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Consumers have an increasing number of shopping alternatives including cable TV, CD-ROM catalogs, and shopping on the World Wide Web (WWW). These multiple formats for consumers have challenged retailers to identify approaches to managing the shopping experience. This research looks at shopping across four retail formats: in-store, catalog, cable TV, and WWW.

Retailing is a particularly salient industry in which to study the impacts of technology. Consumer shopping has been the traditional end point of the product pipeline. The use of electronic means to support this, and other transactions, has been identified as electronic commerce. The interactive technologies of television, CD-ROM and the Internet are key tools to support electronic commerce. As the final connection between goods and the ultimate consumer, the retailing industry is in a critical position on the product pipeline dealing with manufacturers, suppliers and distributors of finished products. By examining four basic retail formats: in-store, catalog, TV, and the World Wide Web, the research will identify the potential for electronic commerce within each format, particularly as it relates to the consumer shopping experience. The work will define the key elements of the shopping experience and explore the use of technologies across the retail formats. The essential research questions to be addressed are:

How do retail formats differ in terms of providing the shopping experience including the key shopping elements of product display, salesclerk service, shopping time, and shopping availability? and

How can retailers most effectively use the technologies to enhance the shopping experience within the specific retail formats of in-store, catalog, cable TV, and the Internet?

Theoretical Background

Electronic commerce explores the use of electronic communications and computer technologies to enhance existing business processes. The cyberspace opportunities have been described by practitioners and academics (Angell and Heslop, 1994, Anthes, 1993, Applegate and Gogan, 1995, Benjamin and Wigand, 1995, Bournellis, 1995, Clarke, 1990, Cronin, 1994, Ellsworth and Ellsworth, 1994, Hoffman and Novak, 1994, Hoffman,

Novak and Chatterjee, 1996, Maglita, 1995, Palmer, 1995).

The newly enabled electronic commerce supported by cable TV and the WWW provides new opportunities for retailers. In some cases, these formats attempt to replicate the in-store shopping experience though product display and interaction with a host or salesperson. In some instances the non-store formats of major catalog retailers is reflected. Yet in other cases, these formats provide a brand new type of "store front" for smaller and more focused retailing activities (Peterson, 1992). The WWW has the potential to change "virtually every aspect of marketing strategy - including advertising, pricing, word-of-mouth influence, distribution channels, and product development" (Hoffman and Novak, 1994).

Increasingly, retailers are using IT to identify new channels for distribution and access to customers. The advent of retailing cable TV channels such as QVC and Home Shopping Network and the opportunity these channels provide for interactive connections with customers, has made several key specialty retailers participate in this new approach to sales. Key players in specialty retailing include Sharper Image, Williams-Sonoma, and Liz Claiborne. There will be increasing pressure on specialty retailers to incorporate cable into their IT portfolio, as major national retailers such as Wal-Mart, J.C. Penney and Sears move into this new distribution mechanism (Freedman, 1994). Some in retailing are not convinced that the new interactive connections will be a major influence on most retail shopping (Kahn, 1994, Zinn, 1993).

Patronage behavior theory has long been used within the retailing environment to diagnose and prescribe retailing management solutions. Key attributes cited by consumers in terms of selecting a shopping location include merchandise selection or assortment, merchandise quality, merchandise styling and fashion, merchandise pricing, locational convenience, general service and salesclerk service (Darden and Lusch, 1983). Establishing a shopping preference involves attributes that are both personal to the consumer and specific to the product. Personal attributes include the time, money and effort expended in shopping. Product attributes include brand availability, relative prices, shelf location, and sales promotion (Sheth, 1983).

Media richness can also inform the examination of differing retail formats. Media richness theory suggests that differing media provide differing levels of information content and context for the media user which, in turn, result in different levels of involvement and user responsiveness (Markus, 1990, Trevino, Lengel and Daft, 1987). This approach can distinguish between the four retail formats in terms of their level of richness of interaction between the customer and the retailer.

Methodology

The individual shopping experience for a specific product was the unit of analysis. Data was gathered through researcher "visits" (both physical and electronic) and compilation of data on the shopping experience for products available for sale at the retail level in all four formats. Investigation of 150 separate products was undertaken by two MBA classes during the fall semester of 1995. Results represent 30 individuals shopping for 5 separate products. Data was compiled on each of the 150 separate products, each of which compared the shopping experience across the four retail formats of in-store, cable TV, catalog, and WWW.

Products chosen covered a wide range and included: women's and men's apparel, computer hardware, electronics, books, art, toys, home furnishings, videos, magazines, music, computer software, flowers, and jewelry. Respondents were asked to describe each of the formats on key dimensions of the shopping experience, including method of intermediation, customer relations and product display and to rate salesclerk service, shopping availability, and time spent on a 5 point scale.

Findings

Results were compiled for 150 separate product shopping experiences. These included 26 in-store establishments, 3 cable TV channels, 37 catalogs, and 66 WWW sites.

Media Richness and Mediation

There were similarities among the formats on several key variables. The method of mediation was different between in-store and non-store formats. Customer relations were similar in the non-store formats, as catalog, cable TV, and WWW predominantly used a remote, telephone interface for the actual purchasing of the product, however the cable TV format offered the opportunity to speak with the host. Product display was similar in the catalog and WWW formats, as most Web sites adopted the on-line catalog approach of photos and text. The product display was richest in the in-store format, followed by cable TV (which included product demonstrations), catalog and lastly the WWW (see Table 1).

Table 1
Comparison Across Retail Formats
Media Richness and Mediation

	In-store	Catalog	Cable TV	WWW
Method of Mediation	human	paper and	broadcast and	computer

		telephonic	telephonic	
Customer Relations	face-to-face sales and service	remote, voice only	remote, voice only, recreate social aspect	remote, voice, often electronic
Product display	merchandising 3-dimensional	photograph and text	television image and demonstration	computer image, photograph, text

Shopping experience

Shopping availability was greatest for catalogs and the WWW, with 155 hour per week access. In-store shopping had the most limited access with an average of only 84 hours/week. On service, there were significant differences, with the catalog and cable TV formats

scoring highest in terms of salesclerk service, followed by in-store and, lastly WWW. Time spent on shopping also varied significantly across formats, with catalog being the quickest, followed closely by the in-store format. WWW format took a great deal of time, and cable TV was the slowest of the four. Table 2 summarizes the results.

Table 2
Comparison Across Retail Formats
Shopping Experience

Shopping availability (hrs/wk)	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
F = 46.34***	84	38	129	51	133	60	155	39
Service (1 = poor, 5 = excellent)	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
F=2.60*	2.51	.64	2.73	.51	2.71	.49	2.23	.60
Time spent shopping (minutes)	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
F = 19.97***	20	16	12	16	74	74	36	48

* p < .05 *** p < .001

Discussion and Conclusions

The findings suggest that each format has advantages and disadvantages. The WWW offers the highest availability, but scored lowest on service and next to last on time spent. Catalog had good availability, strong service and took the least amount of time. Cable TV also had good availability and service, but took the longest time. The in-store format was least available, had only moderate service, but was second only to the catalog in time spent. The research suggests that there are positive aspects to each of the formats that will need to be captured by retailers attempting to improve the shopping experience in each of the formats.

So what does this mean to retailers? The issue of which formats to compete in, how to take the best of the formats and overcome the weaknesses in each becomes a compelling question. Does the modeling of existing formats make sense (the use of a cyberspace shopping cart and video agents/guides to select items on the WWW, the display through models and product demonstration on cable TV, and the increasing use of in-store video, information kiosks, and electronic images at the point-of-sale in in-store formats)?

The ideal format for shoppers would provide the greatest shopping availability, highest salesclerk service, least amount of shopping time, most media rich product display, and some attention to an appropriate level of mediation. The opportunities for quick response and product comparison on the WWW was not evident in this sample. Cable TV must develop more efficient mechanisms for shoppers to find specific products. Catalog has developed strong service and is easy and quick to use, it does need to increase its availability through lengthened hours of availability. In-store is being threatened by each of the other three formats as potential substitutes. While still offering the quick delivery of immediate purchase, and relatively quick shopping time, the in-store format suffers from limited availability (a dimension unlikely to change) and the need for improved salesclerk service. In some cases these improvements might come from affiliated activities. For example, JC Penney does cross-sell its catalog at in-store locations with phone lines direct to the catalog sales desk. JC Penney is one of the few major retailers with operations in each of the four formats. This may be the best approach as the strengths and weaknesses of the formats continue to emerge and the technologies continue to evolve.

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