the retailing industry is catalog (Chain Store Age 1995). Catalogs provide an anytime, anyplace option for shopping. With 24-hour access through 800 numbers to telemarketers, and availability wherever the consumer has access to a phone, the catalog has become a key format for retailers (Hildebrand 1994). Its history, beginning with the advent of the Sears Roebuck catalog, has grown to represent a variety of specialty shopping opportunities (Peterson 1992). Traditional catalogs provide limited information through photographs and textual descriptions, but electronic version on the WWW can provide product demonstrations and personal shoppers. Electronic product catalogs also reflect the traditional catalog offering a wide variety of payment options and the fastest of the non-store delivery options. Traditional catalogs have had to set prices that will remain in effect over the life of the paper catalog (a 3, 6, or 12 month period), while the electronic product catalog can be changed and updated on a continuing basis to reflect changes in product availability and prices.

Electronic Product Catalogs

The EPC provides basic product information, with the printed catalog serving as the fundamental metaphor. The possibilities are substantial for enhancing the information and providing a user-friendly interface, through product photos, tex-

tual description, personal shoppers and product demonstrations. To market the product the EPC must contain ample and pertinent information about the product. This usually includes one to two paragraphs of text describing the particular item; additional accessory options; choices of color, size, quantity (Palmer 1997). It enables consumers to perform much more comparative shopping than the traditional paper format. In addition, pictures of the product aid in moving the customer towards making a purchasing decision and should be included depending on the type of product. EPCs will typically present the photos with a transparent background to give the image a cleaner, sharper look. In addition, to speed up the process of viewing a page, many companies will use low-resolution graphics. If a page has multiple products to display, the lower resolution will greatly increase the download time. Therefore, access speed is a critical factor to consider when displaying product images within an electronic product catalog.

Methodology

The computer, beverage, music, and clothing industries were selected for review because they provide distinctive industries with differing approaches to EPCs. Four specific electronic product catalogs were examined. A research team of six, provided substantial cross-checking of insights and results. The analysis resulted in consensus among the research team on each of the four sites, with the results presented below as a series of short case studies.

Case Examples

Beverage Industry:
Virtual Vineyards

Virtual Vineyards (<http://www.virtualvin.com/>) is an Internet retailing company that sells fine wines and foods. According to Peter Granoff, Co-founder & General Manager of the company, the goal of the firm is "...to find outstanding food and wine selections from superb producers

and offer them to you for purchase...I also want you to have fun while you are shopping and perhaps learn a little bit about food and wine along the way." The EPC covers a large selection of food and wine products and contains a great deal of educational content. The Internet storefront design is appealing but simple. The site is composed of a Wine Shop and a Food Shop that offer specialty foods. The Wine shop offers well over a hundred types of wine, organized by category, grape variety, and winery. The food shop's product selection is even larger with items such as coffee, tea, chocolate, and caviar available for purchase on line.

Perhaps one of the reasons that Virtual Vineyards has enjoyed success in their retailing efforts on the World Wide Web is because the firm offers a great deal of informational content at their site. Not only does the company provide a good selection of premium products at a variety of price points; they also provide educational material on the important aspects

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that determine a wine's desirability. They have a great deal of background information on most of the wines listed, and for some vintages they even have tables that rank how the wine rates in terms of intensity, dry or sweet, body, acidity, tannin, oak, and complexity. By providing this content free of charge, consumers may learn to view the site not just as place to buy wine and foods, but also as an important informational resource.

The Virtual Vineyards site is well laid out and easy to use. The graphics are compact and relevant and will load quickly even over a standard telephone line at 28.8 kps. The storefront is logically organized and easy to navigate. Interestingly enough the site only makes limited use of frames, and HTML tables. Furthermore, the site does not make use of any multimedia, animation, or audio information.

Virtual Vineyards uses Netscape's Secured Server and encryption technology in order to allow customers to purchase items "on line" in "real time". The customer may use any major credit card or cybercash to pay for purchases. If the patron prefers not to order on line, he or she may place an order by calling a 1-800 number. The initial purchase process is a little confusing, and does require the customer to key in the usual information associated with order forms. To simplify the process for future purchases, Virtual Vineyards allows customers to register with them for free. Once becoming a registered client, the user no longer has to fill out address and billing information.

Virtual Vineyards offers a high level of customer service to their customers. The firm employs embedded e-mail links allowing customers to send in questions or comments to the firm. If the consumer needs immediate service, they can use the 1-800 line to contact Virtual Vineyard's support personnel. Additionally, the company allows members to check account information, and view their previous purchases on line.

Focus Theme

Music Industry: Music Boulevard

Numerous companies offer music retailing on the WWW. A query on Infoseek returned 1,110,619 hits on music CDs. The Music Boulevard offers an extensive electronic product catalog. The price for CD's was very competitive. Some of the selections were as much as \$2.00 cheaper than physical stores. Options for delivery time included regular mail (4-7 days) or FedEx overnight. Ordering a CD was easy, users fill out credit information and click a button and the item is placed in a "shopping cart". The customer is notified of any order status updates automatically by e-mail. The site also refers customers to a 1-800 number for additional customer service.

Another benefit that Music Boulevard offers customers is that all selections are guaranteed to be in stock or shipping and handling is free. The web page was graphically pleasing and loaded quickly. All of the graphics were also links to somewhere else such as a search page, MTV music lounge, or the VH1 music lounge. The media used on the page was very simple but effective. For instance, customers could listen to samples of the three CDs that were the specials of the week on a RA player. This allows the customer to preview the music before actually committing to buying it. However, the few music samples were the only media besides text and graphics at the site.

Computer industry: Dell Computers

Many computer manufacturers are using the World Wide Web to promote their products. These products range from peripherals to complete desktop systems. Dell Computer Corporation's (www.dell.com) EPC offers on-line shopping and custom system build-up.

Dell's web page is a good example of a user-friendly environment. The excellent use of point and click icons makes navigation easy. For example, Dell depicts

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each of its computer lines as a separate icon. If one is looking for the personal computer, all it takes is a click on the dimension desktop icon. A custom system build-up is available providing many choices of memory, monitors, and CPU processing speed. In addition, prices for the various components are provided.

On-line ordering payments are restricted to credit card users only, although there is an 800 number for other customers not using credit cards. Product information consists of the basic computer terminology (i.e. RAM, 200 MHz, cache memory). When a product is selected a "system detail" icon can be selected which will delve into the specifics, such as those mentioned above.

Dell provides excellent on-line service and support features. The following items are just a point and a click away from users of the Dell site: Express Service Codes, Order Status, Parts Guide and Order information, Service Policies, Troubleshooting Guide, Technical Support Mailbox, Customer Support Mailbox, Vendor Links, and Software Updates.

These features allow the customer to search for solutions to their problems. The "order status" is an excellent feature that allows the customer to find out the specifics concerning their orders. In addition, the "vendor links" icon provides the customer with Dell vendors in remote locations.

Clothing Industry: L.L. Bean

One of the leading EPCs in the textile industry is L.L. Bean. Although L.L. Bean carries product lines of home, camping, and sporting goods, they have also developed an effective shopping environment with their men's, women's, and children's casual clothing lines.

Compared to other retail pages, the L.L. Bean site is fairly simple to maneuver through. However, the site contains some high-resolution graphics that slow the downloading process. The purchasing

Focus Theme

process is thoroughly explained and adequate navigation tools such as frames and buttons are available to guide a customer through an entire transaction.

There are several ordering options for this site. After finding a desired product, shoppers have the option of ordering by telephone, mail, or online. The online ordering process is a little different than more traditional methods of order placement. The first step in this process is filling out a customer profile for first time users, or simply entering your nickname if the customer is a repeat user. The next stage is the payment itself. L.L. Bean offers payment through credit cards only.

The content and use of media were very effective on the L.L. Bean site. The homepage contains a picture of a fishing scene creating an ambiance similar to the actual store. The entire site maintains this theme to recreate the experience a customer has when shopping in an L.L. Bean store. Product information includes a picture of the product along with samples of all available colors of the product. The picture itself is similar to a catalogue picture as opposed to the thumbnail images many retail sites impose. One to two paragraphs describing the product accompany the picture.

Customer service is also available through multiple routes. Service phone numbers and e-mail addresses to different departments are listed for customer convenience. In addition, there is a feedback page in the form of a consumer questionnaire to encourage users to offer their input and evaluate the web site.

Conclusion

An analysis of these four firms, each in a distinct industry, provides an overview of the variety of uses of EPCs on the World Wide Web. Choosing different industries provides a comparable basis concerning the use of electronic product catalogs in the areas of product display/description, delivery time, payment options, and customer service.

While it would be too early to generalize our findings, the table below indicates that the firms are currently focusing on exploiting different aspects of the EPC. For instance, Virtual Vineyards focuses on providing a high level of information concerning their products, Music Boulevard focuses on providing product trial, Dell Computers provides product configuration customization, and L.L. Bean extends their physical catalog with enhanced customer service.

The use of EPCs does vary among the four industries examined. It appears that the customization of product in the Dell Computers example is most useful for this high technology, information-intensive prod-

uct. By comparison, the Music Boulevard and L.L. Bean EPCs concentrate on delivering basic information similar to the printed catalog and enhance the shopping experience through ease of ordering and additional customer service. Virtual Vineyards and Dell Computers also extend the EPC by providing additional educational information regarding their products.

These examples suggest that EPCs can play a key role in enhancing retailing on the WWW. In the future, EPCs can be used to customize product information, provide additional educational information, streamline the order and delivery process, and enable the comparison of products from different vendors.

	Virtual Vineyards	Music Boulevard	Dell Computer	L.L. Bean
Product Display/Description	Text and some photos	Text, some photos of CD covers	Photos and technical details	Photos, colors, text
Additional information provided	Substantial information re: wine and foods	Product trial available prior to purchase	Product customization supported	Customer support information
Delivery Time	2-3 days	Immediate, if out of stock, no shipping charges	2-3 days	2-3 days
Payment Options	Credit card	Credit card	Credit card	Credit card
Customer service	Extensive	Also supported with 800 number	Provides some technical support	Extensive

EPCs compared on critical dimensions