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# Advertising and the Consumer Information Environment Online

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*The Internet has apparently become an important source of information for consumers and partly because of this trend, the Internet now presents a huge opportunity for advertisers who seek effective communication with their target markets. The purpose of this article is to provide an understanding of the qualities and potentials of the Internet as an advertising medium. First, an overview of the various forms of Internet advertising is provided, as well as a review of existing literature regarding the effectiveness of each form. The article next compares the Internet with traditional mass media from the perspective of the consumer information environment and shows how unique characteristics of the Internet may alter consumer experience and decision making. The article concludes with a discussion of the needs and challenges facing the field.*

**Keywords:** *advertising; Internet; new media; consumer information; consumer behavior*

**According to E-Marketer (2003)**, there were 153 million Internet users in the United States at the end of 2002, and an estimated 10 million more were expected to come online in 2003. Internet users engage in all kinds of activities online. Among the most common are searching for information, communicating, seeking entertainment, and shopping (Korgaonkar & Wolin, 1999; S. Rodgers & Sheldon, 2002). The Internet has become an important source for consumer information both through advertising and other product-related sites. According to recent estimates, Internet advertising revenue in the United States totaled U.S.\$5.95 billion in 2002 (Interactive Advertising Bureau, 2003).

The continuing growth of Internet users and the development of the Internet advertising industry have prompted considerable research interest in this form of advertising. A recent editor's column in the *Journal of Advertising* listed

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Internet advertising as one of the three fastest growing areas of research in advertising during the past few years (Faber, 2002). Another growth trend cited by Faber (2002) was research examining content areas that were not traditionally viewed as advertising. These include things such as sponsorship, nonpaid promotional communication, and brand placements.

These two trends are not completely independent. One of the outcomes of increased product promotions on the Internet has been a rapid development of more alternative delivery forms and less clear-cut distinctions between advertising, other forms of brand promotion and information dissemination, and other types of brand and product information. For example, we traditionally think of advertising as a paid-for message appearing in some type of media or in a place that can attract large numbers of consumers (e.g., billboards on the highway or posters on buses). The Internet contains some forms of advertising that would match this description. However, on the Internet, advertisers also have their own home pages. Here they may sell goods, provide information about their products, and offer additional benefits to consumers. This begins to blur the role of advertising and other marketing functions. Other sites may sell multiple brands much like brick and mortar stores. Such sites may provide information about many brands or provide brand reviews. It is not always clear if such information is independently determined or a form of paid promotion by a particular brand. Again, the clarity between advertising and independent information on the Internet becomes less clear. This has led to a growing need to better define what is considered advertising and to reconsider many assumptions about how advertising works.

This article begins with a review of the various formats that advertising can take on the Internet. These include forms resembling more traditional advertising formats as well as more unique and emerging formats. A brief review of the existing literature regarding each form is also given. Following this, an effort is made to delineate the unique qualities of the Internet and how they may alter the consumer experience and brand decision making. Of particular concern here is how these unique features of Internet advertising may alter important outcome variables in advertising, such as brand memory, attitudes, intentions, and decision-making strategies. Finally, we hope to present a clearer view of the change the Internet has created in the broader perspective of the consumer information environment. Advertising research is often approached from the perspective of the advertiser and examines how he or she can influence the consumer's attitude or preference for a given brand. A more critical perspective may be from the view of the consumer and how he or she navigates through the vast amount of often conflicting and occasionally irrelevant information found in the broad consumer environment. We believe it is this broader approach that will be the most important for understanding the role of Internet communication regarding products and services. We conclude with a discussion of the future needs and challenges facing the field.

## FORMS OF NEW MEDIA ADVERTISING

In an article on Interactive advertising, S. Rodgers and Thorson (2000) identified five types of ad formats found on the Internet. These were banners, interstitials and pop-ups, sponsorships, hypertext links,<sup>1</sup> and Web sites. As new media continue to develop, a few additional formats have begun to emerge and others are likely in the future. The following section identifies and describes these formats and provides a brief review of findings regarding each of them.

*Banner ads.* Banner ads are graphic images (usually 468 × 60 pixels) displayed on an HTML page used as an ad (Interactive Advertising Bureau, 2002). They typically appear as rectangular-shaped boxes located at the top, sides, or bottom of the page. Banner ads are primarily used to build Web traffic by allowing consumers to click them to be hyperlinked to advertised Web sites for more information. Banner ads are the predominant form of new media advertising, representing 55% of all online ads (Interactive Advertising Bureau, 1999) and 32% of all new media advertising revenue (Interactive Advertising Bureau, 2002). However, the average click-through rate has been continuously declining and now runs at about 0.3% (Nielsen/Netratings, 2000). Efforts to trick people into clicking on these ads through misleading messages have also led to consumer dislike for this format. Due mainly to the very low click-through rate, some researchers have expressed skepticism about the effectiveness of banner ads (Cross, 1999).

Some authors, however, have argued that the effectiveness of banner ads should not be judged solely by their click-through rates (Briggs & Hollis, 1997). Instead, banner ads may also function much like billboards in more traditional media environments. Although the banner can contain only a limited amount of information, usually just the brand name and a brief slogan, it can serve to increase brand awareness and as a reminder to existing brand users. Using an experimental study, Briggs and Hollis (1997) showed that exposures to standard static banner ads enhanced brand awareness, brand strength, and consumer loyalty even when click-throughs did not occur.

A number of researchers have examined potential strategies to enhance the effectiveness of banner ads. Just as with traditional ads, size and motion increase performance. Large, animated banner ads have been shown to result in quicker response, to be better recalled, and to trigger more click-throughs than small, nonanimated banner ads (Li & Bukovac, 1999). Brown (2002) found that banner ads containing pull-down menus generated higher attention, liking, persuasion, and click-throughs than standard static banner ads. He argued that these favorable findings might be due to the fact that consumers liked the increased quality of information made available to them by the pull-down menus.

Another strategy for attracting consumers is to personalize the ad message. G. Nowak, Shamp, Hollander, and Cameron (1999) found that personalization increased the likelihood that consumers would click the banner ad and appeared

to enhance attitudes toward the Web sites and their sponsors. A newer form of banner advertising is the smart banner. This is a keyword-activated banner that appears on a search engine Web page when consumers enter relevant keywords into a search engine. Dou, Linn, and Yang (2001) argued that if keyword-activated banners are "smart" enough to provide exact matches, they have the potential to enhance the effectiveness of banner ads by displaying them at the right point of a consumer's specific interests and needs. Thus, the future of banner ads may rely on their ability to successfully target consumers and appear at the time when information is desired. Beyond that, it may serve a reminder function for frequently purchased consumer brands.

*Pop-up ads.* According to Nielsen/NetRatings, during the first seven months of 2002, advertisers purchased and launched more than 11.3 billion pop-up ad impressions on the Internet (Martin & Ryan, 2002). Pop-ups are ads that appear in a separate window on top of the content a user is viewing. The pop-up window will not go away until the user actively closes it.

Cho, Lee, and Tharp (2001) reported that pop-up ads yielded more click-throughs, more favorable attitude toward the ad and the brand, and higher purchase intention than standard banner ads. However, a more recent study found that pop-up ads were perceived as irritating and annoying (Edwards, Li, & Lee, 2002). Negative sentiments about pop-up ads occur because they interrupt the activity that people are engaged in on the Web. An industry consumer survey conducted by GartnerG2 (2002) show that compared to other forms of new media advertising, pop-up ads were considered most irritating. From an advertiser's perspective, however, irritating ads may not always be bad. Some have argued that irritating ads help consumers remember the brand name and may even increase sales (Robertson, Zielinski, & Ward, 1984). Some Internet advertisers use pop-up ads because of the "in your face" impact they have (Dillabough, 2002). However, major online content/service providers such as EarthLink and America Online have recently responded to consumers' complaints about pop-ups by employing new software that allows users to block pop-up ads ("America Online," 2003).

Some advertisers are also attempting to make pop-up ads less annoying. One strategy is to use them in situations where users are likely to be online for diversion or to avoid boredom rather than where they are focused on a specific goal. Another strategy to reduce annoyance may be to increase the value of pop-up ads. Edwards et al. (2002) found that when pop-up ads provided value to consumers, they were perceived as less irritating.

*Commercial Web sites.* Whether commercial Web sites should be considered as media advertising has been an issue of much debate (Berthon, Pitt, & Watson, 1996; Choi, Miracle, & Biocca, 2001; Ducoffe 1996; Hwang, McMillan, & Lee, 2003; Singh & Dalal, 1999). Currently, however, there appears to be a growing consensus that they should. For example, Singh and Dalal (1999) argued that

home pages resemble ads in physical appearance and perform the same basic functions—to inform and to persuade—as other advertising messages. Recently, Hwang et al. (2003) content analyzed home pages of 160 corporate Web sites and concluded that the entire corporate Web site was an extension of traditional corporate advertising.

However, unlike other advertising formats, Web sites require active effort to achieve exposure (Chatterjee, 1996). That is, although consumers usually come across banner ads and/or pop-ups incidentally, they must make an effort to access commercial Web sites. Thus, consumers control exposure to this form of promotional material. This should enhance their attitude toward this form of advertising and guarantee that it is used when the information will be most useful and desired. Although most forms of advertising can be seen as typically involving low involvement processing, Web sites may be processed more centrally. Here, the actual information on the site may be considered and evaluated. This works well for both the consumer and the advertiser because Web sites can provide almost unlimited amounts of information and the user can select those bits that are most relevant to their concerns.

Although cognitive processing may play an important role, this is not to say that emotional and/or aesthetic content on a Web site will not matter. Most assuredly they do. Researchers examining commercial Web sites as advertising have examined specific features available on these sites (Choi et al., 2001; Coyle & Thorson, 2001; Ghose & Dou, 1998; Li, Daugherty, & Biocca, 2001, 2002). They have found that interactivity in commercial Web sites appears to enhance perceptions of telepresence (Coyle & Thorson, 2001). In turn, these perceptions of telepresence positively influence various advertising effectiveness measures. For example, Choi et al. (2001) found that the use of an anthropomorphic agent (a computer-generated entity that is endowed with a human form) on a commercial Web site increases a sense of social presence and telepresence, which subsequently influences attitudes toward the site and the brand, purchase intention, and intention to revisit the site.

Presentation modes on Web sites can also enhance their use as an information agent. For example, three-dimensional product presentations allow consumers to zoom in and out a certain part of a product, view visual details of the product by using a 360° rotation function, and even customize their future product to fit their own lifestyle. Li et al. (2001, 2002) found that when examining three-dimensional products, consumers are active information processors, are more likely to feel presence with a product, and are more likely to feel pleasure or enjoyment of interacting with the product. In addition, three-dimensional product presentations have been found to yield higher consumer learning, brand attitude, and purchase intentions than flat, static two-dimensional photo images of products (Li et al., 2002).

Finally, company Web sites can enhance the opportunity for trial and actual purchase of a product. Clothing sites such as Land's End allow consumers to provide physical information about themselves and use this to see an image of

how an item would actually look on them (see the My Virtual Model feature on <http://www.landsend.com>). Similarly, music, movie, and game sites allow consumers to sample the content prior to purchasing. This form of trial decreases perceived risk for the consumer and enhances the likelihood of purchasing. In addition, Web sites often combine information about the brand with an immediate opportunity to purchase the item. This greatly alters the traditional advertising situation where ad processing and brand information retrieval occur at separate points in time (Baker & Lutz, 2000).

*Internet sponsorships.* One of the least understood but commonly used forms of new media advertising is Internet sponsorship (Interactive Advertising Bureau, 2002). For the past 6 years, Internet sponsorships have represented from 24% to 37% of all new media advertising revenue (Interactive Advertising Bureau, 2002). Internet sponsorships use an association with a Web site or a specific content section of a Web site to give an advertiser visibility for marketing purposes (Interactive Advertising Bureau, 2002; S. Rodgers & Thorson, 2000). Like sponsorships in traditional media channels, Internet sponsorships are often called advertising fragments—messages that are restricted to the brand name or to a few words that summarize the brand's unique selling propositions (Pham & Vanhuele, 1997; S. Rodgers & Thorson, 2000). For example, Macy's and Pfizer's logos appear on the American Heart Association's (n.d.) official Web site along with the text message "Macy's and Pfizer are proud national sponsors of the American Heart Association's Go Red For Woman Campaign." In a study examining the effects of Internet sponsorships, S. Rodgers (2003) found that the perceived link between the sponsor and sponsee is important in that relevant sponsors tend to elicit greater recall, better brand evaluations, and higher purchase intent than irrelevant sponsors. Despite the popularity of Internet sponsorships in practice, academic research on Internet sponsorships have been sparse. More research is needed to advance our knowledge about this form of new media advertising.

*Paid keyword search listing.* Surveys have found that approximately half of all Web users report using search engines (London, 2000; Overture, 2003). As a result, a growing number of advertisers have begun using paid search listings as a form of advertising to get their site noticed when consumers use search engines.

To ensure marketing message placement and ranking in listings in the search results, advertisers usually select keywords that are relevant to their business and then purchase those keywords from paid listing providers. When a consumer enters specific words into a search engine (e.g., Google, Yahoo Search, or Ask Jeeves), the search engine checks with the paid listing provider's database and provides a list of Web sites related to keywords (Overture, 2003). These paid listings are often placed at the top or side of a search results page and known to consumers as sponsored links. According to the Interactive Advertising Bureau



(2002), keyword searches accounted for 9% of the total new media advertising revenues in the second quarter of 2002.

Paid keyword search listings are believed to offer several benefits as an advertising tool. Like smart banners, they effectively target consumers at the right point in time. Moreover, because a consumer is highly motivated to process information when he or she uses keyword searches, advertisers' search listings may not only get click-throughs but also have the potential to increase conversion rates after click-throughs (Greenberg, 2000). Despite these perceived benefits of paid keyword search listings as an advertising tool, assumptions about their effectiveness appear to be based primarily on anecdotal rather than empirical evidence. Future research is clearly needed here.

*Advergames.* Playing computer games is an entertainment activity enjoyed by many consumers (Interactive Digital Software Association, 2000). In 2001, U.S. sales of game hardware and software rose 43% to hit U.S.\$9.4 billion. This exceeds the revenues from Hollywood's box office receipts (A. Rodgers, 2002). As playing games has become a major part of many consumers' recreational life, advertisers have begun incorporating brand messages into this medium. Web-based computer games that incorporate advertising messages are referred to as advergames. Currently, most advergames are placed either on major gaming Web sites (e.g., <http://www.zone.msn.com>) where companies pay for the privilege of having them available along with other online games or on the corporate Web sites of the products and services they are advertising. For example, an online snowmobile racing game for the Nabisco products can be found on a Nabisco Web site (<http://www.nabiscoworld.com>). Using a computer keyboard's directional buttons, consumers drive a snowmobile through a track, competing with other snowmobiles. The snowmobile has numerous decals with Nabisco brand names and logos, and advertisements seen along the track's billboards are for Nabisco products.

As an advertising tool, advergames have several unique benefits. First of all, they can enhance brand awareness. A survey of game players at MSN Gaming Zone taken before Toyota's Adrenaline game went online found that Toyota's brand awareness ranked 6th among major car companies. A second survey of game players, taken 3 months after the game went online, found that Toyota's brand awareness had risen to 2nd (Marriott, 2001).

In addition to increasing brand awareness, positive attitudes toward an advergame may lead to favorable attitudes toward the promoted brand and the game sponsor (Ward & Hill, 1991). Data from college advergame players show that attitudes toward advergames are positively associated with attitudes toward the Web site on which the game is placed and relationship building with the Web site (Youn & Lee, in press). Finally, because players are often required to register to play advergames or to be eligible for prizes, advergames can be a big asset for advertisers eager to capture useful customer relationship management data (Chen & Ringel, 2001).



*Mobile advertising.* The forms of new media advertising mentioned so far are primarily designed to be used with the Internet. A different form of new media communications is intended to take advantage of the on-the-go nature of modern consumers and is referred to as mobile advertising (Senn 2000; Stafford, in press). This technology uses wireless communication to reach consumers via cell phones, pagers, and personal digital assistants. In some countries such as Japan and Finland, these devices have already become important forms of new media communication. Although their use for promotion has been slower in the United States, the diffusion of mobile devices has already begun to surpass the Internet (Perlado & Barwise, in press). Thus, the use and importance of mobile advertising is likely to grow in the future.

It is unlikely that mobile technology will be rich enough to support the amount of content or the quality of visual we associate with print or electronic media advertising. More likely, it will take the form of short text messages intended to inform, remind, or notify consumers. Thus, it can best be used to support relationships with existing customers rather than to be used to attempt to acquire new consumers (Perlado & Barwise, in press). For example, mobile advertising may help to remind consumers to make a purchase or to provide information for immediate consumer decisions.

Perhaps the major advantage of mobile advertising is that it is able to reach people at exactly the moment they are making purchase decisions. For example, it can be used to provide information about sales promotions at the time of purchase to help sway consumer choices for parity products.

By using global satellite positioning, or identifying the closest cell tower, mobile devices can help consumers find nearby establishments that will meet their immediate needs. For example, portals or sites for downtown areas can provide opportunities for consumers to check on the location and operating hours of stores or find out about the specials offered at local restaurants, where different bands are playing, or the time and location of a desired movie. In addition, mobile devices can be used to deliver promotional messages as consumers pass by or stop at specific displays or stores transmitting a signal (Stafford, in press).

A crucial drawback to the use of mobile advertising may be annoyance and clutter. The customer must have an intrinsic desire for the message or it will be perceived as irritating and intrusive. The widespread public support for a do-not-call list for telephones suggests that people will not put up with uninvited cell phone calls or text messages. Thus, prior relationships and permission to contact the consumer are likely to be critical in the future success of mobile advertising (Perlado & Barwise, in press).

One possibility is to put the control of such advertising in the hands of the consumer. For example, rather than having the advertiser push the message to the consumer, potential customers will need to initiate the contact with an advertiser or portal to get information and messages relevant for a purchase choice.

Alternatively, advertisers may need to compensate consumers for receiving their message. Existing advertising pays a middleman to help get the message to the consumers. Magazines or television stations receive money for allowing advertisers to use their programming to attract consumers to their message. With mobile advertising, advertisers may try to pay people directly to receive their message. The potential of such a format has already been shown to be successful (Barwise & Strong, 2002). In this study, young urban adults (aged 16 to 30) in the United Kingdom were paid for agreeing to receive up to three text messages per day during a 6-week period. More than three quarters of the participants said they read most of the messages sent to them and approximately 20% said they responded to at least one message for a product or service. Satisfaction with this form of communication was surprisingly high. In the future, people may be offered free or reduced-cost cell phones or personal digital assistants in exchange for accepting some ads. This will necessitate sending any one consumer only a very limited number of messages, but the targeting and timing of such messages can potentially make them very effective.

### **COMPARING THE INTERNET AND TRADITIONAL MASS MEDIA**

Coupey (1999) suggested that to achieve efficiency in research effort, it is necessary to recognize the ways in which new media and traditional media are similar and how they differ. To the degree they are similar, findings from research with traditional media can be generalized to the Internet. The places where they differ, however, require new theories and exploration. Thus, from a theoretical perspective, it is critical to recognize the ways in which new media alter the consumers' information environment.

The consumer information environment denotes the entire array of product-related data available to the consumer (Bettman, 1975). Some important characteristics of this information environment are type of information available, amount of information available, modes of presentation, and modes of information organization.

In terms of the types of information available, the Internet does not seem to differ substantially from traditional mass media. Both the Internet and traditional mass media provide consumers with physical and functional information regarding a brand, insights regarding brand users, brand reliability and efficacy, and brand image (Jones & Slater, 2003). However, the sheer amount of product information available online is unparalleled by that in any traditional medium. There is now not only a huge amount of free product information provided by marketers on corporate home pages but also unlimited amounts of information available on online outlets such as consumer forums. However, to be meaningful, consumers must want and use such a wide array of information.

For the most part, the Internet replicates the modalities of existing media. Although it is capable of combining the attributes of television, print, and radio into a single presentation of video, text, and sound (Coupey, 1999), such efforts are still limited by speed and bandwidth. However, the not-too-distant future is likely to see an increasingly common combination of multiple modalities that can lead to vivid online experiences sometimes referred to as telepresence. Steuer (1992) defined *telepresence* as the mediated perception of an environment. Coyle and Thorson (2001) defined *presence* as the direct experience of reality and noted that telepresence is the simulated perception of direct experience. This has important implications for consumer decision making. The most important information in consumers' brand choices comes from direct experience (Schudson, 1984). In the absence of direct experience, consumers rely on interpersonal communication and lacking that, use mass media advertising (Arndt & May, 1981). Through telepresence, the Internet may be able to simulate direct experience, making this a particularly important and useful form of information for consumers.

Another important characteristic of the consumer information environment is how information is organized. In traditional mass media, product information is typically organized by brand. For example, traditional advertisements usually discuss one brand at a time and present only a favorable subset of the available information about that brand. Additional information about other brands or alternative attributes must typically be acquired at different times, when other advertisements or alternative sources of information are encountered (Bettman, Johnson, & Payne, 1991). This makes it difficult for consumers to use compensatory decision-making rules where high scores on some attributes outweigh low scores on other attributes.

In traditional media, there are occasional situations that facilitate compensatory decision making by providing comparative information on several brands across a number of attributes. Perhaps the best example of this is *Consumer Reports*; they provide matrix tables showing how different brands perform on each of several attributes. Such information displays have become much more common on the Internet in product reviews on individual's Web sites and as an added value on sites for online retailers. Some sites even allow consumers to specify desired values on particular attributes and receive a listing of brands that meet these criteria. The greater availability of such information displays will allow consumers to more easily use compensatory decision-making strategies if they so desire.

In addition to the previously discussed characteristics, the Internet may differ from traditional mass media sources on two other dimensions. These can be labeled information flexibility and information accessibility. *Information flexibility* refers to the ability to tailor the information to the needs and desires of the receiver. Flexibility can be achieved through actions of either the sender or the receiver. Online marketers are able to gather information about specific customers and use this information to customize their message. For example, an adver-

tiser can use cookies to determine where the audience member has been on the Internet and infer from that what information they may desire. In addition, they can ask consumers to register to use a Web site and from this information, create a database to profile each consumer. By knowing this information, the advertiser can tailor the message sent to best meet the interests and concerns of each consumer. In this way, Internet communication more closely resembles interpersonal rather than mass communication. Researchers have long viewed the ability to tailor messages to the needs and concerns of the receiver to be a central advantage of interpersonal communication over mass communication (Arndt & May, 1981; McGuire, 1969).

Consumers are also able to create flexibility in the information reaching them. Given the far greater capacity to transmit and store information via the Internet relative to other forms of product information, a company can produce a vast array of information and allow the consumer to select just those pieces they are most concerned with. This allows each receiver, with just a few clicks, to select what he or she wants to know about and ignore less relevant information.

The Internet's high information flexibility is made possible by one of its most salient features—interactivity. Most researchers seem to agree that interactivity is the fundamental feature that makes the Internet different from traditional mass media. Unfortunately, however, there is little agreement on how to define this term. For example, Steuer (1992) defined *interactivity* as the extent to which users can participate in modifying the form and content of a mediated environment in real time. Ha and James (1998) defined *interactivity* as the extent to which the communicator and the audience respond to, or are willing to facilitate, each other's communication needs. The differences in definitions may be due to the different focus authors adopt (McMillan & Hwang, 2002). Some define *interactivity* as a process, stressing terms such as *interchangeable* and *responsive*. Others define *interactivity* in terms of features such as user control and two-way communication. Still others view interactivity subjectively from the perspective of consumers' perceptions. Although much disagreement regarding this concept remains, three elements of interactivity commonly appear in definitions of this term: (a) two-way communication, (b) user control, and (c) speed of response (McMillan & Hwang, 2002). It is hoped that future researchers can build on these commonalities to develop a clearer and more consistent definition.

The final characteristic of the consumer information environment that may distinguish Internet information from more traditional sources is information accessibility. *Accessibility* refers to the user's ability to control when and where information is available. With the Internet and wireless technology, brand and product information can be accessed from almost any location on the earth and at any time. Other forms of new media can use satellite tracking and cell phone or Wi-Fi technology to provide consumers with information about the closest location to purchase a brand or provide a list of possible alternative consumption choices. For example, a hungry traveler can use a cell phone or other handheld

device to request a listing of Italian restaurants within a 1 mile radius of where he or she is standing that are medium priced and take a specific credit card. Such technological possibilities change the role advertising needs to play in fostering top-of-mind awareness and may well change the way people make decisions.

### THE ONLINE INFORMATION ENVIRONMENT AND CONSUMER BEHAVIOR

The previous section shows that the Internet differs from traditional mass media in terms of amount of information available, modes of presentation, modes of information organization, information flexibility, and information accessibility. These differences arise from the Internet's unique features such as interactivity, multimodality, and the capability of storing and providing a vast amount of information. This leads to the question of whether, and how, these unique characteristics will alter consumer behavior. To answer this question, we look at several outcome variables commonly assessed in consumer behavior research. These include brand memory, attitudes, intention, and choice as well as information processing strategies.

*Brand memory, attitude, intention, and choice.* To examine potential effects of new media, many researchers have compared the impact of an ad presented on the Internet with the same message presented in a traditional media format. For example, Gallagher, Foster, and Parsons (2001a) investigated consumer responses to identical advertisements and promotional articles presented in print and Web formats. In the print format, advertisements were inserted in an article in a promotional brochure. In the Web format, the identical advertisements were hyperlinked to texts within the same promotional article appearing on a computer screen. Thus, advertisements presented in the Web format possessed the unique feature of interactivity (in this case, it simply means viewers had control over which ads they viewed and in what order). They found that format did not significantly affect total recall or recognition measures. In a replication using adult Web users, Gallagher, Parsons, and Foster (2001b) again found that the medium made no difference in consumers' memory for advertisements. In both Gallagher et al. studies, the same advertisements presented in different media (i.e., print vs. Web) did not engender differences in attitude toward the ad, brand, or brand choice. Other researchers using similar research strategies have occasionally found differences, but these have not been consistent (e.g., Bezjian-Avery, Calder, & Iacobucci, 1998; Sundar, Narayan, Obregon, & Uppal, 1998).

It is not surprising to find no differences in advertising effects resulting from pure medium difference given how many of these studies are designed. Researchers frequently have tried to make the stimuli in different media as comparable as possible to exclude confounding variables (Bezjian-Avery et al., 1998;

Gallagher et al., 2001a, 2001b; Sundar et al., 1998). However, this research strategy also tends to exclude meaningful differences between the media that should lead to real differences in advertising effects. For example, in the studies by Gallagher et al. (2001a, 2001b), the difference between print and Internet conditions is the fact that subjects get to click on the five ads in the Internet version. Thus, the only difference is in selecting the order to view the ads and in not viewing one or more if the subject did not want to. In an experimental setting, it is hard to imagine that such a difference would lead to meaningful affects on brand attitude or preference. Interactivity may be important only when the consumer has a great deal of choices to select from and time is an issue. In studies that have taken important aspects of the Internet into account in designing media differences (e.g., personalization and consumer control), significant differences are typically found. For example, Nowak et al. (1999) found that perceived personalization of banner ads was positively related to attitude toward the commercial Web sites and attitude toward the Web sponsors. Hence, when examining media differences in advertising effects, researchers need to focus on the meaningful ways in which each medium differs and theorize on the basis of these underlying differences.

One must also be careful in generalizing from findings with an emerging medium like the Internet. It is difficult to determine if an effect is simply due to novelty or substance. We may initially be influenced by a novel format or strategy that is entertaining and enjoyable. However, with time, as this strategy becomes more commonplace, it can lose its impact and even become tedious and annoying. Thus, we need to distinguish between novelty effects and those that are truly due to a particular medium or technique.

*Online consumer information processing.* The information processing perspective of consumer behavior is grounded in a general model (see Bettman, 1979) that depicts people as limited information processors and describes the cognitive components, systems, and operating principles that are presumed to be involved in how people process information (Meyers-Levy & Malaviya, 1999). Consumer information processing is often intertwined with information search and decision making.

Information search is composed of internal information search (i.e., search information from one's memory) and external information search (i.e., search information from sources other than one's memory). External information search can be further divided into (a) goal-directed search (i.e., purposeful information search before purchase) and (b) general search (i.e., nonpurposeful, hedonic information search). Peterson and Merino (2003) argued that because of the relatively low cost of information search on the Internet and the entertainment value of the Internet, consumers will engage in more general information search online than they will offline. This suggests consumers will be more knowledgeable when the time comes for them to make brand decisions. In addition, because information search over the Internet is often times aided by search

tools such as search engines and intelligent agents, it can be more structured and systematic than offline information search (Peterson & Merino, 2003; Rowley 2000).

The typical consumer decision-making scenario consists of a set of alternatives (brands), each described by several attributes (Bettman et al., 1991). Bettman and Kakkar (1977) argued that consumers process information in the fashion that is easiest given the way the information is displayed. They found that when information was organized by brand, brand processing was generally used, whereas attribute formats led to more attribute processing. As previously discussed, in traditional mass media advertising, product information is typically organized by brand. However, in an online environment, it is common to see product information organized by attribute or presented in the form of brand by attribute matrices. This difference in information organization may lead consumers to engage in more attribute-based, rather than brand-based, processing. Attribute-based information presentation may enhance the ability of consumers to engage in more compensatory and more complex decision-making strategies.

In making decisions, consumers can use information retrieved from memory, information obtained from the environment, or both (Lynch & Srull, 1982). In a physical store, when making decisions about which brand to choose, consumers are typically aided by information available from the retail display (brand names, package information, etc.) but also retrieve brand and attribute information from memory. In making a selection, consumers usually form a consideration set which includes only a few brand alternatives. In this way, consumers save cognitive effort but run the risk of overlooking the "best" alternative. In contrast, the Internet provides not only a vast amount of brand and attribute information but also search tools that help screen brand alternatives for consumers and generate a consideration set that contains the best alternatives. Thus, in the online information environment, the consumers can benefit from getting a higher quality consideration set. Because this consideration set is often constructed by using a search tool rather than being retrieved from memory, this decision process can best be termed as stimulus based rather than memory based (Peterson & Merino, 2003).

## CONCLUSIONS

Any discussion of the role of new media in consumer decisions is clearly complex. There is no one form of advertising or consumer communications. Media planners in advertising have long recognized that different media have various strengths and weaknesses and are good for different objectives (Sissors & Bumba, 1990). Although many people talk about Internet advertising as if it were a single category, in reality, the Internet provides analogies to all forms of traditional media. Banner ads are similar to billboards in that they can carry only a minimum amount of information and they are located in high traffic areas.



Many Web ads such as pop-ups are similar to print ads found in magazines or newspapers. Web pages may be more similar to in-store brochures and retail displays. Although for the most part underused to date, because of limited bandwidth, commercials similar to radio and television ads are likely to be a common format as Internet connections change. Other forms of strategic communications such as product placements and sports sponsorships are mirrored on the Internet in advergames and content sponsors. Thus, we cannot meaningfully talk about Internet advertising but must instead talk about types of Internet advertising.

We have provided a brief review of research on the effectiveness of different types of Internet advertising (e.g., banner ads, pop-up ads, commercial Web sites). However, it is interesting to note that most studies have limited their focus to only a single type of Internet advertising. Rarely investigated is the relative effectiveness of different types of Internet ads for different functions or for different types of people. Traditional media research finds that individual difference variables such as demographics and psychographics can provide valuable insights into how and when advertising works. Future research might profitably explore similar individual differences in relation to specific types of new media advertising.

Such research with new media advertising may become particularly valuable given that unobtrusive methods of measuring behaviors exist for many of these forms of promotion. This will make collecting such data easier than with more traditional media and less dependent on audience self-reporting of their behavior. Perhaps the most frequently used measure of online ad effectiveness is the click-through. *Click-through* refers to the average number of times a Web user clicked on a banner ad (or pop-up ad) and was then exposed to the target Web site (Novak & Hoffman, 1997). Click-throughs can be recorded and used to indicate that a user has attended to both the banner ad (or pop-up ad) and the target Web site. Another measure to gauge effectiveness of online advertising is *pages accessed*. Currently, advertisers can track both numbers of pages and types of pages accessed by consumers. Tracking data regarding how many and which pages consumers accessed not only guarantee ad exposures but also offer insights into consumers' navigation patterns through the site. Finally, *time spent on a site* is also used to measure online advertising effectiveness. Time spent on a site (sometimes referred to as *stickiness*) can indicate depth of processing or involvement (for a more detailed discussion of Web advertising measures, see Bhat, Bevan, & Sengupta, in press).

Although future research comparing the effectiveness of various forms of new media advertising with each other and with more traditional media messages is needed, research must exert great care in carrying out such studies. Many studies attempt to look at differences in traditional and new media by replicating the two forms as exactly as possible. In the process, much of the uniqueness of the new media gets ignored. Not surprisingly, there will be little difference between the formats when this occurs. Instead, we need to build

comparisons that allow for the uniqueness of each medium to emerge. Even print ads in the Internet can combine motion, sound, and interactivity. More important, they may differ in the ability to deliver a well-targeted audience, the size of audience, and the degree of skepticism the audience brings to the message. Study designs must incorporate these real life differences to be meaningful.

A big difference in media may be the degree to which an ad is seen as intrusive or under the control of the audience member. One of the major complaints about Internet ads these days is their intrusiveness, especially for pop-up ads. These occur without warning and often interfere with the focus of the user. Frequently, they are for a product that the user is uninterested in. It is not surprising users have strong negative attitudes toward this type of advertising.

Alternative delivery approaches could drastically change consumers' perceptions of control and their attitudes toward advertising information. One alternative is to use tracking information regarding where the consumer has been and the type of Web sites visited to help advertisers better target consumers to match their interests and desires. Although consumers are very wary of this type of data gathering on their behavior, it has the ability to reduce the annoyance of exposure to unwanted products and brands. Another alternative relies on software programs to select ads for brands related to the topics consumers are searching or surfing on the Internet. These ads are kept in a file and allow the user to access this information when and if they want. This provides the user with a sense of control and makes the advertising far more appreciated and useful. A third approach does not use technology but rather, offers consumers the opportunity to sign up to receive future ads. Several popular service Web sites currently use this approach. For example, airlines or travel sites let consumers choose to receive e-mail notices about special fares or offers. Products and services with loyalty programs and frequent special offers may benefit greatly from this approach. Overall, the more the user feels in control of the information, the more influential it is likely to be in making consumer decisions.

Finally, the Internet may be changing the form of consumer decision making and where information comes from. In traditional situations, most mass mediated consumer information is under the control of the manufacturer. They produce ads and press releases to inform people about their brands. With the Internet, however, far more opportunities exist for "third parties" to influence a wide range of consumers. Web sites devoted to a specific product category may carry comparative information about a range of brands. Fans, self-proclaimed experts, and interested organizations may all develop sites that discuss different brands. Retail sites also provide brand comparisons for their customers. These sites allow people to process more complex and complete information and arrive at decisions based on an effort to maximize desired attributes. This may alter the way many consumer decisions are made.

However, it should be remembered that no matter how easy search engines and decision tools become, they will still require more of an effort than most

people want to invest for many consumer decisions. People will continue to base many of their choices on habit, prior experience, or impulse. Thus, the ability to help remind and reinforce brand decisions will still be an important goal for advertisers. The Internet may play a role here as well, albeit through different techniques and formats. In these less involving decisions, linking positive feelings with a brand and enhancing recall and recognition via repetition will be important. Activities such as advergaming, sponsorship, and value-added tools on one's Web site are likely to be valuable ways of achieving these outcomes. Consumers are likely to find that the Internet offers a vast array of consumer-related information in a variety of formats that may affect their brand choices in the future.

### NOTE

1. Although S. Rodgers and Thorson (2000) identified hypertext links as one form of new media advertising, most researchers view hypertext links as one of the features that can be found on a Web site rather than a distinct form of advertising (Ha & James, 1998). Thus, in this article we do not include a discussion of hypertext links.

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