

Impact of the Internet on Consumer Information Search Behavior in the United States

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ABSTRACT This study examines the impact of Internet search capabilities on consumer pre-purchase decision-making. Studying changes in U.S. consumer attitudes between 2000 and 2005, it finds that online information search is increasing among those who engage in pre-purchase information seeking for major financial commitments, that those who engage in online search perceive it to enhance their shopping/decision-making capabilities, that they rely less on traditional mass media information sources and that, despite the increased information sources available online, most consumers are not confused by their information options. Conclusions suggest strategies for both marketers and media firms.

KEY WORDS: consumer decision-making, online information, Internet, product information, marketing strategy

In a rapidly evolving media environment, the success of both media enterprises dependent on advertising revenues and marketers who depend on media to deliver information about their product to consumers depends on understanding how consumers access and use information in making a purchase decision.

Traditional schools of thought regarding the role of advertising in consumer choice behavior divide the effects into “market power” and “market competition.” The market power approach assumes that advertising affects audiences by developing brand loyalty and price inelasticity. The market competition approach assumes that rational consumers will use advertising and other information to make purchasing decisions based on best “value”.

There are inherent flaws in each model. In the former, there is “an assumption that advertising is the sole cause of brand loyalty. In the latter, there is an assumption that consumers engage in an exhaustive

search and that consumers are excellent judges of the merits of the competing brands” (Albion, 1983).

Consumers may use one model for a type/price of product and another for a different type/price of product. There are, of course, many sources beyond advertising for obtaining information concerning products and service. Schudson (1984) identified personal experience as the single greatest determinant of consumer brand choices. When direct experience is lacking, interpersonal information sources and mass media advertising become critical information sources (Arndt & May, 1981). Different purchase/product decisions also provide different types of risks for the consumer. These include financial risk, social risk and the risk of a lost opportunity should a consumer choose an unsatisfactory brand or product.

Consumers can reduce perceived risk by information acquisition or lowering the risk in some other way such as maintaining brand loyalty or trusting the seller. (Rotzoll, K, Haefner, J.E., & Sandage, C.H., 1990). Backman (1967) pointed out that consumers choose among low-priced, non-risk items very quickly (examples would be candy, chewing gum, toothpaste and dish soap) and readily move to another brand if one is deemed unsatisfactory. For this reason, manufacturers of low-end products must advertise repeatedly to keep their brand top of mind. Traditionally, these products have largely relied on reminder advertising with little actual information. The opposite is true for high-end products where there is more risk. For these products (automobiles are a good example) most often more information is gathered and considered before the final purchase decision is made. Quite naturally, the amount of information gathered varies with individual consumers and is affected by past experience, time availability, pre-existing product/market knowledge, information accessibility, financial status and similar variables. Research suggests that the amount of time and energy devoted to information search is strongly influenced by the relationship between the perceived value of the information obtained and the consumer’s available time (Hauser et al, 1993; Murray, 1991) as well as the consumer’s degree of specific product knowledge—which reduces external search activities—and general product-class knowledge—which increases external search levels (Punj & Staelin, 1983).

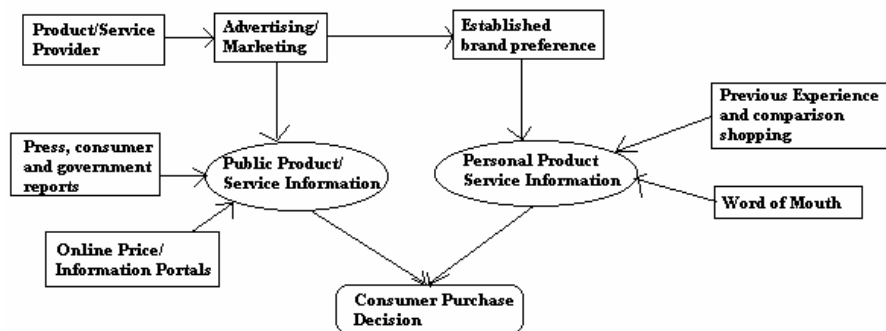
Consumer research identifies two types of information searches—pre-purchase and on-going. Consumers engaged in pre-purchase information seeking have identified a product need and are seeking information that will enable them to make better purchase decisions and increase the probability of satisfaction with their purchase outcome. This information search tends to be product-specific. On-going information searchers are not driven by an immediate purchase decision, but are interested in building a bank of information for future use and are often driven by the entertainment value of information gathering (Bloch et al, 1986). This builds general product-class knowledge. The focus of the present study is on pre-purchase information search.

Thorson and Rogers (2000) use a similar analysis to distinguish between consumer behavior toward online advertising based on motivation. In analyzing goal directed use, the authors distinguish between serious, goal-directed users (pre-purchase information seeking) and surfers who may be visiting a site for entertainment (on-going information seekers). They suggest that differing types of ads (political versus product or service, for example) elicit different motives and behaviors.

Advertising plays a large, but not exclusive role, in providing facts on specific products and as a key provider of the information needed to reduce difficulties involved in consumer choice (Nelson, 1974). To the degree that advertising affects consumer perception of price, quality, service and differentiation, it has traditionally been particularly successful because consumers tend to make decisions on the least-effort principle, especially if the purchase involves a low risk level.

Figure 1 illustrates typical information flows available to consumers. The weight accorded different information sources in the consumer search function will vary contextually, of course. Where advertising has a significant market power influence and the consumer has established preferences or experience, personal product service information will exert a much stronger influence of the purchase decision than public product/service information. Under the market competition/rational consumer model, public product/service information is likely to become the most important element in the information search.

Figure 1: Information flows supporting the consumer decision process



The issue of the influence of information presentation on consumer cognitive processing must also be considered in analyzing the information search process. Consumer information processing is strongly influenced by the way in which the information is presented.

The typical consumer decision involves comparing several brands, each characterized by a set of attributes (Bettman et al., 1991). Consumers process the information, however, based on the way in which it is organized. For example, if the information is displayed by brand—

the approach typical of traditional mass media advertising—brand-processing, reflecting a high level of market power influence, occurs. If it is organized by attribute (for example, in a *Consumer Reports* style matrix), consumers are likely to use attribute analysis—a more market competitive/rational consumer approach (Bettman & Kakkar, 1977). With a limited number of exceptions such as *Consumer Reports* and government research reports, mass media product information has largely been presented by brand-based advertising that provides information selected by the advertiser on a limited subset of product attributes (Bettman et al., 1991).

The Internet appears to substantially modify the relationship of information flows in the search process. The consumer's ability to access a broad range of information regarding key product or service factors is considerably enhanced. This strengthens the role of the consumer as an independent information seeker and reduces the ability of advertisers to control and focus information flows. Traditional mediated product information has been controlled by manufacturers who produce advertising and press releases regarding their brands and products (Faber et al, 2004). The Internet increases opportunities for consumers to access "third party" information—ranging from blogs to product-oriented sites to brand-focused sites. This enhanced level of control improves the consumer's ability to match product qualities to their preferences or needs and can result in increased confidence in purchase decisions (Airely, 2000). At the same time, however, greater information access can create additional information-processing demands—requiring more effort to make a decision—and risk creating consumer confusion (Beatty & Smith, 1987; Malhotra, 1982).

While the Internet was first seen as challenging traditional media, particularly direct mail, it has proven to be of particular value to retailers of direct products and a challenge to traditional in-store sellers. Agencies and major advertisers were quick to realize the benefit from the synergy of the new technological delivery system and traditional media. Advertising strategy had long calculated the maximum number of impressions and the cross-audience reach using several differing media (Shaver, 1983). What was not immediately obvious was that some consumers could go directly to the Internet to gather information and reduce – or simply substitute - their time spent with the traditional media and its advertising.

Katz (2000) identified "three key – and related – issues for [online] advertisers to tackle: regulation, privacy and consumer control." Katz noted that advertisers have divided media into passive and active. Broadcast media advertising has been deemed passive while print, which requires a deliberate effort by the reader, has been considered active. Clearly, the Internet raises the level of the active media. Katz suggested that advertisers will have to think of ways to more deliberately target consumers than ever before and notes that Internet advertising is far

more measurable than the traditional media and offers more flexibility if targeted specifically.

Stafford, Stafford and Schkade (2004) explored uses and gratifications for the Internet, focusing on consumer motivation. Using a large sample of AOL users, theoretical backgrounds of decision making—specifically media uses and gratifications and diffusion theory—and the Fishbein and Ajzen psychological theory of reasoned action as adopted by Davis, they concluded that uses and gratifications provides a strong analytic framework, particularly since studies of traditional media have used it as a model for media innovations. They argued the Internet is a “social environment” and suggested that this social component may be a driving force for consumers.

Vilpponen, Winter & Sundqvist (2006) examined individual on-line use and referrals to others concerning Internet findings of information. Their work suggested that traditional “face-to-face/word of mouth” information sharing behavior may be extended to the Internet environment.

Given this background, several hypotheses regarding the relationship between online information availability and consumer information seeking are suggested.

The percentage of U.S. adults accessing online services increased from approximately 47 percent in 2000 to 68 percent in 2005 (Pew, 2006 B). With this increase in access, one would expect a complementary increase in the use of online resources for consumer information seeking activities. Therefore:

H1: There will be an increase in the proportion of Internet users engaged in consumer online information-seeking activities between 2000 and 2005.

Adoption theory suggests that behaviors and technologies are adopted primarily based on perceptions of utility or benefit to the adopter. Therefore:

H2: Online consumer information seekers will perceive that online resources enhance their shopping and/or decision-making skills.

Given the tendency for consumers to invest the minimum effort required to achieve their goals in information acquisition, those who find their needs are met by online information sources are likely to spend less time using traditional mass-media information sources. Therefore:

H3: Consumers who rely on online resources for information acquisition will spend less time with traditional media such as newspapers and television.

Research (Beatty & Smith, 1987; Malhotra, 1982) suggests that as the number of alternatives (brands or attributes) about which information is available increases, the level of confusion in consumer analysis increases. Online information seekers have a broader array of information options from which to choose. Therefore:

H4: Consumers making major consumer decisions who rely heavily on online information sources should report higher levels of confusion regarding the information available to them than consumers who rely primarily on traditional information sources.

METHOD

A data set containing 26 variables related to demographics, Internet usage and consumer behavior was constructed from four surveys conducted for The Pew Internet and American Life Project (<http://www.pewinternet.org/>) by Princeton Research Associates. All surveys were based on a national random sample. Dates, sample size and margin of error for each survey were:

| <u>Date</u> | <u>Sample Size</u> | <u>Margin of Error</u> |
|---------------------|--------------------|------------------------|
| March 2000 | 3,533 | +/- 3 |
| March 2001 | 1,501 | +/- 4 |
| December 2002 | 2,500 | +/- 2 |
| February-March 2005 | 2,201 | +/- 2 |

Some variables reflect questions asked in all four surveys. Others were only included in a comparable format in one to three surveys. As a result of the unequal distribution, margins of error range from +/- 1 for the largest sample set (n=9,698) to +/- 4.14 for the smallest sample (n=560).

Sample Characteristics

The total sample was 53 percent female and 47 percent male. Fifty-six percent of respondents were married or living as married; 12.3 percent were divorced or separated; 9.8 percent were widowed and 19.9 percent reported never having been married. The sample was 80.6 percent white, 10.5 percent black, 2.4 percent Asian and 4.1 percent "other." Average age for the sample respondents was 48 years and 4 months. Average educational attainment was fractionally more than 14 years.

The distinguishing variable in this study between those who use online resources for consumer information seeking activities is whether the respondent goes online to "Look for information about a product or service you are thinking about buying." This is the basis for distinguishing broadly between respondents who may access the Internet

for other purposes but do not use it for consumer decision-making and is based on data from the 2000 and 2001 studies.

Questions in the 2005 Pew survey focused on respondents who had purchased a car or made a major financial commitment in the past two years and the role that online information seeking played in their decision. Those questions were used to explore the more specific characteristics of online researchers and their perceived value of Internet resources.

The data were analyzed using SPSS for Windows. Crosstabs were used with nominal and ordinal variables. T-tests and ANOVA were used in analyzing and comparing scale variables.

FINDINGS

A crosstab comparison of respondents who said they access the Internet between the 2000 and 2005 surveys showed an increase from 73.5 percent to 79.0 percent in the respondents who reported they “Look for information about a product or service you are thinking about buying” ($X^2=8.635$, $df=2$, $p=.013$). By gender, the increase in male respondents (79.6% to 82.5%) was not significant ($X^2=2.78$, $df=2$, $p=.249$) while the shift in female respondents (67.2% to 75.7%) was ($X^2=13.892$, $df=2$, $p=.001$). Shifts in online consumer searches by race were only significant for white respondents, most likely because of inadequate sample sizes for other racial groups as Table 1 reflects.

Table 1: Respondents researching products/services online by race

| Race | 2000 | 2005 | X^2 | df | p |
|-----------------|------------------|----------------|-------|----|------|
| White | 1,005 (73.6%) | 979 (80.2%) | 15.58 | 2 | .001 |
| Black | 116 (73.9%) | 88 (69.3%) | .732 | 1 | .392 |
| Asian | 32 (78.0%) | 26 (72.2%) | .554 | | |
| Mixed | 56 (66.7%) | 11 (84.6%) | .420 | | |
| Native American | | 10 (62.5%) | | | |
| Other | | 8 (72.7%) | | | |

The average age of online information seekers increased from 38.06 to 45.52 years ($t=-11.36$, $df=2,240$, $p<.001$).

Hypothesis 1 is supported although the increase in Internet information seeking appears to be largely due to increased adoption among older, white females.

When Internet users who said they go online to research potential purchases were compared to online users who said they did not engage in product research, 68.9% of researchers indicated that “the Internet improved their ability to shop” compared to 27.5% of non-researchers ($X^2=197.18$, $df=8$, $p<.001$). When the same two groups were asked whether the Internet had affected the amount of time they spend in stores, 21.5% of researchers reported decreased time in stores compared to 6.0% of Internet users who do not do online product research. Differences between online product information seekers and non-seekers on this issue were significant ($X^2= 34.85$, $df=4$, $p<.001$).

Of the 905 respondents in Pew’s 2005 survey who reported having made a major decision (purchase of a car or a major financial commitment) within the previous two years, 49.8% reported that online information played a role in their decision-making. Twenty-six percent reported that the Internet was “important” or “crucial” to their decision. More than half the respondents (56.6%) reported that the most important source they found in making their decision was online compared to 37.5% who reported off-line sources as most critical in their consumer decision.

Hypothesis 2, that online consumer information seekers perceive their efforts to enhance their decision-making is, therefore, supported.

The data indicate significant differences in consumption patterns for traditional mass media between respondents who indicated that they go online to “look for information about a product or service you are thinking about buying” and those who don’t. Although most respondents (78.6% of online information seekers compared to 91.3% of non-researchers) reported no difference in the time they spend reading newspapers, 16.4% of information seekers (compared to 4.6% of others) indicated that the “Internet reduced the amount of time” spent with newspapers. The difference is significant ($X^2= 22.691$, $df=4$, $p<.001$). A similar pattern emerged for television viewership with 68.3% of online product information seekers reporting no change and 29.0% reporting decreased usage while 87.2% of non-researchers reported no change and only 11.9% reported a decrease ($X^2= 30.024$, $df=4$, $p<.001$).

Although the data do not directly measure consumer preference for online versus traditional advertising delivery channels, some implications are clear. A number of factors other than the pursuit of consumer information may account for these changes—alternative entertainment choices involving online activities are a strong possibility. Indeed, the correlation between reduced newspaper reading and reduced television viewing ($r=.263$, $p<.001$, $n=858$) is stronger than the relationship between online information seeking and newspaper readership ($r=.070$, $p=.041$, $n=859$) or television viewership ($r=.122$, $p<.001$, $n=861$). Whatever the reasons behind the lower rate of traditional media consumption among online consumers, however, their exposure to traditional advertising messages—and the potential for these messages to influence their decisions—is clearly reduced by alternative media choices. Hypothesis 3 is supported.

Hypothesis 4 was based on concerns that the amount of information potentially available to online information seekers—and issues concerning quality—could result in information overload or decision-making problems. In the 2005 responses of individuals who had made a major life decision within the previous two years, 93.6% of respondents (n=560) indicated that bad information or advice was not a problem in their information search. Similarly, 72.7% of respondents indicated they felt they found “all the information needed and felt it was manageable.” Only 13.4% of respondents felt they were “overwhelmed” by information and 11.1% felt they were missing important information. Respondents who felt the most important information source for their decision was “offline” were more likely to indicate that bad online information was not a problem ($r=.134$, $p=.001$, $n=560$). The data do not support the hypothesis that online information searches are more likely to complicate decision-making as a result of information overload.

DISCUSSION

Several threads emerge from this study that have implications for understanding the impact of digital online information access on the evolving relationship between consumers, marketers and traditional mass media.

There is a clear shift in the power relationships regarding information relevant to consumer purchase decisions from marketers to consumers. In the traditional marketing paradigm, marketers—whether pursuing a market power strategy of building brand or providing market competitive information content—controlled much of the information available to the consumer. Competing sources of information were limited and consumer access to them often involved more effort than many consumers were willing to expend. Online access, however, allows the consumer to identify the information they need—whether generated by the marketer, unrelated organizations, bloggers, or information portals—simply and easily from home.

Many online consumers find the process easy and surprisingly useful. Digital access to a broader array of—and perhaps, more objectively balanced—information inputs would seem to be an ideal way for consumers to reduce risk when facing a significant consumer transaction. The problems of sorting reliable information from unreliable information and of filtering out relevant information from the broad choice of sources available online appear to be perceived as manageable by most consumers. Most consumers who do research online believe it saves them time and makes them better shoppers.

Additionally, the information is more likely to be available in—or convertible to—a format that allows the sort of feature-to-feature processing preferred by consumers who are more concerned about best

value (market competition) decisions than about brand-based (market power) decision-making.

Given these circumstances—and the perception by many of those engaged in online information acquisition that the Internet improves their ability to shop and reduces their time spent in stores—one might expect rapid adoption of online research for consumer buying decisions. The years examined, 2000 to 2005, however, saw only modest adoption rates by groups other than white females. Minority groups—across all categories—remained significantly underrepresented among online consumer researchers, though the survey results may not be accurate due to under-representation in the sample.

In explaining this and developing strategies to leverage online product information, one must start with the notion that focused pre-purchase information searchers represent a niche market for information. So powerful are the influences of personal experience, word of mouth, personal product knowledge and least-effort inclinations, that purposeful information search activity plays a pivotal role in only 15% to 30% of consumer decisions. Although this represents a minority of consumers, the numbers are too large to be reasonably ignored by marketers—or by media businesses engaged in providing consumer information from which online information seekers appear to be turning their attention.

In the balancing act between “market power” and “market competition,” the easing of access to the information required for consumers to make value-based choices implies reduced effectiveness for the “market power” paradigm. It might be argued that rational consumer decisions based on an informed judgment about “value” rather than “image” are likely to represent a social good. Research, however, indicates that only a small proportion of those involved in making significant consumer decisions actually pursue “market competition” style decisions. From a marketer’s point of view, those who rely on branding and personal experience should continue to be an appropriate audience for “market power” advertising. For that smaller proportion of the market that may have preferred feature-based, “market competitive” decision-making but found it too difficult to manage in an environment where most information available through traditional mass media (and almost all of the easily available information) was brand-based and controlled by the advertiser, the online environment provides enhanced opportunities.

There are, one might argue, opportunities for marketers to more effectively reach “market competitive” information seekers and for media organizations to develop new revenue opportunities. Today, most traditional media outlets derive an increasing proportion of their revenues from online advertising, frequently advertising that is related to their print or broadcast content. Traditional print and broadcast outlets are most effectively vehicles for brand-focused advertising—where features and content are selected and controlled by the

marketer—but online content is easily capable of providing the kinds of comparative content sought by the “rational consumer.”

Why should marketers give up their traditional control over which features/ attributes they prefer to tout regarding their product and which they prefer to ignore? Because providing—and paying for media outlets to provide access to the information to that minority of consumers what want/need the information to make a purchase decision—provides enhanced access to a significant potential market if the product is truly differentiated in terms of features or value. If the product is essentially undifferentiated and is being marketed on brand only, market competitive advertising vehicles won't be effective; but, those who are pursuing value-based decisions will probably sort that out in the process of information gathering.

Concerns that providing information sufficient for market competitive decisions will harm the existing market are not likely realistic. Consumers who are ready to make decisions based on experience, brand loyalty, “word of mouth” or other factors are unlikely to pursue or care about feature-comparative advertising.

For media outlets, the development of accurate, feature-based online advertising represents an opportunity to attract additional audience to their web site and generate a new category of advertising revenue from existing clients. The value that the media organization brings to the relationship is an assurance of accuracy (to the consumer) in presentation of the information through a branded web site and an assurance of objectivity to the advertiser. Marketers with confidence in their product are likely to prefer this sort of venue to more disorganized or biased consumer data that might be found on other third-party sources.

These issues would benefit from further exploration of the motives and results/gratifications obtained by online consumer information researchers. This study is limited by the framework of the original questionnaires and, as a result, measures only the most superficial elements of responses to online research and the reasons for Internet use to affect the consumption of television and newspaper content. The impact on information search activities in traditional mass media vehicles is in need of particular attention.

Focused, pre-purchase information search is likely to remain a niche—though a significant niche—factor in consumer decision-making behavior. The Internet represents a shift in the relative power of marketers and consumers in the information acquisition process. This shift provides an opportunity for marketers to adopt more effective approaches to this consumer segment and provides media outlets new opportunities for leveraging their branded credibility and objectivity to develop new revenue opportunities.

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