Marketing on the Web:
Empirical Studies of Advertising and Promotion Effectiveness

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To my parents Mom, Dad and Yvonne

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Stockholm, April 10, 2001

Micael Dahlén

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INTRODUCTION

This thesis consists of five articles. Their common denominator is advertising and promotion on the Internet. Internet marketing is a new and under-researched area. The aim of the thesis is to apply existing advertising and consumer behavior theory in order to advance the Internet marketing field. There are many expectations concerning the impact of the Internet. A goal in the thesis is to refine the expectations by defining and posing central questions and, to some extent, answering them. Furthermore, the articles give contributions to the theoretical fields of advertising and consumer behavior by testing and advancing theories in the new Internet setting.

The growth of the Internet is remarkable, both in terms of consumer adoption (Eighmey and McCord, 1998) and business expenditures (IAB, 1999). The Internet population has increased 25-fold over the last five years, and is expected to comprise nearly 500 million people by the end of 2002 (Nua, 2000; Cyberatlas, 2000). Web advertising has increased 20-fold between 1996 and 2000, surpassing the 4 billion dollar mark in record time (IAB, 1999). According to NRF/Forrester Research (2000), monthly consumer online purchases in the US sum up to more than 4 billion dollars. Ecommerce will account for 8.6 percent of worldwide sales of goods and services by 2004 (Forrester Research, 2000).

The figures illustrate that the Internet is a revolution in daily consumer and business life (Achrol and Kotler, 1999; Sheth and Sisodia, 1999). Soon, all consumers can be reached through this marketing channel, with more accuracy and cost efficiency than ever before (Hoffman and Novak, 1996; Quelch and Klein, 1996; Chang, 1998). Companies come and go, but the Internet has come to stay and marketers can hardly avoid it (Achrol and Kotler, 1999).

Although awareness is high that the Internet is an important medium and marketing channel, company performance on the Web is generally poor. The well-known rise and fall of Boo.com is one obvious example. Striking is also the fact that the "Internet flagship" Amazon.com is still not showing profits. This raises the question of whether doing business over the Internet is a bad idea, or if the failures of many companies to meet expectations depend on badly executed marketing. Many authors contend that there is a great lack of knowledge concerning how to conduct marketing in this new environment. Based on consumer surveys, AT Kearney (2000) conclude that online retailers are missing out on 6.1 billion dollars in additional revenue opportunities due to insufficient investments in user testing and Web site design. According to Reichheld and Schefter (2000), Web sites on average achieve less than 30 percent of their full sales potentials with each customer. Several other studies indicate that Web

marketers' understanding of and adaptation towards Internet users is poor (cf. Jarvenpaa and Todd, 1997; Griffith and Krampf, 1998; Shelley Taylor and Associates, 1999). Moreover, Web advertising has been criticized for being ineffective (cf. Doubleclick, 1996; Hoffman and Novak, 2000).

Similar to practitioners, it seems as if academics still have a lot to learn. Sheth and Sisodia (1999) suggest that "marketing's lawlike generalizations" need to be reconsidered in the new Internet era and the authors call for more research. The need for more research is recognized by several prominent academics. More specifically, the need for new appraisals of advertising performance is emphasized (cf. Hoffman and Novak, 1996; 1997; Sheth and Sisodia, 1999; Mahajan and Venkatesh, 2000; Rodgers and Thorson, 2000; Pavlou and Stewart, 2000), as well as the need for research on design of and consumer reactions to Web retail interfaces and promotion (cf. Alba et al, 1997; Peterson et al, 1997; Mahajan and Venkatesh, 2000). Thus, there is much to be done in learning about the effects of and prerequisites for marketing on the Internet.

The Internet and its marketing opportunities clearly make an important field for research. Due to the major impact on both consumers and businesses, the interest in and potential value of research is substantial. This is particularly evident when considering the poor performance that is common in Web business as of yet. Furthermore, there is still a great lack of marketing theory in the area. That is the starting point of this thesis. The main focus is advertising and promotion. These functions are an important part of the marketing process, and are crucial to marketing (and commerce) on the Web.

We will now treat important issues within the field of Internet marketing. We focus on the literature that deals with the impact of the Internet on marketing, more specifically the differences that the Internet presents. Firstly, we review literature on the Net as a new medium and marketing channel. Building on this, we progress to the issue of new marketing – what are the marketing implications from the growth of the new medium and marketing channel? This in turn raises the question of whether we should expect a new type of consumer behavior, which is treated thereafter. Following this theoretical discussion, the big picture of the thesis is presented, in which the five articles are related to each other and the field in general. The thesis's contributions and suggestions for further research are discussed.

A new medium and marketing channel

Many authors suggest that the Internet is a new kind of medium and marketing channel. The literature provides examples of several features that are claimed to be new.

According to Berthon et al (1996), the following factors make the Internet unique: *the customer has to find the marketer*, and this to a greater extent than in other media, *initial presence on the Net is relatively easy and inexpensive to establish and international by definition* and *the Net provides a more level playing field*: access opportunities are essentially equal for everyone regardless of size, share of voice is essentially uniform – no player can be drowned out. The authors also remark that advertising costs are altered as variable costs are virtually zero (not dependent on number of hits on the site), setup costs are minimal and there are no barriers to entry.

Peterson et al (1997) identify the following Internet characteristics*: ability to inexpensively store vast amounts of information at different virtual locations, availability of powerful and inexpensive means of searching, organizing and disseminating such information, interactivity and ability to provide information on demand, ability to provide perceptual experiences that are far superior to printed catalogs* (though not as rich as personal inspection), *ability to serve as a transaction medium* and *ability to serve as a distribution medium for certain products.*

Chang (1998) contends that the interactive nature of the Internet provides several benefits to marketers and consumers that traditional media do not. Most important among these is the ability to effectively segment and target markets, as the Internet is more flexible and measurable than traditional media. The success and revolution of the Internet is considered to be due to the potential for *up-to-the-minute information for sellers and buyers, a less expensive and more expansive form of advertising and distribution, customization of advertising and services* and *the ability for businesses to track the success of marketing practices.*

Quelch and Klein (1996) mention opportunities of *local adaptation and customization, possible for niche products to get economies on a global scope* and the Internet as a *new, efficient medium for market research* (e.g. on-line surveys, bulletin boards, web visitor tracking, advertising measurement, customer identification systems, e-mail marketing lists). Chatterjee and Narasimhan (1994) argue that as a distribution channel, the Web possesses *increasing irrelevance of distribution intermediaries* and *the capability not only to keep pace with market change, but accelerate it.* Hair and Keep (1997) contend that the Internet will bring *improved market information for buyers and sellers, increased interactivity and interconnectivity between buyers and sellers, additional technology-based consumer services* and *an increased emphasis on customer loyalty.*

Several authors emphasize the possibility for not only one-way communication, but also two-way (between buyer and seller) and three-way (adding communication between consumers) communication (cf. Hoffman and Novak, 1996; Armstrong and Hagel, 1996; McWilliam, 2000). This has important implications for the relationships between marketers and consumers and the role of marketing, as there are thus many different market actors that may take the power and initiative in the marketing process.

As can be seen, the Internet offers many new features that in themselves or in conjunction should make the Web unique. Some are subject to debate, e.g., whether (company or marketing budget) size matters (an important aspect is branding, which is treated more thoroughly later in the thesis) and whether consumers become more active and less loyal (these aspects are also given more attention later). Among the most important new features of the Web are the potential for interactivity and flexibility. Thus, both consumers and marketers are given more freedom of action. This gives exciting new possibilities, but also puts higher demands on marketing. As a result, the opportunity and need for research increase.

New marketing?

Venkatesh (1998) describes the emerging cyberscape as a disjuncture with social memory. The convergence of communication and information technologies has created possibilities that were unthinkable a few years ago. The author characterizes the cybermarketscape as a revolutionary moment in the history of commerce, where the new market actors carry the burden of constructing the future.

As the Internet offers important new features, many authors come to the conclusion that new marketing is called for. We will now investigate different authors' arguments that traditional marketing (i.e., marketing as we know it) can not or should not be exercised on the Web.

Hoffman and Novak (1996) foresee a dramatic change in marketing. "For several years, a revolution has been developing that is dramatically altering this traditional view of advertising and communication media", the authors argue (Hoffman and Novak, 1996; p. 50). Consumers will gain greater control, as "in that new communication model, consumers can actively choose whether to approach firms through their Web sites and exercise unprecedented control over the management of the content with which they interact" (Hoffman and Novak, 1996; p. 65).

The reasoning is continued in Hoffman and Novak (1997), where the authors write about the need for a new marketing paradigm: "Because the World Wide Web presents a fundamentally different environment for marketing activities than traditional media, conventional marketing activities are being transformed, as they are often difficult to implement in their present form. This means that in many cases, these marketing activities have to be reconstructed in forms more appropriate for the new medium" (Hoffman and Novak, 1997; p. 43). The Web transforms the marketing function through the many-to-many communication abilities, and the unstructured information flow. The role of marketing, in the authors' opinions, moves into a more altruistic cooperative form. Consumers "own" their own information, which is a valuable resource. This is an important powerbase and shifts channel power towards the consumers.

Shih (1998) pictures cyberconsumers as tailors or authors, who are in control of the information they seek and process. The consumers have the same power that content providers previously had. The marketing process will thus be in the hands of the consumers, and will differ between individuals.

Berthon et al (1996) describe the Web site as being something of an electronic trade show and virtual flea market – visitors stroll around casually and decide whether to interact or not. The central and fundamental problem, just as for conventional trade show and flea marketers, is to convert visitors into leads or customers, the authors contend. The Web site can be used to move customers and prospects through successive phases of the buying process. The authors present a model of conversion efficiency, suggesting that Web marketing efforts should be evaluated based on how well Internet users are converted to site visitors and, in the end, site shoppers. This is rather symptomatic of the view that Web marketing should encompass traffic generation, Web site interaction and persuasion, and sales.

The issue of new marketing is interesting from three aspects. Firstly, is there really a need for new marketing? Are old marketing rules not valid in the new context (the question is given much attention in the various parts of the thesis)? Secondly, should all Web marketing be designed with the same goals, as suggested by e.g. Berthon et al (1996) (this issue is treated closely in a later part of the thesis). Thirdly, the central theme of the new marketing process seems to revolve around increasing consumer power, control and activity. Will this really be the case? Let us look further into this last question now.

A new type of consumer behavior?

One of the most important underpinnings in the understanding of e-business is the notion of changing consumer behavior. Practitioners often-times base their

business models on the conventional wisdom that consumers will behave differently in the wired economy. Most notably, consumers are believed to become more active and rational, take initiative and engage more in various marketing activities.

Several authors have speculated on consumers' changing roles in the Web marketing process. Sinha (2000) suggests that buyers will be more knowledgeable. They will use the Internet to "see through" the costs of goods and services. According to the author, Internet consumers will be rational and mainly engage in reasoned actions. Active and extensive analyses of the supply of different products will be commonplace in consumer behavior. Similarly, Alba et al (1997) view consumers primarily as information seekers. A key factor in the success of interactive home shopping, the authors propose, is the ability to facilitate consumers' queries and comparisons.

Prahalad and Ramaswamy (2000) contend that consumers are the agents that are most dramatically changing the industrial system as we know it. Because of the Internet, consumers are increasingly engaged in active and extensive dialogs with product manufacturers. Furthermore, the dialogs are no longer controlled by the companies as, according to the authors, consumers move out of the audience and onto the stage. Thus, consumers initiate and control the marketing process.

Slywotzky (2000) asserts that consumers will shift from product takers to product makers. Consumers thus become more sophisticated and take the initiative in the marketing and design of products. Hoffman and Novak (1996; 1997) follow the same line of reasoning in identifying the power shift from companies to consumers. Consumers increasingly become aware of their market power and exercise control over the marketing process.

The driving force behind these changes in consumer behavior can be found in the following citation, which is a good summary of the conventional wisdom: "The Net not only arms buyers with more information than they've had in the past, it also reduces the search for that information to a few effortless keystrokes" (Sinha, 2000; p. 44). The amount of information and ease of retrieving information should make consumers more active and engaged. However, this is contradicted in an empirical study by Hoque and Lohse (1999). They prove that keystrokes are anything but effortless. On the Web, one tenth of a second, the time it takes to click on the mouse or scroll further down a page, may be enough to offset further consumer search. The authors show that consumers search less in the Web version of the Yellow pages than they do in the paper version. This indicates that consumers are not more active on the Internet.

The question then arises, should we really think of a new consumer behavior? Does consumer behavior theory need to be revisited? Certainly, practitioners and academicians seem to think so. However, little evidence has yet been put forth that supports the idea of a new consumer. The study by Hoque and Lohse (1999) suggests that consumers may not behave so differently on the Web. Research on consumer behavior on the Internet is therefore called for, and that is the focus of this thesis. The stance taken is that existing consumer behavior theory is very useful in explaining and predicting consumer response to Web marketing activities.

The big picture of the thesis

The articles in this thesis are aimed to contribute to the Internet marketing literature. They question and nuance ideas presented in the field. Consumers *can* be more active. But should we expect them to *be* more active? Should marketers encourage them to be more active? The relation is now determined by the individual consumer. But are there law-like generalisations that may be fruitful in tailoring the Web marketing efforts? And how much power in the relationship does actually the marketer have?

The central question which brings the articles together is, should marketing be altered? The articles apply existing marketing and consumer behavior theory in the new medium and marketplace. What is learned and proposed is that marketing should not be altered, but rather accelerated and amplified – it is more important than ever to exploit the implications of advertising and consumer behavior theory.

Much of marketing practice as we know it is a compromise. Stores and traditional media only allow a limited degree of space for variation and elaboration (this is discussed in the *Real Consumers in the Virtual Store* article in the thesis). On the Internet, many of the restraints on variation and elaboration are loosened. This means that marketing can be conducted in ways previously not possible. This does not mean that marketing is new, since it may utilize established theory – only, the theory has been hard to put to practice before now.

On the Internet, the number of competing companies and products increase tremendously, as does the amount of information. Consumers in a situation like this tend to reduce their efforts, in order to escape from information overload, as their search costs will also increase (Hoque and Lohse, 1999). Thus, consumers may be less active and process/scan information more quickly on the Internet (this is discussed more in-depth in the *Escaping the Web* article in the thesis). The combination of harder-to-attract consumers, increasing competition and a

faster medium makes marketing harder and more important than ever before. Hence, utilizing existing marketing theory and exploiting the law-like generalizations to its full potential may be necessary (this is discussed with focus on attracting consumers in the *To Click or Not to Click*, *Informing and Transforming on the Web* and *Banner Ads through a New Lens* articles).

The articles

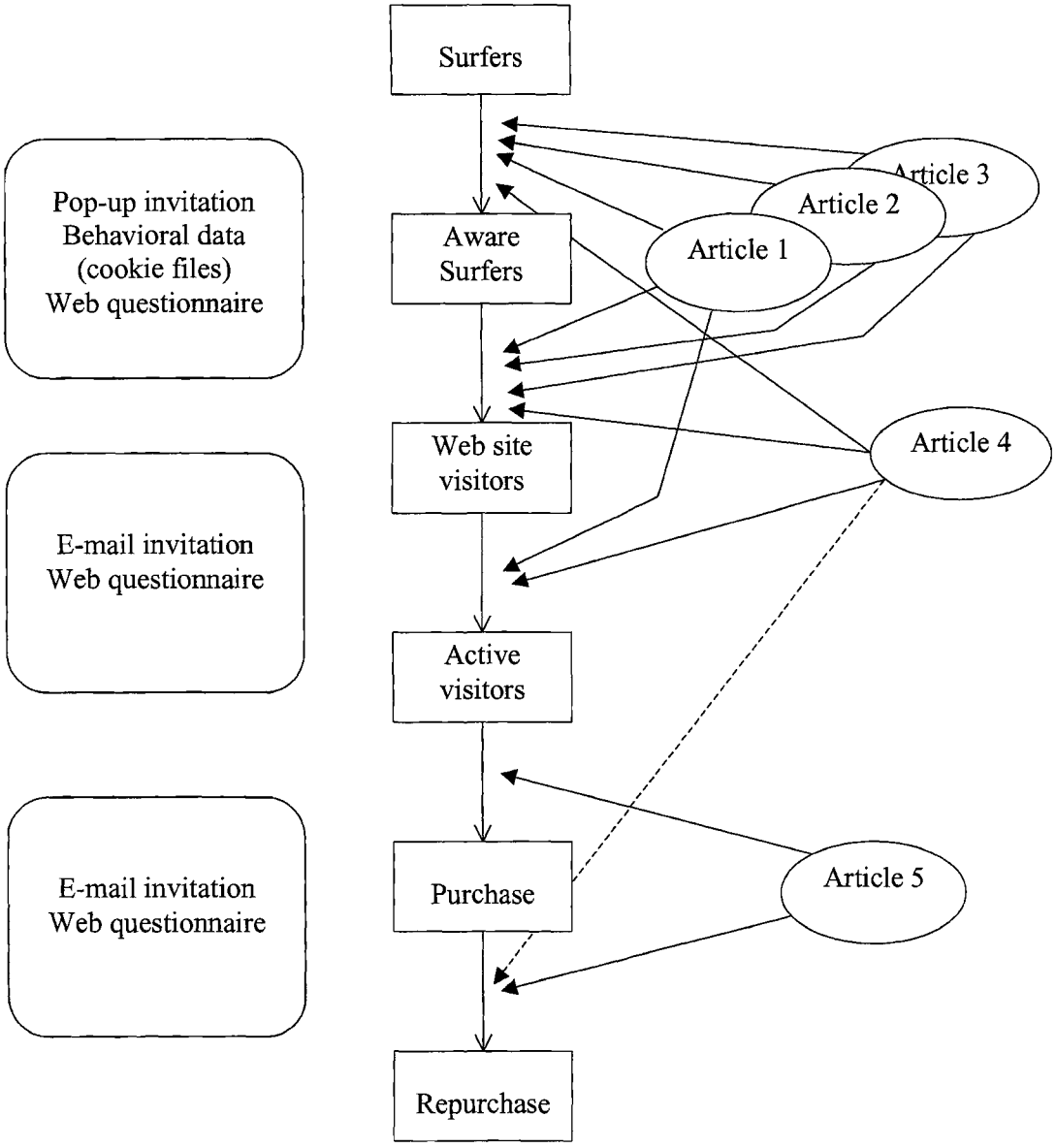
The focus of the five articles and the relationships between them are illustrated in Figure 1. For this purpose, we use an adaptation of the conversion efficiency model in Berthon et al's (1996) seminal article. The model pictures the crucial steps in Web marketing. The first step is to attract Web users outside of the own Web site. In the second step, consumers are converted into site visitors. The third step is to make visitors active and engaged with the company or product. In the fourth step, active visitors are converted into buyers. The fifth step, finally, is to turn buyers into (loyal) rebuyers.

The first three articles in the thesis are concerned with steps one and two. They focus on the attraction of consumers outside of the Web site. This entails fulfilling communication goals outside of the Web sites, with banner ads functioning as ads in their own right. The articles also investigate the conversion of consumers into site visitors. Articles 2 and 3 are solely devoted to investigating advertising effects outside of the advertiser's Web site. Article 1 goes one step further and analyses the communication effects of a Web site visit (measured as banner ad clickthrough). All three articles are based on behavioral data matched with survey data.

The fourth article analyses Web usage and response to Internet advertising in general. Similar to the previous articles, it investigates consumers' susceptibility to banner ads (measured as ad awareness, brand attitude and clickthrough – the first two steps in the model). Furthermore, it treats consumers' Web activities and site visits in general (step three in the model). Revisits to Web sites is considered an important aspect of Internet usage behavior. Making an analogy between revisit and repurchase, we draw a dotted line to entail the last step in the model. The methodology in the article includes e-mail invitation to a Web questionnaire for measurement of steps three and five and behavioral data matched with survey data for the first two steps.

The fifth article only concerns consumer activity *on* the Web site. It focuses on shopping behaviors in a Web retail environment. Thus, the last two steps in the model are of interest: purchase and repurchase. Data were collected with e-mail invitations of an Internet retailer's customers to a Web questionnaire.

Figure 1.


Surfers
Pop-up invitation
Behavioral data
(cookie files)
Web questionnaire
Aware
Surfers
Article 1
Article 2
Article 3
Web site
visitors
Article 4
E-mail invitation
Web questionnaire
Active
visitors
E-mail invitation
Web questionnaire
Purchase
Article 5
Repurchase

Brief summaries of each article follow below.

Article 1, *To Click or Not to Click*, focuses on product involvement. 1753 Internet users participated in a study where their reactions (clickthrough behaviors) were unobtrusively observed (using cookie files) and matched with their answers to a Web questionnaire. The study investigated how banner ads work for high and low involvement products, respectively, by measuring clickthrough and communication effects of clickthrough. The article shows that high involvement products are better suited for attracting and engaging consumers on the Web, as consumers to a higher extent click on banner ads for these products. Furthermore, clickthrough is evidenced to enhance communication effects. For high involvement products, Web sites are useful for enhancing brand attitude and brand purchase intention, as consumers need to interact with the company and product and there can be aided in the complex decision process. Banner ads should work as transporters to the target Web site, and clickthrough should be the goal for banner ads. For low involvement products, banner ads in themselves should be the primary communication tool. The study shows that consumers are less inclined to click on banners for low involvement products and Web sites (clickthrough) do not seem to enhance brand attitude and brand purchase intention. There is less need to engage in interaction with the product or company. The primary goal for banner ads should thus be impressions, rather than clickthrough.

Article 2, *Informing and Transforming on the Web*, compares functional products (primarily negative purchase motives and rational decision criteria) and expressive products (primarily positive purchase motives and less rational decision criteria). 16500 respondents' behaviors (impressions and clickthrough) were matched (cookie files) with their responses to a Web questionnaire. The study analyzed how Internet users reacted to banner ads for functional and expressive products, respectively, by measuring clickthrough and communication effects of banner ad impressions. It is shown that product type has important effects on consumer activity and response to Web advertising. Consumers were found to be more inclined to click on banner ads for functional products than for expressive products. Functional products are subject to more information search and explicit product comparisons, resulting in the potential for more prepurchase activity on the Internet. Once transported to the Web site, consumers can inform themselves about product features and make comparisons. Emotional shift theory stipulates that effective ads should display negative emotions and shift to at least a neutral state of emotions. This is hard to accomplish in a simple banner ad, and the study shows that banner ads in themselves do not enhance brand attitude for functional products. Expressive products are subject to less consumer activity on the Internet. Consumers do not click on banner ads to the same extent. As only positive emotions need to be

transmitted for expressive products according to emotional shift theory, banner ads should work in their own right, enhancing brand attitude. This is also found in the study. Further, the results indicate that those who click on banner ads for expressive products tend to already have a favorable disposition towards the brand. For these products, Web sites work best post purchase, when consumers activate themselves as part of the transformation process.

Article 3, *Banner Ads through a New Lens*, focuses on the impact of brand rather than product. The behaviors (impressions and clickthrough) of 16500 Internet users were matched (cookie files) with their responses to a Web questionnaire. The study investigated how brand familiarity affects response to banner ads over time. This was done by measuring clickthrough and communication effects of multiple banner ad impressions for familiar and unfamiliar brands, respectively. Building on theory on brand familiarity, tedium and habituation, the article tests whether banner ads wear in and wear out with repeated exposures. The collected data show that familiar brands have high initial clickthrough rates, but they deteriorate quickly with repeated exposures. The opposite pattern is found for unfamiliar brands. This suggests that expectations and evaluations of banner ad effectiveness should differ with respect to brand familiarity; familiar brands wear out quickly and should generate immediate response whereas unfamiliar brands need exposures to wear in. There were no communication effects from mere banner ad impressions for either brand type. However, when looking only at novel Internet users, banner ads seem to work as ads in themselves. The reason for this is discussed in terms of Internet user experience and its impact on consumer receptiveness to Web marketing (which is developed further in the fourth article). The effectiveness of banner ad impressions also is found to differ between familiar and unfamiliar brands.

Article 4, *Escaping the Web*, takes on a broader view of Web marketing, and investigates how Internet user experience affects consumer activity and the effectiveness of Web advertising. Data from three different studies are used. The first study consisted of a Web questionnaire with 413 respondents, randomly drawn from the customer database of a Swedish ISP and contacted via email. The other two studies had the same methodology as the previous articles, matching Internet users' behaviors (cookie files) with their responses to a Web questionnaire. Drawing from theory on consumer experience, automaticity and involvement with the medium/advertising context, the article tests whether consumers become harder to attract on the Net as they become more experienced. The first study indicates that experienced consumers tend to be more focused, have shorter Internet sessions and visit fewer new Web sites. Data from the second study shows that experienced users exhibit lower ad awareness, whereas the third study indicates that they are not affected by banner ad

impressions. The article suggests that Internet user experience is an important factor to consider in assessing Web advertising effectiveness. Furthermore, as more and more Internet users become experienced, marketers need to think of new ways to communicate with consumers on the Web.

Article 5, *Real Consumers in the Virtual Store*, focuses on promoting and selling to Web site visitors, i.e., consumers already attracted to the Web site. 368 respondents participated in a Web questionnaire. They were randomly drawn from the customer database of a Swedish Internet retailer and contacted via email. Environmental psychology theory is the framework for the article, which contends that consumers are highly impressionable – a potential not exploited on the Net. Internet shoppers to date have not been very profitable, as they exhibit what seems to be a rather rational, hard-to-influence behavior. The study shows that this does not seem to depend on consumer characteristics, rather it is the result of a poorly designed interface. The respondents were found to be more well-planned, make fewer impulse and goal related purchases on the Internet than otherwise. Furthermore, a vast majority of the respondents indicated that they are not rational shoppers. The article argues that Web retailers need to apply existing marketing theory and knowledge to better exploit the Internet's potential and, by doing so, catch up with and eventually surpass real-world marketing.

Contributions

The aim of the thesis is to advance theory on Internet marketing by applying consumer behavior and advertising theory, thus enriching this new and under-researched area. Theory and expectations on Internet marketing need to be refined. Questions such as, do banner ads work, and are consumers more active, are too blunt. The present research seeks to define and raise more advanced and relevant questions. By posing these questions, and presenting some answers, the understanding of Internet marketing may be enhanced.

The present research makes a contribution to the various theoretical fields applied in the studies. New evidence is given that the theories work. Furthermore, the theories are advanced with analyses of the ways in which the factors behave and influence consumers more specifically in a totally new setting.

A primary goal with the thesis is also to equip managers with well-founded rules-of-thumb for acting in the new marketing channel. The research findings will give important aid concerning pricing, evaluation and design of advertising and promotion on the Internet. The analyzed factors are easy to identify and act upon and are highly relevant for all products.

More precisely, the thesis investigates the effectiveness of Web advertising and promotion. The research analyzes how important banner ads and Web sites, respectively, are and what potential they have. Several dynamic aspects are considered, such as when in the purchase process ads are effective, how long specific ads are effective, and how consumer behavior and marketing response changes with experience. The studies also consider differential aspects with respect to product and brand.

Further research

The most important lacking aspects in the thesis are those of communication and communicative interactivity on the Web site. The literature on this is very limited, mainly focused on length and number of visits and attitude toward the Web site. Remaining are investigations of the impact of the Web site and various site components on communication objectives. Methodology similar to that used in banner advertising research should be applied on Web sites.

We need to learn more about how effective Web sites are in general as components in the marketing mix. Furthermore, theory needs to be advanced on the impact of the Web site depending on product and brand. Focusing on Web sites from the opposite angle, we can learn what role they play and what potential they have depending on when in the purchase process or when in the "surfing process" consumers visit them. These are fundamental questions concerning the effectiveness of Web sites per se.

Relating to Mahajan and Venkatesh's (2000) call for marketing modeling for e-business, models taking the consumers' perspective would be fruitful in learning about the effectiveness of Internet marketing. There is a need for consumer-oriented equivalents of Berthon et al's (1996) conversion efficiency model. Different paths can be identified for how consumers move about on the Internet, searching for information, being attracted by something, interacting with content in various environments. Crucial steps and elements can be distinguished, thus recognizing the importance of various marketing efforts such as banner ads and Web sites under different circumstances.

Loyalty is an under-researched area in Internet marketing. Reichheld and Schefter (2000) point to the notion that loyalty is one of the most important factors in the success of e-marketers. The *Escaping the Web* article in the thesis suggests that consumers tend to limit their use of the Net to a few well-known sites, thus becoming harder and harder to attract to other Web sites. Adamic and Huberman (2000) argue that the Internet is characterized by winner-takes-all markets and they present empirical evidence that 5 percent of the Web sites

capture 75 percent of the user volume. More research is needed on the drivers of loyalty and repeat visits. These include factors such as force of habit and timing of visits, and satisfaction and Web site performance.

In light of the results in *Escaping the Web*, there is an urgent need for research on new and alternative ways of Internet advertising. Opportunity networks, interstitials, Web commercials and other new advertising formats have yet received little attention. Also, interactive banner ads and content-integrated advertising needs testing and evaluation. As technology and user experience is continuously evolving, research on Internet advertising needs to be regularly updated and advanced.

Real Consumers in the Virtual Store argues that there is great potential in enhancing Web retail sites. There is a lack of research experiments concerning shopping interactivity on the Web site (or even outside the Web site). Traditional promotional tools need to be applied and updated in the new retail environment. Overall, interactivity in the purchase process (as opposed to interactivity more or less for its own sake) has been greatly neglected in research.

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To Click or Not to Click: An Empirical Study of Response to Banner Ads for High and Low Involvement Products

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INTRODUCTION

The Internet is the fastest growing medium of all times and electronic marketing posits the biggest threat and opportunity to almost every industry in the 21st century (Eighmey and McCord 1998; Achrol and Kotler 1999). As consumers move online, so do advertisers. Advertising expenditures on the Net increased by 121 percent to a total of 4 billion dollars in 1999 and are likely to increase more than twenty-fold (IAB, 1999b, 1999c). As the Internet continues to take an ever larger share of the marketing budget, the question of how to design and evaluate Web advertising becomes crucial (Ducoffe 1996; Hoffman and Novak 1997a; Dreze and Zufryden 1998). In this article we will try to answer the question, is there one best marketing model on the Internet?

Web marketing and advertising mainly takes two forms: banner ads and target ads (Web sites). The former are generally seen as traffic generators to the latter (Hoffman et al. 1995; Doyle et al. 1997; Chatterjee et al. 1998). The body of research on both banner ads and target Web sites is growing. Empirical studies have investigated the impact of banner ad impressions (Briggs 1996, 1997; Briggs and Hollis 1997) and what affects clickthrough (Doubleclick 1996; Chatterjee et al. 1998). Research has also been performed on Web site design (Dholakia and Rego 1998; Palmer and Griffith 1998a, 1998b; Raman and

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Leckenby 1998; Hoque and Lohse 1999) and perceptions of Web sites (Eighmey and McCord 1998; Ghose and Dou 1998; Chen and Wells 1999). However, little attention has been given to the connection between banner ads and target sites and the conditions for different types of products.

Should the Web marketing model be the same for all products? Should banner ads be considered only as passive transporters of consumers to the active target ads (cf. Chatterjee et al. 1998; Doyle et al. 1997)? Empirical studies have proven that banner ads may be effective without clickthrough (Briggs 1996, 1997; Briggs and Hollis, 1997). Traditional communications research also tells us that different modes of communication are suited for different products, e.g. high and low involvement products (cf. Rossiter and Percy 1987, 1997; Vaughn 1980, 1986). Consumer response to advertising has been evidenced to differ between high and low involvement products (cf. Laurent and Kapferer 1985; Petty et al., 1983; Celsi and Olson 1988). In this article we will investigate if banner ads should work as transporters to target ads, differentiating between high and low involvement products.

Next, we will review the literature on Internet marketing and challenge some of the existing logic. We will then proceed to examine the theory pertaining to the effect of involvement on consumer response to advertising, which will be the framework for our study. Based on this, we develop relevant hypotheses on the effects of banner ads and clickthrough for high and low involvement products. These are tested in an empirical study. Based on the findings, we discuss implications for marketing practice and further research.

MARKETING ON THE INTERNET

Venkatesh et al. (1997) and Venkatesh (1998) discuss the concept of the new marketing environment offered on the Internet: "What is the attraction of this cyberscape to the agents of marketing? Because cyberscapes are virtual, nevertheless non-trivial, they provide an alternative to the saturated world of traditional markets. As discussed earlier, the cyberscape has become the global marketscape par excellence and has changed our conventional notions of time and space and human exchange" (Venkatesh 1997, p. 23). A picture is painted of a cybermarketscape, which at first mirrors the physical marketscape and later on transcends it.

Hoffman and Novak (1997b) conclude that this new marketscape calls for a new marketing paradigm. Consumers are more active on the Internet and will initiate dialogues with companies and other consumers (Hoffman and Novak 1996). A central requirement of the marketing process is to be receptive to and actively engage the customers. As a consequence, advertising on the Internet will be demand-driven (Sheth and Sisodia 1999). Berthon et al. (1996) argue that the company's Web site is the most important element in the marketing mix, and that the goal should be to attract Internet users to the site and convert them into buying customers. Quelch and Klein (1996) present a similar model, where all interaction with customers should be undertaken on the Web site.

The combination of the notion of active Web customers and the notion that the interaction with customers should be handled on the Internet results in the view of banner ads as traffic generators to target Web sites (Hoffman et al. 1995; Chatterjee et al. 1998). Banner ads thus cannot be priced based on traditional criteria such as GRPs, but should be treated as a step towards converting Internet users into target site visitors (Hoffman and Novak 1997a).

However, it may not be suitable to handle all marketing functions over the Internet for all products (Peterson et al. 1997; Alba et al. 1997). Thus, it may not be appropriate to conduct all consumer interaction on the Web site. Furthermore, empirical studies have shown that Internet users may not be so active as previously thought, but act rather passively in response to marketing stimuli (Dahlén 1997; Dahlén et al. 2000). Hence, the objective for all products ought not be to transport Internet users via banner ads to target sites.

In a survey of American companies, Nail et al. (1998) found that for low price products the majority of the Web marketing budget was spent on banner ads rather than sites. The opposite holds true for high price products, where target sites constitute the main part of the budget. Doyle et al. (1997), discuss the use of banners, destination (target) sites and micro-sites (smaller, campaign-like sites). They divide products and services into four groups on the dimensions of on-line sales channel efficiency (high/low) and degree of consideration (high/low). According to the authors, products that can be sold on-line and shipped economically or electronically (high on-line sales channel efficiency) should have a destination site. Among low on-line sales channel efficiency products, those high in consideration should have a micro-site, whereas those low in consideration need only have banner ads. Tiwana (1998) proposes that use of the different Internet

presences can be modeled along the axis of increasing degree of consideration. For low consideration products, banner ads may be used, whereas micro-sites may be engaged for medium consideration products, and destination sites for high consideration products.

As we can see, the traditional logic that Internet users should always be transported to target Web sites can be questioned. Findings suggest that target sites are suited for high price and high consideration products, whereas low price and low consideration products need only have banner ads. Price and degree of consideration corresponds rather closely to product involvement (cf. Rossiter and Percy 1987, 1997; Vaughn 1980, 1986). Thus, the use of banner ads and target sites should be designed with consideration to whether it is a high or low involvement product. Research on banner advertising to date has focused on how to achieve clickthrough (Doubleclick 1996; Chatterjee et al. 1998) and the effects of mere banner ad exposure (Briggs 1996, 1997; Briggs and Hollis 1997). However, no distinction has been made between high and low involvement products and the desired effects of clickthrough. This will be tested in our study.

LEVEL OF INVOLVEMENT AND CONSUMER RESPONSE TO ADVERTISING

Consumer involvement in a product category is widely recognized as a major variable relevant to advertising strategy (Laurent and Kapferer 1985). This variable affects the extent of the decision process and information search (more under high involvement) and whether the consumer is a passive or active audience to advertising (Laurent and Kapferer 1985). This, in turn, affects the type of media to chosen, repetition of ad messages and the quantity of information provided by the ad. Celsi and Olson (1988) have shown that consumers with a higher level of felt involvement spend more time (devoted more attention) and cognitive effort processing ads and they focus more on product-related information and elaborate more on this.

Zaichkowsky (1985) contends that one could crudely identify a dichotomy of low involvement and high involvement consumer behavior. The author proposes that low involvement would lead to a relative lack of information seeking about brands and little comparison among product attributes. High involvement consumers should be more interested in acquiring information about the products and evaluating alternatives. Robertson (1976) criticizes the view of con-

sumers as an active audience to advertising and bases this on the fact that for an array of products, many consumers have been shown to be passive seekers of information. Also, many products (virtually all convenience products) are subject to low commitment consumer behavior. When consumer commitment is low, consumer resistance to advertising may be minimal and advertising could easily induce change; in fact consumer attitude may not need to be changed at all (since it is virtually nonexistent), as trial works as a means for information evaluation. Mere exposure can lead to trial.

The same reasoning is found in Krugman (1965), who discusses low involvement learning. According to the author, low involvement learning is passive and does not involve conviction. Thus, for low involvement products the important thing is to expose consumers to the product and induce trial. Ehrenberg (1974), similarly, argues that for low involvement products trial and reinforcement are the main advertising objectives. According to the Elaboration Likelihood Model (Petty et al. 1983; Petty and Cacciopo 1984), high involvement customers need to be persuaded with strong arguments, whereas low involvement customers do not need strong arguments and do not need to be persuaded to the same extent as high involvement customers.

Level of involvement is usually measured on the level of the individual consumer. For marketing purposes, however, it is convenient to classify products as high or low involvement products based on how they are perceived by a majority of the customers (cf. Howard and Sheth, 1969; Engel et al. 1995; Rossiter and Percy 1987, 1997; Vaughn 1980, 1986).

The reviewed literature gives ample evidence that the conditions for advertising differ between high and low involvement products as consumer behavior and response to advertising are quite dissimilar. For high involvement products, more information and stronger arguments are needed. Consumers are active and need to be convinced. They should be encouraged to process information and be guided through the complex purchasing process. Low involvement products, on the other hand, face passive consumers and do not have much to gain from encouraging further information search or presenting strong arguments. Instead, exposure is the primary target. Thus, consumers would be more inclined to click on banners for high involvement products than for low involvement products, as clickthrough transports consumers to the target site where more information is available. Clickthrough should also be a goal for banner ads for high involvement products (as consumers need more information and

have to be convinced, which can be achieved on the target site) but not for low involvement products. This leads to our first hypothesis:

H1: The clickthrough rate is higher for banner ads for high involvement products than for banner ads for low involvement products.

In order to develop our next hypotheses, we need to look into the communication objectives that should be used to evaluate advertising.

COMMUNICATION OBJECTIVES

According to Rossiter and Percy (1987, 1997), there are five different advertising communication objectives: category need, brand awareness, brand attitude, brand purchase intention and purchase facilitation. Category need (to inform and persuade customers to use products in the category) is mainly interesting if the advertiser is aiming at a new user target group or is establishing a totally new product category. If the brand is well-known, then brand awareness might be less interesting to focus upon. Purchase facilitation is primarily an objective if there are any problems in the marketing mix that need to be overcome by informing the customers. Remaining are the universal communication objective brand attitude and brand purchase intention.

All advertising should have as an objective to increase positive brand attitude, as this is generally believed to make consumers inclined to buy the brand (Howard 1989; Engel et al. 1995; Rossiter and Percy 1987, 1997). Purchase intention is a step closer to the actual purchase and is therefore most interesting to consider in advertising evaluations (Kalwani and Silk 1982; Howard 1989; Engel et al. 1995).

For well-established products, the advertising objectives should be to increase positive brand attitude and brand purchase intention. Advertising effectiveness should therefore be assessed with these intermediate measures.

Earlier we have concluded that clickthrough should be desirable for banner ads for high involvement products. This is because clickthrough gives advertisers an opportunity to present consumers with more information about the product. For high involvement products, availability of information and receptiveness towards active consumers is important. Thus, we would expect that advertising effectiveness increases with clickthrough for high involvement products, measured as increased positive brand attitude and brand

purchase intention. Low involvement products face passive consumers with less need for information and should therefore not gain from clickthrough. We expect that advertising effectiveness does not increase with clickthrough for low involvement products, measured as no increase in positive brand attitude and brand purchase intention. This leads to the following hypotheses:

H2a: Consumers who have clicked on a banner ad for a high involvement product have a more positive brand attitude than consumers who have not clicked on the ad.

H2b: Consumers who have clicked on a banner ad for a low involvement product do not have a more positive brand attitude than consumers who have not clicked on the ad.

H3a: Consumers who have clicked on a banner ad for a high involvement product score higher on brand purchase intention than consumers who have not clicked on the ad.

H3b: Consumers who have clicked on a banner ad for a low involvement product do not score higher on brand purchase intention than consumers who have not clicked on the ad.

METHOD

In order to test our hypotheses, we must be able to measure Internet users' clickthrough behaviors and connect these behaviors on an individual level with the Internet users' levels of brand attitude and brand purchase intention. Hence, we need to know if the individual has been exposed to a certain banner ad, if the individual clicked on the ad and what levels of brand attitude and brand purchase intention the individual exhibits. This way we can measure the effects of clickthrough. Furthermore, we need banner ads for high involvement products and low involvement products, respectively, in order to make comparisons between the two product types.

Laboratory experiments are less suited for our purpose, as we want to measure Internet users' actual behaviors (cf. Burke et al. 1992; Campo et al. 1999). In our design, we have unobtrusively observed Internet users' clickthrough behaviors in response to a selection of banner ads for high and low involvement products. Afterwards, we have surveyed the Internet users and matched the responses on an individual user level with their clickthrough behaviors.

The Design

The study design was based on the design reported in Briggs and Hollis (1997), with one exception. We only measured the levels of brand attitude and brand purchase intention *after* banner ad exposure and potential clickthrough, as we were only interested in the effects of clickthrough.

Banner ads for both high and low involvement products were placed in the available advertising spaces on three traffic sites in AdLINK's banner ad network. The sites were one daily newspaper (*www.expressen.se*) and two magazines (www.op.se) and (www.varbostad.se). The design is illustrated in Figure 1.

Each banner ad was exposed on all three sites, one at a time, for 2–7 days (depending on the available space). Upon entering the site, randomly selected visitors were intercepted by a pop-up dialogue box, asking for their participation in a study about marketing on the Internet. If the visitor accepted the invitation, s/he typed his or her e-mail address and sent the reply. Those who did not consent answered 'no' and were not asked again. We employed random sampling without replacement, meaning that the same visitor could not be selected more than once (Newbold 1991; Malhotra 1993).

As the visitor sent his or her consent to our database, a cookie file was placed in the visitor's Web browser. The cookie file contained information about the exposed banner ad, what site was visited, if the

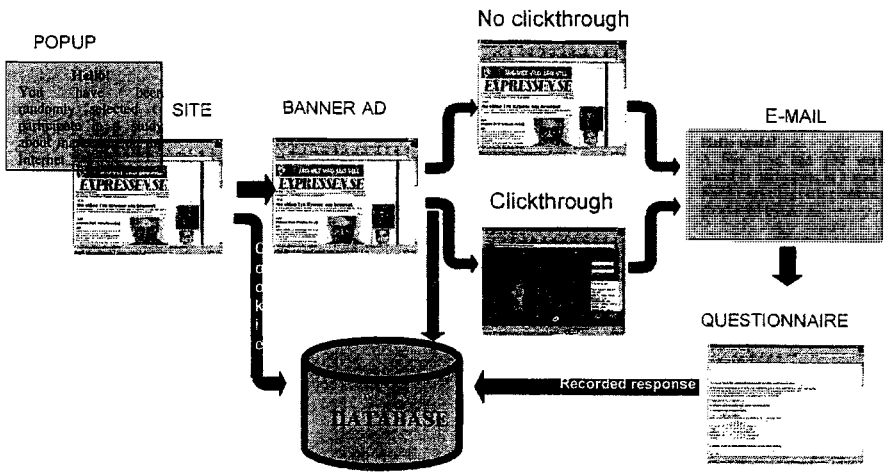

Figure 1: Study design

visitor clicked on the banner ad, and the visitor's e-mail address. This was done in order to be able to match the respondent's answers in the following questionnaire with the respondent's behavior.

After 2–5 days an e-mail was sent to the visitor containing the address and hyperlink to a Web questionnaire. Each banner ad had a specific questionnaire with questions concerning the brand and product category in question. The information in the previously stored cookie file was sent along with the respondent's answers to a database.

The Banner Ads

Seven banner ads were carefully chosen for the study. Three were classified as high involvement products and four were classified as low involvement products. The classification was based on the dimensions of economic risk, social risk and psychological risk (Laurent and Kapferer 1985; Engel et al. 1995; Rossiter and Percy 1987; 1997). Products with a high risk in any of the dimensions were classified as high involvement and products with low risk in all dimensions were classified as low involvement. To validate this classification, the respondents were asked to rate the product categories on five items taken from the Personal Involvement Inventory (PII) developed by Zaichkowsky (1985). This measure will be described in more detail in the measures section. Two of the products, one previously classified as high involvement and one previously classified as low involvement, received ambiguous PII values close to the median score. They were therefore excluded from the analyses. The remaining five products and banner ads were:

High involvement: Ericsson (cellular phones) and British Airways (air travel).

Low involvement: Kodak (camera film), Gillette (razors) and OLW (snacks).

Validity of the Study

To assess the validity of our study, we use the criteria that are set for field experiments, as our conditions are similar. Four types of validity are desirable when conducting a field experiment: internal validity, construct validity, statistical conclusion validity and external validity (Cook and Campbell 1979; Robson 1993).

Internal validity rules out the influence of external factors. Through the randomized sampling procedure, the influence of external factors

should be evened out between different banners and groups of users. Only post-measurements were made in order not to sensitize the subjects. Following the recommendations of Cook and Campbell (1979), we compared the clickthrough group and the non-clickthrough group with respect to demographic variables, Internet usage variables and brand loyalty variables. There were no significant differences between the groups for any of the variables. We also tested for personal involvement and the results supported our findings (this will be reported in the results section).

Construct validity ensures that the manipulations actually test the factors they are intended to test. In order to make sure that we are only measuring the impact of high vs. low involvement products, we have used well-known brands (to avoid the novelty aspect). Furthermore, the test banner ads have not included non-product-related appeals (such as contests etc.).

Statistical conclusion validity means that all the results should be statistically tested. We have used cross-tabulations and median tests to validate our results. Only 23 respondents in the sample had actually clicked on a banner ad. This rather small number means that we can be confident in the effects that hold up statistically (Cook and Campbell 1979; Sawyer and Peter 1983).

External validity, finally, ensures that the results are generalizable. We have observed Internet users' actual behaviors unobtrusively in a real setting. The characteristics of the sample are not significantly different from the population at the traffic sites.

The Sample

The response rate in the first recruitment step was 23 percent. In the second step, 78.6 percent completed the questionnaire. This can be compared to the 38 percent first step and 61 percent second step response rates reported in Briggs and Hollis (1997).

Due to problems of reading cookie files from some respondents, a number of responses were disregarded. There are inherent problems with Web browser-based sampling, e.g., an individual may use several Web browsers, or a Web browser may not accept cookie files (for a review, see Dahlén 1998). A total of 1753 responses were collected together with information on respondents' behaviors. Out of these, 23 respondents had clicked on a banner ad.

The demographic and Internet usage profiles of the sample closely resembled the profiles of the population of visitors to the three traffic

sites. Cross-tabulations and mean comparisons revealed no significant differences ($p > 0.3$) between the clickthrough group and the non-clickthrough group in the sample with respect to demographic variables such as age, gender, income and occupation, or Internet usage variables such as frequency, access location, length of usage and session length, or brand loyalty.

Measures

For validation of the classification of banner ads and comparison of communication effects between the clickthrough group and the non-clickthrough group, we measured respondents' personal levels of involvement with the product. This was based on the Personal Involvement Inventory (PII) developed and tested by Zaichkowsky (1985). Due to space constraints, we used five out of the twenty items in the semantic differential: uninteresting-interesting, important-unimportant, irrelevant-relevant, useful-not useful, and valuable-worthless. The items were chosen to reflect different dimensions of involvement and be applicable on all the studied products. Cronbach's alpha was 0.84 for the resulting scale.

In order to screen out consumers who are not actually in the market for the advertised product, we measured category need. A seven-point scale was used (1 = completely disagree, 7 = completely agree), where the respondent indicated agreement with the statement "I will probably buy a *product in this category* within *the nearest purchase cycle*". For each product, the specific category and reasonable time interval were substituted in the statement. The measure is based on the recommendations of Rossiter and Percy (1997). Respondents with values of 4 or greater were used in the analyses.

Brand attitude was measured with two items. "What do you think about *brand*?" was answered with a seven-point scale (1 = good, 7 = bad) and measured general attitude toward the brand. For measurement of relative brand attitude we used the question "What do you think about *brand* compared to other brands in *the same product category*?", which was answered on a seven-point scale (1 = *brand* is the best brand in the category, 7 = *brand* is the worst brand in the category). For each product, the specific brand and product category were substituted in the questions. The measures are based on the recommendations of Gardner (1985) and Rossiter and Percy (1997).

Brand purchase intention was measured with the question "how likely is it that you will buy *brand* within *the nearest purchase cycle*?"

and a seven-point scale (1= not at all likely, 7= very likely). For each product, the specific brand and reasonable time interval was substituted in the question. The measure is based on the recommendations of Juster (1966) and Rossiter and Percy (1997).

RESULTS

Clickthrough

The overall clickthrough rate was quite low, 0.9 percent. This is rather common for banner ads on high-traffic sites. When comparing high involvement products with low involvement products, we find that the high involvement products have more than double the clickthrough rate of low involvement products: 1.5 percent for high involvement products and 0.4 percent for low involvement products. The difference is statistically significant ($p = 0.09$).
Hence, we find support for our first hypothesis. The clickthrough rate is higher for banner ads for high involvement products than for banner ads for low involvement products.

Brand Attitude

Comparisons were made on brand attitude between the clickthrough group and the non-clickthrough group for both high involvement products and low involvement products. The results are displayed in Table 1.

For high involvement products, we find that both general and relative brand attitude are more positive (note that lower values indicate a more positive brand attitude) in the clickthrough group than in the non-clickthrough group. The difference is statistically significant.

Table 1: Mann Whitney's nonparametric test on brand attitude

	General brand attitude			*Relative brand attitude*		
	Mean rank					
	Clickthrough	*Non-clickthrough*	*Significance level*	*Clickthrough*	*Non-clickthrough*	*Significance level*
High involvement	141	206	0.07	143	207	0.07
Low involvement	284	298	not significant	285	222	not significant

For low involvement products, there are no significant positive differences in either general or relative brand attitude between the clickthrough group and the non-clickthrough group. The respondents in the clickthrough group do not seem to have a more positive brand attitude.

Thus, we find support for H2a and H2b. Consumers who have clicked on a banner ad for a high involvement product have a more positive brand attitude than consumers who have not clicked on the ad. Consumers who have clicked on a banner ad for a low involvement product do not have a more positive brand attitude than consumers who have not clicked on the ad.

Brand Purchase Intention

Comparisons were made on brand purchase intention between the clickthrough group and the non-clickthrough group for both high involvement products and low involvement products. The results are displayed in Table 2.

For high involvement products, we find that brand purchase intention is higher in the clickthrough group than in the non-clickthrough group. The difference is statistically significant.

For low involvement products, there are no differences in brand purchase intention between the clickthrough group and the non-clickthrough group. The respondents in the clickthrough group do not seem to have a higher brand purchase intention.

Hypotheses H3a and H3b are supported. Consumers who have clicked on a banner ad for a high involvement product score higher on brand purchase intention than consumers who have not clicked on the ad. Consumers who have clicked on a banner ad for a low involvement product do not score higher on brand purchase intention than consumers who have not clicked on the ad.

Table 2: Mann Whitney's nonparametric test on brand purchase intention

	Brand purchase intention		
	Mean rank		
	Clickthrough	*Non-clickthrough*	*Significance level*
High involvement	294	203	0.03
Low involvement	283	284	not significant

Test For Personal Involvement

We tested the differences in brand attitude and brand purchase intention by matching the respondents in the clickthrough group on an individual level with respondents in the non-clickthrough group that had the same PII score. This was done in order to ensure that the differences in consumer response to banner ads for high involvement products and low involvement products were not caused by the fact that those who clicked on a banner ad for a high involvement product exhibited a higher personal involvement than the consumers in the non-clickthrough group whereas there was no such difference for low involvement products.

For high involvement products, the respondents in the clickthrough group had a more positive attitude and a higher purchase intention than the respondents with the same PII score in the non-clickthrough group. All differences were statistically significant ($p < 0.1$).

For low involvement products, there were no differences in brand attitude and brand purchase intention between respondents in the clickthrough group and respondents with the same PII score in the non-clickthrough group.

This supports our findings. Differences between the clickthrough group and the non-clickthrough group are not caused by differences in personal involvement.

IMPLICATIONS

In this article we have contributed to the theory on how products should be marketed and advertised on the Internet by showing that banner ads and clickthrough work differently for high involvement products and low involvement products. Our results indicate that there is not one best model for marketing on the Internet. Saying that banner ads should work as transporters to target ads, or that banner ads should primarily work through exposure is too simple. A distinction needs to be made between high involvement products and low involvement products.

More Internet users click on banner ads for high involvement products than on banner ads for low involvement products. Furthermore, those who have clicked on banner ads for high involvement products show an increase in positive brand attitude and brand purchase intention, whereas those who have clicked on banner ads for low involv-

ement products have neither a more favorable brand attitude nor a higher level of purchase intention. The direction of causality is plausible and theoretically well-founded. Clickthrough and the resulting opportunity to take part of more information and strong arguments affects consumers for high involvement products (information search and conviction is important) but not for low involvement products (little need for information and little cognitive effort). The other way around, that positive brand attitude and high brand purchase intention is needed for high involvement products but not for low involvement products to achieve clickthrough, is not plausible. It is thus safe to say, that clickthrough increases positive brand attitude and brand purchase intention for high involvement products but not for low involvement products.

For high involvement products, both banner ads and target sites should be employed. These are products that consumers actively seek information about. By giving consumers the opportunity to learn more about the product on the target site, the marketer can influence the consumers' purchase decision and induce a favorable disposition toward the brand. Clickthrough should therefore be an objective.

For low involvement products, target sites are of less value. First of all, consumers are not so inclined to click on banner ads for these kinds of products. Secondly, consumers do not need and actively seek out information about these products. A visit to the target site does not enhance consumers' disposition toward the brand. As has been evidenced in empirical studies, banner ads work through mere exposure (cf. Briggs 1996; 1997; Briggs and Hollis 1997; Dahlén 2000). This implies that banner ads should be the primary form of Web advertising, without clickthrough.

The clickthrough rates for banner ads for both kinds of products are low. For high involvement products, where clickthrough is an objective, placement is important. High involvement products are often subject to active search. Hence banner ads should be exposed at the right time, when the consumer is seeking information about products in the category. For example, the results list from product-related searches in search engines and related special interest sites may be suitable for banner advertising. Low involvement products need to remind consumers about their need for the products through banner advertising. Placement is less important for these products. Instead, frequency and reach are more important. Thus, high traffic sites may be suited for banner advertising, as clickthrough is not an objective.

Instead of target sites, marketers of low involvement products could use interactive features in the banner ads. Consumers need little information before the purchase and could therefore be served directly in the banner. The banner ad helps consumers recognize the need for the product, upon which the consumers can act directly and buy the product in the ad. This could mean that marketers of some products need to redesign their marketing, e.g. selling a box of chocolate bars instead of a single bar (Peterson et al. 1997).

The results in this study also shed light on the problem of pricing banner ads. Banner ads are generally priced based on clickthrough, impressions or a hybrid of these two measures (IAB 1999b). For banner ads for high involvement products, clickthrough would be the preferred measure, whereas banner ads for low involvement products should primarily be priced based on impressions.

FURTHER RESEARCH

In this study, we have focused on consumer response to banner ads. We have added to existing literature on banner advertising by looking at the inherent potential for clickthrough and the usefulness of clickthrough (in terms of communication objectives), differentiating between high involvement products and low involvement products. We have thus taken theory one step further, by looking at the benefit of attracting consumers to the target site. However, little research has been conducted on the effectiveness of target sites with respect to communication objectives and sales goals. Research has focused on perceptions of Web sites (Eighmey and McCord 1998; Ghose and Dou, 1998; Chen and Wells 1999) and number and duration of Web site visits (cf. Dholakia and Rego 1998; Raman and Leckenby 1998). Further research is needed on the marketing impact of target sites for different products. What is the inherent potential, what features are important, how do Internet users behave in a purchase situation on the site, and how does this differ between products? In order to answer these questions, surveys of site visitors matched with the visitors' browsing and purchase behaviors are needed.

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Informing and Transforming on the Web: An Empirical Study of Response to Banner Ads for Functional and Expressive Products

Abstract

The article examines the effectiveness of banner ads for functional and expressive products. The results from a large empirical study show that there are major differences between the performances of banner ads for the two product types. Banner ads can work as transporters of consumers to target ads and as ads in themselves with direct communication effects. The study indicates that banner ads work better as transporters to target ads for functional products, whereas banner ads for expressive products work better through ad impressions. It is also found that consumers who click on banner ads for expressive products tend to be greater users of and be more positively disposed toward the brand. The differences between consumers' responses to advertising for the two product types, conceptualized as informing and transforming on the Web, are discussed.

Introduction

The Internet is a medium of unprecedented growth (Eighmey and McCord, 1998). As consumers move online, so do advertisers. Advertising expenditures on the Net increased by 121 percent to a total of 4 billion dollars in 1999 and are on a pace to increase more than twenty-fold the next few years, according to American figures (IAB, 1999a; 1999b). The question of how to design and evaluate Web advertising becomes crucial, as the Internet share of the marketing budget continues to increase (Ducoffe, 1996; Hoffman and Novak, 1997a; Dreze and Zufryden, 1998). In this article we will try to answer the question, is there one best advertising model on the Internet?

Web advertising mainly takes two forms: banner ads and Web sites (target ads). The former are generally seen as traffic generators to the latter (Hoffman et al, 1995; Doyle et al, 1997; Chatterjee et al, 1998). There is a growing body of research on both banner ads and target Web sites. Empirical studies have investigated the impact of banner ad impressions (Briggs, 1996; 1997; Briggs and Hollis, 1997) and what affects clickthrough (Doubleclick, 1996; Chatterjee et al, 1998; Hofacker and Murphy, 1998). Research has also been performed on Web site design (Dholakia and Rego, 1998; Palmer and Griffith, 1998a; 1998b; Raman and Leckenby, 1998; Hoque and Lohse, 1999) and perceptions of Web sites (Eighmey and McCord, 1998; Ghose and Dou, 1998; Chen and Wells,

1999). However, limited attention has been given to the connection between banner ads and target sites and the conditions for different types of products.

Should the Web marketing model, i.e., advertising transporters of consumers, be the same for all products? Should banner ads be considered only as passive transporters of consumers to the active target ads (cf. Chatterjee et al, 1998; Doyle et al, 1997)? Empirical studies have proven that banner ads may be effective without clickthrough, and thus work as ads in their own right (Briggs, 1996; 1997; Briggs and Hollis, 1997). Traditional marketing communications research also tells us that different modes of communication are suited for different products, e.g. expressive and functional products (cf. Rossiter and Percy, 1992; 1997; Vaughn, 1980; 1986). Consumer response to advertising has been evidenced to differ between expressive and functional products (cf. Mittal, 1989). In this article we will investigate how banner ads work through mere impressions and as transporters to target ads, differentiating between expressive and functional products. Based on this we argue that there is a difference between informing and transforming on the Web, which is important for marketers to consider.

Next, we will review literature on Internet marketing and challenge the claimed process. Thereafter, we look into theory on the effect of product type on consumer response to advertising, which will be the framework for our study. Based on this, we develop hypotheses on the effects of banner ads on brand attitude and clickthrough for functional and expressive products. These are tested in a large empirical study. Building on the findings, we discuss implications for marketing managers and further research.

Marketing on the Internet

Hoffman and Novak (1997b) argue that the Internet is a new marketscape that calls for a new marketing paradigm. Consumers are more active on the Internet and will initiate dialogues with companies and other consumers (Hoffman and Novak, 1996). A central part in the marketing process will thus be to be available and receptive to actively engaging customers. As a consequence, advertising on the Internet will be demand-driven (Sheth and Sisodia, 1999). Berthon et al (1996) argue that the company's Web site is the most important element in the marketing mix, and that the goal should be to attract Internet users to the site and convert them into buying customers. Quelch and Klein (1996) present a similar model, where all interaction with customers should be undertaken on the Web site.

The combination of the notion of active Web customers and the notion that the interaction with customers should be handled on the Internet results in the view

of banner ads as traffic generators to target Web sites (Hoffman et al, 1995; Chatterjee et al, 1998; Hoffman and Novak, 2000). Banner ads can thus not be priced based on traditional criteria such as GRPs, but should be treated as a step towards converting Internet users into target site visitors (Hoffman and Novak, 1997a).

However, all marketing functions may not be suited to handle over the Internet for all products (Peterson et al, 1997; Alba et al, 1997). Thus, it may not be suitable to conduct all consumer interaction on the Web site. Furthermore, empirical studies have shown that Internet users may not be so active as previously thought, but act rather passively in response to marketing stimuli (Dahlén, 1997; Dahlén et al, 2000a). Hence, the objective for all products ought not be to transport Internet users via banner ads to target sites.

Doyle et al (1997), discuss the use of banners, destination (target) sites and micro-sites (smaller, campaign-like sites). They divide products and services into four groups on the dimensions of on-line sales channel efficiency (high/low) and degree of consideration (high/low). According to the authors, products that can be sold on-line and shipped economically or electronically (high on-line sales channel efficiency) should have a destination site. Among low on-line sales channel efficiency products, those high in consideration should have a micro-site, whereas those low in consideration need only have banner ads. Tiwana (1998) proposes that use of the different Internet presences can be modeled along the axis of increasing degree of consideration. For low consideration products, banner ads may be used, micro-sites may be engaged for medium consideration products, whereas destination sites are appropriate for high consideration products.

As we can see, the claimed marketing process where Internet users should always be transported to target Web sites can be questioned. Findings suggest that target sites are suited for high consideration products, whereas low consideration products need only have banner ads. As will be shown next, degree of consideration corresponds rather closely to product type – is the product functional or expressive (cf. Mittal, 1989; Vaughn, 1980; 1986)? Thus, the use of banner ads and target sites should be designed with respect to whether it is a functional or expressive product. Research on banner advertising to date has focused on how to achieve clickthrough (Doubleclick, 1996; Chatterjee et al , 1998) and the effects of mere banner ad exposure (Briggs, 1996; 1997; Briggs and Hollis, 1997). However, no distinction has been made in previous research between functional and expressive products and the desired effects of clickthrough. This will be tested in our study.

Functional and expressive products and advertising response

Products can generally be categorized as either functional or expressive, based on the motives consumers have for buying and consuming them. Functional products are subject to negative motives whereas positive motives characterize expressive products (Rossiter and Percy, 1987; Rossiter et al, 1991). These differences manifest themselves in the ways consumers relate to the two product types; how they seek and evaluate information and respond to advertising.

For functional products the inherent product features are important (Mittal, 1989). The purchase decision is mainly logical and objective and is based on functional facts (Vaughn, 1980; 1986; Ratchford, 1987). Underlying the decision process is a strong utilitarian need and the product choice is subject to consequent cognitive evaluation (Ratchford, 1987). Vaughn (1980; 1986) calls these products think products, concluding that product choice is characterized by thinking. Rossiter and Percy (1987; 1991) argue that there are also emotions involved, driven by negative motivations. The decision process can be thought of as problem solving (Fennell, 1978; Rossiter and Percy, 1992), where the consumers uses rational decision criteria to select the product that best solves the problem at hand (Ratchford, 1987), thus fulfilling their informational needs (Rossiter and Percy, 1991; Rossiter et al, 1991).

If functional products are characterized by negative purchase motives, expressive products instead lend themselves more to positive motives (Rossiter and Percy, 1987; 1992). The affective motives behind these products include ego gratification, social acceptance and sensory stimulation (cf. McGuire, 1976; Fennell, 1978). The customer may "care" a lot about the product but still manifests little cognitive activity (Mittal, 1989). Holbrook and Hirschman (1982) contend that the psychosocial interpretation of expressive products is largely idiosyncratic and less susceptible to explicit information search. Expressive products do not lend themselves easily to content or feature discriminations (Mittal, 1989), instead, consumers seek transformation (Rossiter and Percy, 1987; 1991; 1992).

For functional products it is possible and desirable to seek information about inherent features. Rational decision criteria are used when trying to solve a problem. This suggests a need for informative advertising, as consumers are motivated and capable to search for and evaluate information (Rossiter and Percy, 1992; 1997; Vaughn, 1980; 1986; Ratchford, 1987). Successful advertising needs to be emotionally compelling and require at least a negative-to-neutral sequence of emotions to meet consumers' informational motives (Rossiter and Percy, 1991).

For expressive products, the psychological interpretations of the product are important (Mittal, 1989). If a consumer finds a particular image appealing and self-congruent, s/he could develop a liking or enhancement with that brand (Hirschman and Holbrook, 1982). The brand preferences can thus be developed by day to day exposure to product communication, making pre-choice comparisons quite superficial if necessary (Mittal, 1989). As consumers are driven by transformational purchase motivations, advertising needs to elicit positive emotions (Rossiter and Percy, 1991).

In an empirical study, Mittal (1989) finds that consumers use more sources of information for functional products than for expressive products. Furthermore, the brand comparisons are more extensive and more brand features are examined for functional products. Consumers, thus, seem more inclined to search for and process information for functional products, whereas there is less initiative when it comes to expressive products. For the latter products, consumers could be viewed more as a passive audience to advertising. However, as discussed by Hirschman and Holbrook (1982), consumers with a positive disposition towards an expressive brand may voluntarily expose themselves to advertising for the brand as they like the "feeling". It is well known that existing users are more likely to follow up ads for a brand (cf. Rossiter and Percy, 1987; Tellis, 1988). For expressive products, interaction with advertising may be a part of the transformation process, where existing users can find reinforcement.

On the Internet, advertising mainly takes the form of banner ads or Web sites (target ads). Banner ads in themselves are a form of passive advertising, where the Internet user is exposed without asking and without necessarily engaging in the communication. Web sites, on the other hand, are a form of active advertising, where the Internet user has taken the initiative to seek out more information. Clicking on a banner ad means that the consumer wants to be transported to the target ad and actively seek out information. Given that functional products are subject to more search and cognitive efforts, we would expect more Internet users to click on banner ads and be transported to target ads for these products than for expressive products. This leads to our first hypothesis:

H1: The clickthrough rate will be higher for banner ads for functional products than for banner ads for expressive products.

As banner ads in themselves are a form of passive advertising, they generally convey little information. For functional products, we could therefore expect the communication effect to be small from mere banner ad impressions, as these products must meet the information need posed by consumers. Furthermore, for the communication to be effective, the ad needs to evoke a dynamic sequence of

emotions (Rossiter and Percy, 1991), which is hard to do with the limited space and attention given to banner ads. For expressive products, pre-choice comparisons are often quite superficial and brand preferences can be developed by day to day exposure to product communication. The ad mainly needs to evoke a positive emotion (Rossiter and Percy, 1991), which is easier in the limited banner ad format. We therefore expect banner ads to be more effective for expressive products, with respect to ad impressions. An important communication goal for all products (known or unknown, high or low involvement) is to enhance brand attitude (cf. Rossiter and Percy, 1987; 1997), which means that brand attitude is good measure for comparisons of communication effects. This leads to our second hypothesis:

H2: There will be a greater positive change in brand attitude from banner ad impressions for expressive products than for functional products.

Functional products are subject to a problem solving process, in which brands are compared based on rational decision criteria. Visits to a functional product Web site should thus be driven by a specific need more than the individual's disposition towards the brand. For expressive products, on the other hand, the individual may derive pleasure from engaging in communication with the brand and be exposed to its advertising. As the information need is relatively small, visits to an expressive product Web site could therefore be expected to be undertaken by consumers that have a positive disposition towards the brand and are already using the brand. This leads to our third and fourth hypotheses:

H3a: People who click on a banner ad for an expressive product have a more positive attitude toward the brand than those who are exposed to the banner ad and do not click.

H3b: People who click on a banner ad for an expressive product have more usage experience of the brand than those who are exposed to the banner ad and do not click.

H4a: There are no differences in brand attitude between those who click and those who do not click on banner ads for functional products.

H4b: There are no differences in usage experience between those who click and those who do not click on banner ads for functional products.

Method

In order to test our hypotheses, we need to know if the individual has been exposed to a certain banner ad, if the individual clicked on the ad and what level

of brand attitude the individual exhibits. This way we can measure the effects of banner ad impressions on clickthrough and communication effects. Furthermore, we need banner ads for expressive and functional products, respectively, in order to make comparisons between the two product types.

Laboratory experiments are less suited for our purpose, as we want to measure Internet users' actual behaviors (cf. Burke et al, 1992; Campo et al, 1999). In our design, we have unobtrusively observed Internet users' clickthrough behaviors in response to a selection of banner ads for familiar and unfamiliar brands. Afterwards, we have surveyed the Internet users and matched the responses on an individual user level with the banner ad impressions and clickthrough behaviors.

The design

The study design was based on the design reported in Briggs and Hollis (1997). Banner ads for both expressive and functional products were placed in the available advertising spaces on Sweden's most visited Web site, the *Passagen* portal.

The banner ads were exposed during a period of one week. Upon entering the site, randomly selected visitors were intercepted by a pop-up dialogue box, asking for their participation in a study about marketing on the Internet. If the visitor accepted the invitation, s/he typed his or her e-mail address and sent the reply. Those who did not consent answered 'no' and were not asked again. We employed random sampling without replacement, meaning that the same visitor could not be selected more than once (Newbold, 1991; Malhotra, 1993).

As the visitor sent his or her consent to our database, a cookie file was placed in the visitor's Web browser. The cookie file contained information about exposures to banner ads, if the visitor clicked on a banner ad, and the visitor's e-mail address. This was done in order to be able to match the respondent's answers in the following questionnaire with the respondent's behavior.

Six days after the banners were first exposed on the Web site, an e-mail was sent to the visitor containing the address and hyperlink to a Web questionnaire. The information in the previously stored cookie file was sent along with the respondent's answers to a database.

The banner ads

Seven banner ads were carefully chosen for the study. Three were classified as functional products and four were classified as expressive products. The

classification was based on the responses from a control group sample of 42 business students. Each product was rated on the think-feel scale developed and validated in Ratchford (1987). The scale is described in more detail in the measures section. Products with low mean scores (below the middle value of the scale) were classified as expressive products, whereas those with high mean scores (above the middle value of the scale) were classified as functional products. The resulting classification of banner ads was:

Expressive products: Atlas (vacations/holidays), Zoo Village (clothing), Sia (ice cream), and Zoegas (coffee).

Functional products: Skandia (insurance company), EU-bildelar (automobile parts), and Via (detergent).

The banner ads were designed so that creative differences would not confound the results. For example, they did not include non-product-related appeals (such as contests etc.).

The sample

The response rate in the first recruitment step was 29 percent. In the second step, 75 percent completed the questionnaire. This can be compared to the 38 percent first step and 61 percent second step response rates reported in Briggs and Hollis (1997).

Due to problems of reading cookie files from some respondents, a number of responses were disregarded. There are inherent problems with Web browser-based sampling, e.g., an individual may use several Web browsers, or a Web browser may not accept cookie files (for a review, see Dahlén, 1998). A total of 14600 responses were collected together with information on respondents' behaviors. The demographic and Internet usage profiles of the sample closely resembled the profiles of the Web site visitor population.

Measures

For the classification of the banner ads into functional and expressive products, Ratchford's (1987) think-feel scale was used. It consists of five items rated on a 7-point semantic differential. Two items measure the degree of "think" (functional): "(purchase) decision is not mainly logical or objective/(purchase) decision is mainly logical or objective" and "(purchase) decision is based mainly on functional facts/(purchase) decision is not based mainly on functional facts". The remaining three items measure degree of "feel": "(purchase) decision expresses one's personality/(purchase) decision does not express one's

personality", "(purchase) decision is based on a lot of feeling/(purchase) decision is based on little feeling", and "(purchase) decision is based on looks, taste, touch, smell or sound/(purchase) decision is not based on looks, taste, touch, smell or sound". For each product, mean scores were calculated (Cronbach's alphas > 0.7).

Brand usage was measured with the question "How much usage experience do you have with *brand*?" For each product, the specific brand was substituted in the question. The answer alternatives were adapted to each specific product category and purchase cycle (e.g., for insurances the alternatives were "have or have had/don't have and haven't had", and for vacations it was number of times used in the last two years).

Brand attitude was measured with the question "What do you think about *brand* compared to other brands in *the same product category*?", which was answered on a seven-point scale (1=*brand* is the best brand in the category, 7=*brand* is the worst brand in the category"). For each product, the specific brand and product category were substituted in the question. The measure was based on the recommendations of Gardner (1985) and Rossiter and Percy (1992).

Results

In order to test the first hypothesis, a cross-tabulation was conducted to compare the clickthrough rates for functional and expressive products, respectively. Functional products had a clickthrough rate of 0.5 %, which is more than double the clickthrough rate for expressive products, 0.2 %. The difference is statistically significant ($p<0.01$). Hypothesis H1 is thus supported: the clickthrough rate is higher for banner ads for functional products than for banner ads for expressive products.

Figure 1. Summary of results

Product type	Functional	Expressive
Clickthrough rate $p<0.01$ n = 14600	0.5 %	0.2 %
Brand attitude change from banner ad impression (non-exposed – exposed)	not significant	9 % (3.8 – 3.5) $p<0.01$ n=7626
Difference in brand attitude (no click – click)	not significant	16 % (3.6 – 3.1) $p<0.01$ n= 4013
Difference in brand usage (no click – click)	no significant differences	Significant differences for all brands ($p<0.01$)

The second hypothesis concerned the increase in positive brand attitude from banner ad impressions. Mean comparisons were performed between exposed and non-exposed respondents for both product types. For functional products, there were no significant differences in brand attitude between the two groups. For expressive products, the exposed respondents exhibited a higher mean brand attitude than the non-exposed respondents (see table 1). The difference is statistically significant ($p<0.01$). H2 is thus supported: There is a greater positive change in brand attitude from banner ad impressions for expressive products than for functional products.

Hypotheses H3 and H4 concerned the brand attitude and brand usage among those who click on banner ads. In order to test these hypotheses, mean comparisons were conducted between respondents who had been exposed to a banner ad and not clicked on it and respondents who had been exposed to a banner ad and actually clicked on it. For functional products, there were no significant differences in brand attitude between the two groups. For expressive products, the respondents who clicked on the banner ad exhibited a higher mean brand attitude than the respondents who did not click on the banner ad (see table 1). The difference is statistically significant. When testing for brand usage, mean comparisons were performed for each brand. There were no significant differences in brand usage between the click- and no click groups for any of the functional brands. For all the expressive brands, there were significant differences in brand usage (see table 1). Hypotheses H3 and H4 are thus supported: people who click on a banner ad for an expressive product have a more positive attitude toward the brand and are greater brand users than those who are exposed to the banner ad and do not click. There are no differences in brand attitude and brand usage between those who click and those who do not click on banner ads for functional products.

Implications

The present study has proven that there are important differences in the ways consumers respond to advertising on the Internet for functional and expressive products. This implies that advertisers should have quite different goals and evaluation criteria when marketing these two product types on the Web. Advertisers of functional products should promote and facilitate informing on the Web. Advertisers of expressive products, on the other hand, should focus on eliciting transformation on the Web.

We have shown that banner ads work better as traffic generators to target ads for functional products than for expressive products. In the case of functional products, consumers want to receive and process more information. Banner ads

should focus on activating consumers and transport them to the target Web site, where information processing is facilitated. This might not be a realistic and desirable goal for expressive products.

The impact of banner ad impressions is important to consider when marketing expressive products. As the study proves, brand attitude can be enhanced without having the consumer click on the banner ad. As the need for information is smaller for these products, banner ads in themselves may be the most important advertising element. By exposing consumers to banner ads regularly, marketers of expressive products can elicit positive feeling and liking without having to activate the consumers. The realistic and desirable goal for expressive products should thus be impressions rather than clickthrough.

We have thus far concluded that the Web site is an important element in the marketing of functional products. Consumers click on banner ads to learn more about the products and evaluate the brands. What role should the Web site play for expressive products? Contrary to functional products, consumers who click on banner ads for expressive products seem to have more experience with and a more positive disposition toward the brand even beforehand. As there is less information involved with these products, consumers may voluntarily expose themselves to brand advertising because they like the feeling. The Web site would thus play an important role in reinforcing already "won" customers (for more on this, see e.g. Ehrenberg, 1974). Furthermore, the Web site may be an essential part of the value consumers derive from the product (e.g., a Harley-Davidson is so much more than just the motorcycle).

We have concluded that brand attitude drives clickthrough and site visits for expressive products. What about the other way around? Could it be that we actually have uncovered the reverse relationship – clickthrough enhances brand attitude, as was found in the case of high involvement products and clickthrough in Dahlén et al (2000b)? This is plausible, but then we would expect functional products to receive at least the same (if not greater) boost in brand attitude, relating to our earlier hypotheses. Based on our theoretical foundation, we could therefore safely assume that our tests have indicated our hypothesized relationship.

As a final note, we should consider the fact that clickthrough rates in this study, as well as in others, are quite low. For functional products, thus, the present format may need to be improved. Either banner ads have to be designed to increase clickthrough, or they should not be primary elements in the marketing of functional products. In light of our findings that banner ads work without clickthrough for expressive products, maybe banner ads should mainly be used in marketing of expressive products. Attention could then be directed solely

towards maximizing transformation, instead of struggling with the dual goals of clickthrough and impressions.

Limitations and further research

We have compared response to banner ads between functional and expressive products, classifying products as either of the two product types. This is a rather crude measure, which may correlate with other factors. More sensitive tests could be performed. One way would be to investigate effects based on the product's degree of functionality. That would take into account the fact that there are differences within the two product types as well.

In this article we have studied consumer response to advertising *before* visiting the Web site. There is still a great lack of research concerning the effect of the Web site on brand attitude. Research to date on advertising's impact on brand attitude and brand purchase intention has mainly focused on banner ads, whereas research on the effects of Web sites has mainly focused on attitude toward the Web site. There is a void in the intersection of these two areas. Studies are needed where consumers' disposition toward the brand is measured before and after interaction with the Web site.

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Banner Ads Through a New Lens: The Importance of Brand Familiarity and Internet User Experience

Abstract

The article examines the impact of brand familiarity and Internet user experience on banner ad effectiveness. The results from a large empirical study show that there are major differences between the performances of banner ads for familiar and unfamiliar brands. Ads for familiar brands tend to wear out quickly, whereas banner ads for unfamiliar brands need multiple exposures to wear in. Major differences are also found between novice and expert Internet users regarding their susceptibility to Web advertising. Novice users are more affected by banner ads than are expert users. Implications based on the findings are discussed.

Introduction

Advertising expenditures on the Net increased by 121 percent to a total of 4 billion dollars in 1999 and are on a pace to increase more than twenty-fold the next few years (IAB, 1999a; 1999b). As the Internet continues to take an ever larger share of the marketing budget, the question of how to design and evaluate Web advertising becomes crucial (Ducoffe, 1996; Hoffman and Novak, 1997; Dreze and Zufryden, 1998). The predominant form of Web advertising is banner ads (IAB, 1999b). In this article we present the results from a large empirical study answering questions of how banner ads work; over time, for different brands and for different Internet user groups.

Empirical studies have investigated the communication effects of banner ad impressions (Briggs, 1996; 1997; Briggs and Hollis, 1997) and what affects clickthrough (Doubleclick, 1996; Chatterjee et al, 1998; Hofacker and Murphy, 1998). With the exception of Dahlén et al (2000), that examined differences between high and low involvement products, no reported study has investigated how banner ads work for different products. In this article, we compare high and low familiarity brands (cf. Tellis, 1988; 1997). We will also make comparisons between high and low experience Internet users (cf. Dahlén, 1997; Ward and Lee, 1999), which has important implications for the future as the Web population grows more experienced.

Many authors have discussed what should be the optimal frequency of ad impressions in traditional media (cf. Krugman, 1972; Ephron, 1995; Naples,

1997). With the exception of Doubleclick (1996), which reported diminishing clickthrough rates, and Chatterjee et al (1998), which reported a U-shaped clickthrough rate with multiple impressions, little research has been done on banner ads in this respect. In this article we will investigate both the clickthrough rates and communication effects from mere ad impressions for multiple banner exposures.

Brand familiarity and advertising response

Brand familiarity is an important factor with regard to advertising response. Familiar brands have high advertising leverage (Rossiter and Percy, 1997; Ehrenberg et al, 1997). They can thus be advertised at a low frequency and receive immediate response (Ephron, 1995). Tellis (1988) presents evidence that consumer response to repetition of an ad differs substantially depending on the familiarity of the brand. This can be explained by the fact that consumers get used to the ad quicker (habituation) and tire sooner (tedium) of the advertising for a familiar brand (Tellis, 1997; Sawyer, 1981). The opposite may be true for unfamiliar brands. This means that familiar brand advertising rather quickly wears out, whereas unfamiliar brand advertising may need repetition to wear-in. This could have very important implications for Web marketing, as banner ads should work differently for familiar and unfamiliar brands.

On the Internet, brands may be even more important than in the physical world (Alba et al, 1997). With the risk of information overload, familiar brands work as shortcuts. In a study by Ward and Lee (2000), Internet users are found to react more favorably to familiar brands when shopping on the Web, as they prefer the sites of well-known brands. We can expect the same for banner ads.

As the Internet is an information-rich medium, we would expect Web users to react more immediately to banner ads for familiar brands and these ads should thus receive higher initial clickthrough rates than unfamiliar brands. This leads us to our first hypothesis:

H1: Familiar brands will receive higher initial clickthrough rates than unfamiliar brands.

As banner ads for familiar brands receive more initial attention, they should also wear-out quickly with repetition. We can thus expect a quick drop in clickthrough rates with repeated banner ad exposures. Furthermore, the communication effects of additional exposures should show decreasing returns and maybe even be negative due to tedium. This concerns brand attitude but not brand awareness (due to the high familiarity of the brands, awareness can not be expected to change much). This leads to our second and third hypotheses:

H2: For familiar brands, clickthrough rates will decrease with repeated banner ad exposures.

H3: For familiar brands, brand attitude will not increase (or might even decrease) with repeated banner ad exposures.

Contrary to familiar brands, unfamiliar brands need more repetition to wear-in. Internet users may need more than one exposure to even notice the banner ad. Furthermore, brand awareness and brand attitude may have to be established before Web users feel inclined to click on the ad. Building on the evidence of Briggs and Hollis (1997), we expect brand awareness and brand attitude to increase with repeated banner ad exposure. With these communication effects we can also expect clickthrough rates to increase with repeated banner ad exposure for unfamiliar brands. This leads to the following hypotheses:

H4: For unfamiliar brands, brand awareness and brand attitude will increase with repeated banner ad exposures.

H5: For unfamiliar brands, clickthrough rates will increase with repeated banner ad exposures.

Internet user experience and advertising response

Internet user experience is important to consider, as a large part of the rapidly increasing Web population consists of new users. There is a big spread among the novel users and old users with several years of experience with the Web. The inflow of new users will continue for a long time. At the same time, the existing Web population is aging and becoming more experienced. Research shows that novel and experienced customers differ markedly in their behavior and response to marketing (Alba and Hutchinson, 1987; Maheswaran and Sternthal, 1990). The same thing can be expected for Internet users.

Experience with the Internet has been shown to influence user behavior. Dahlén (1999) found that Internet experience was an important factor in explaining proneness to shop on the Web. Internet users' browsing behavior depends on experience (Novak et al, 2000). More experienced users tend to search less and be more confident when online (Ward and Lee, 2000).

As Internet users become more experienced they become more focused in their usage sessions (Hoffman and Novak, 1996). This makes them less inclined to react to unexpected stimuli and rush off somewhere they had not planned to go (Dahlén, 1997). Bruner and Kumar (2000) found that experienced users were

less distracted by competing stimuli when on a Web site. This has important implications to marketers as experienced users should be harder to influence online. Some evidence for this was presented in Dahlén et al (2000), who found a negative relationship between user experience and inclination to click on banner ads. Dahlén (1997) noted that there seems to be a threshold effect in that the greatest differences between Internet users seem to be between those who have used the Web less than 5-7 months and those who have used it longer.

As experienced users are more focused and less willing to digress from their intended path, they should be hard to attract to other Web sites by way of banner ads. Less experienced users, on the other hand, should be easier to attract and pose a better target for banner ads. This leads to the following hypothesis:

H6: Less experienced users will click more on banner ads than more experienced users.

Experienced users are more focused, often experiencing "flow", which tends to block out everything else (Hoffman and Novak, 1996; Novak et al, 2000). They should thus be less impressionable by banner ads than less experienced users. Less experienced users, on the other hand, can be expected to be influenced by banner ads even without clickthrough. This leads to the following hypothesis:

H7: Less experienced users will exhibit a greater change in brand awareness and brand attitude from banner ad impressions than more experienced users.

Method

In order to test our hypotheses, we must be able to measure how many times Internet users have been exposed to certain banner ads and connect these ad impressions on an individual level with clickthrough behaviors and the Internet users' levels of brand awareness and brand attitude. This way we can measure the effects of banner ad impressions on clickthrough and communication effects. Furthermore, we need banner ads for familiar brands and unfamiliar brands, respectively, in order to make comparisons between the two product types.

Laboratory experiments are less suited for our purpose, as we want to measure Internet users' actual behaviors (cf. Burke et al, 1992; Campo et al, 1999). In our design, we have unobtrusively observed Internet users' clickthrough behaviors in response to a selection of banner ads for familiar and unfamiliar brands. Afterwards, we have surveyed the Internet users and matched the responses on an individual user level with the banner ad impressions and clickthrough behaviors.

The design

The study design was based on the design reported in Briggs and Hollis (1997). Banner ads for both familiar and unfamiliar brands were placed in the available advertising spaces on Sweden's most visited Web site, the *Passagen* portal.

The banner ads were exposed during a period of one week. Upon entering the site, randomly selected visitors were intercepted by a pop-up dialogue box, asking for their participation in a study about marketing on the Internet. If the visitor accepted the invitation, s/he typed his or her e-mail address and sent the reply. Those who did not consent answered 'no' and were not asked again. We employed systematic sampling without replacement, meaning that the same visitor could not be selected more than once (Newbold, 1991; Malhotra, 1993). This was achieved by using the n^{th}-visitor intercept method with cookie files registering each visitor.

As the visitor sent his or her consent to our database, a cookie file was placed in the visitor's Web browser. The cookie file contained information about exposures to banner ads, if the visitor clicked on a banner ad, and the visitor's e-mail address. This was done in order to be able to match the respondent's answers in the following questionnaire with the respondent's behavior.

Six days after the banners were first exposed on the Web site, an e-mail was sent to the visitor containing the address and hyperlink to a Web questionnaire. The information in the previously stored cookie file was sent along with the respondent's answers to a database.

The banner ads

Seven banner ads were carefully chosen for the study. Three were classified as unfamiliar brands and four were classified as familiar brands. The classification was based on the responses from a control group sample taken on the *Passagen* Web site the day before the banner ads were exposed. 285 randomly selected site visitors answered a questionnaire which measured aided recall and experience with the seven brands. These measures will be described in more detail in the measures section. Brands with high levels of aided recall (mean values over 90 percent) and consumer experience (high frequency relative to product category) were deemed as familiar. Brands with low levels of aided recall (mean values below 20 percent) and consumer experience (low frequency relative to product category) were deemed as unfamiliar. The banner ads were:

Familiar brands: Skandia (insurance company), Atlas (travel agency), Via (detergent), and Sia (ice cream).

Unfamiliar brands: EU-bildelar (automobile parts), Zoo Village (clothing), and Zoegas (coffee).

The banner ads were designed so that creative differences would not confound the results. For example, they did not include non-product-related appeals (such as contests etc.). A manipulation check was conducted to ascertain that advertising copy quality did not interfere with the results. A control group sample of 48 business students rated the copy of each of the banner ads (brand names were removed) on the five-point likability scale reported in Haley and Baldinger (1991). This measure is often cited as the best discriminator between more and less effective ads (cf. Brown and Stayman, 1992). The mean values were 2.58 for familiar brand ad copy texts and 2.61 for unfamiliar brand ad copy texts, indicating that there are no significant differences ($p > 0.8$) between the ads.

The sample

The response rate in the first recruitment step (where visitors were asked to leave their email address) was 29 percent. In the second step, 75 percent completed the questionnaire. The demographic and Internet usage profiles of the sample closely resembled the profiles of the Web site visitor population (see Table 1).

Table 1. Sample and population profiles.

	Sample	**Population**
Mean weekly Internet usage	1 hour 44 minutes	1 hour 40 minutes
Gender Male/Female	61/39	59/41
Mean age	29.5 years	30.0 years

Due to problems of reading cookie files from some respondents, a number of responses were disregarded. There are inherent problems with Web browser-based sampling, e.g., an individual may use several Web browsers, or a Web browser may not accept cookie files (for a review, see Dahlén, 1998). A total of 14600 responses were collected together with information on respondents' behaviors.

Measures

Two measures were used to assess the familiarity of the brand. Brand awareness was measured as aided recall (cf. Briggs and Hollis, 1997). Experience with the

brand was measured with a scale where respondents were asked to indicate how many times they had been in contact with the brand (cf. Alba and Hutchinson, 1987). The scale was tailored to each product class.

Brand attitude was measured with the question "What do you think about *brand* compared to other brands in *the same product category*?", which was answered on a seven-point scale (1=*brand* is the best brand in the category, 7=*brand* is the worst brand in the category"). For each product, the specific brand and product category were substituted in the questions. The measure was based on the recommendations of Gardner (1985) and Rossiter and Percy (1997).

Internet experience was measured with a five-point scale (1= <6 months, 2= 6-12 months, 3= 1-3 years, 4= 4-6 years, 5= >6 years). The measure was taken from the GVU questionnaires used in Ward and Lee (199) and Novak et al (2000).

Results

Brand familiarity

In order to test the effects of brand familiarity on response to banner ads, cross-tabulations and mean comparisons were performed. First, the clickthrough rates for familiar and unfamiliar brands were compared.

Familiar brands have a total clickthrough rate of 0.5 percent, whereas unfamiliar brands have a mere clickthrough rate of 0.2 percent. Overall, familiar brands receive more than double the clickthrough rate of unfamiliar brands. The difference is statistically significant ($p<0.01$).

Table 2. Clickthrough rates for familiar and unfamiliar brands and different numbers of exposures.

Number of exposures	Total	1	2	3	4	5-
Familiar brands	0.5 %	1.0 %	0.6 %	0.4 %	0.4 %	0.3 % $p < 0.01$ (n = 11390)
Unfamiliar brands	0.2 %	0.1 %	0.1 %	0.2 %	0.3 %	0.8 % $p < 0.01$ (n = 14448)

As can be seen in Table 2, familiar brands have an initial clickthrough rate of 1.0 percent, which is ten times the initial clickthrough rate for unfamiliar brands. The difference is statistically significant ($p<0.01$). Hypothesis 1 is thus

supported: familiar brands receive higher initial clickthrough rates than unfamiliar brands.

Investigating the clickthrough patterns further, we find that the clickthrough rates decrease with multiple exposures of familiar brand banner ads ($p<0.01$). The opposite pattern is found for unfamiliar brands. Here, clickthrough rates increase with multiple banner ad exposures ($p<0.01$). At three and four exposures, there is no statistically significant difference between familiar and unfamiliar brands. At five or more exposures, unfamiliar brands have a higher clickthrough rate than familiar brands ($p<0.01$). H2 and H5 are thus supported: for familiar brands, clickthrough rates decrease with repeated banner ad exposures, and for unfamiliar brands, clickthrough rates increase with repeated banner ad exposures.

Next, we turn to the communication effects of banner ad impressions. Surprisingly, comparisons between exposed and non-exposed Internet users show no differences in brand awareness and brand attitude. Cross-tabulations and mean comparisons yield non-significant results ($p > 0.3$) for comparisons between different numbers of exposures and for comparisons between non-exposed and exposed respondents. Mere banner ad impressions do not seem to have an effect on brand attitude and brand awareness. Thus, we cannot find any support for wear-in and wear-out effects of banner ad impressions. Hypotheses H3 and H4 are not supported.

Internet experience

In order to investigate the effects of Internet user experience on advertising response, the different user groups were compared on clickthrough rates and communication effects. First, a cross-tabulation of clickthrough rates for the different user groups was performed. The result indicates a statistically significant relationship between user experience and inclination to click on banners (see Table 3).

Table 3. Clickthrough rates in the different Internet experience groups

User experience	**< 6months experience**	**6-12 months experience**	**1-3 years experience**	**4-6 years experience**	**> 6 years experience**
Clickthrough rate	2.3 %	0.6 %	0.4 %	0.3 %	0.3 %

n = 5916, p < 0.01

As can be seen, less experienced users are significantly more inclined to click on banners than more experienced users ($p<0.01$). The clickthrough rate decreases

as the Internet users become more experienced. Hypothesis H6 is supported: less experienced users click more on banner ads than more experienced users.

Next, we compare the Internet user groups with respect to communication effects from banner ad exposures. Differences between non-exposed and exposed respondents are calculated for each group. The results indicate that there seems to be a threshold effect (as suggested in Dahlén, 1997). The least experienced users exhibit an increase in both brand awareness and brand attitude, whereas there are no significant increases in the other groups (Table 4). Hypothesis H7 is thus supported: less experienced users exhibit a greater change in brand awareness and brand attitude from banner ad impressions than more experienced users.

Table 4. Brand attitude and brand awareness change related to user experience.

User experience	< 6 months experience	6-12 months experience	1-3 years experience	4-6 years experience	> 6 years experience
Brand awareness	+ 3.49 % ($p < 0.01$)	not significant	not significant	not significant	not significant
Brand attitude	+ 16.9 % ($p < 0.01$)	not significant	not significant	not significant	not significant

n = 3930

The change in brand awareness and brand attitude in the least experienced user group was examined further. Specifically interesting was to see if the hypothesized wear-in and wear-out patterns over multiple exposures would surface. Respondents exposed to banner ads one, two, three, four, and five or more times were compared. Differences from the non-exposed respondents were calculated. The following patterns appear (see Table 5).

Table 5. Brand attitude change with repeated exposures, users with < 6 months experience (All differences compared to non-exposed respondents).

Number of exposures	1	2	3	4	5-
Familiar brands n = 2011, p < 0.01	+ 32.5 %	+ 26.5 %	- 5.5 %	- 19.9 %	- 20.0 %
Unfamiliar brands n = 2114, p < 0.01	+ 19.0 %	+ 16.9 %	- 6.5 %	+ 15.0 %	+ 20.8 %

As can be seen, too many exposures of familiar brand banner ads have a negative impact on brand attitude. One and two banner ad impressions clearly increase positive brand attitude. From three impressions onwards, however,

brand attitude falls below the base level. This gives some support for our previous hypothesis about ad wear-out for familiar brands. Not surprisingly, there are no differences in brand awareness.

A slightly different pattern appears for the change in brand attitude for unfamiliar brands. Here, multiple ad impressions result in a U-shaped pattern. The greatest positive changes in brand attitude appear at one and five or more exposures. At three exposures, brand attitude is at a minimum, even lower than the base level. There are no significant differences in brand awareness.

Implications

The present study shows that the question of how banner ads work is too simple. There is not one general answer. They work differently for different products, and hence the goals should not be the same for all banner ads. We have looked at two inherent factors, brand familiarity and Internet user experience, that affect banner ad performance short-term and long-term. This is also an important lesson – there is a short-term and a long-term to consider in banner advertising.

Banner ads for familiar brands work best short-term. The initial clickthrough rates are relatively good. However, with repeated exposures clickthrough decreases rapidly. The opposite is true for unfamiliar brands. Observed only short-term, i.e., over the first couple of exposures, unfamiliar brands perform badly with very low clickthrough rates. With repeated exposures the trend is positive, resulting in a dramatic increase in clickthrough. Based on this, we would recommend that unfamiliar brand banner ads should have long-term goals allowing multiple ad exposures. For familiar brands, on the other hand, there should not be a long-term as the ads quickly wear out.

A surprising result is the fact that mere banner ad impressions did not affect brand awareness and brand attitude. This gives another answer to the question "is there response before clickthrough?" than was found in Briggs and Hollis (1997). A plausible reason for this discrepancy is that the share of experienced users has increased. Our study shows that experienced users are harder to affect on the Net. One important implication based on the result is that more focus should be given to clickthrough and less focus should be on mere ad impressions.

Novice Internet users are clearly the ones that are most susceptible to banner advertising. Web users with less than six months experience are a grateful target for advertisers. The clickthrough rate is almost four times greater than among other users. This means that banner ads can continue to be considered as rather attractive traffic generators as long as there are novice Internet users that can be

targeted. The Web population is increasing rapidly, thus ensuring that the share of novice Internet users will be substantial. However, in the long run, banner ads may loose their traffic generating abilities as the share of experienced Internet users increases.

Banner ads were shown to in fact have an effect through mere impressions, when we looked at novice Internet users specifically. Both brand awareness and brand attitude were increased without clickthrough. Internet users with little experience are less focused on their task and are thus more impressionable. Obviously, response before clickthrough is an important goal when these users are targeted.

Looking further into the communication effects from ad impressions among novice users, we find that familiar brands and unfamiliar brands behave differently once again. Familiar brand banner ads have a positive effect on brand attitude when exposed once or twice. After that, they quickly overstay their welcome. Clearly, familiar brand ads wear-out with multiple exposures. The response to unfamiliar brand ads is u-shaped. The greatest increases in brand attitude appear at one or five or more exposures, indicating that the banner ads work best either immediately or with a rather large number of exposures.

Taking both clickthrough and communication effects into account, the conclusion is that familiar brands should focus on immediate reactions as they quickly wear out. Unfamiliar brands need many exposures to increase clickthrough, whereas change in brand attitude is most positive at the initial and high numbered exposures. Therefore, a high number of exposures should be optimal as unfamiliar brand ads need repetition to wear in.

Further effort need to be put into developing new advertising formats that can attract and influence experienced users, as more and more users leave the novice stage. For banner advertisers, ways of finding and exposing ads to new and novice Internet users is critical and an important task in the future.

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Escaping the Web:
Internet User Experience and Response to Web Marketing

Introduction

The Internet is the fastest growing medium of all times (Eighmey and McCord, 1998). As consumers move online, so do advertisers. Internet advertising spending is on a pace to increase more than twentyfold, surpassing 4 billion dollars in the record time of four years (IAB, 1999). Marketers spend more and more money trying to influence consumers on the Web, especially through banner advertising (IAB, 1999). Is this really a good idea?

As the Web medium matures, so do the users. Literature on experience suggests that consumers react differently to marketing and may be harder to influence as they become more experienced (cf. Alba and Hutchinson, 1987; Maheswaran and Sternthal, 1990; Haider and Frensch, 1999). In this article we will investigate a number of effects on user behavior that come from increasing Internet experience. We will also examine how experience affects consumer response to Web advertising.

The research on Internet user experience to date is scarce. A few authors have noted that experienced users seem to differ in their cognition and behaviors from less experienced users. Ward and Lee (2000) find that they rely less on brand names. Bruner and Kumar (2000) conclude that they are less irritated by "noisy" Web page layouts. Novak et al (2000) find that they experience flow in a different way from novice users. However, the reasons for these effects are not given much elaboration. In this article we do a thorough investigation into the mechanisms that are at work when Internet users become more experienced. Based on this, we can predict and explain changes in user behavior. The article adds new insights to theory on Internet usage by looking at previously uninvestigated relationships, and to theory on experience by examining consequences in an interaction-rich medium. Important implications for Web marketing practice are also provided. Data from three different empirical studies are analyzed.

Consumer experience

With repeated usage of a product or performance of a task, people become more experienced (Bettman and Park, 1980; Punj and Staelin, 1983; Johnson and Russo, 1984; Alba and Hutchinson, 1987). Increasing experience has significant effects on consumer behavior (Larkin et al, 1980; Maheswaran and Sternthal, 1990). These changes in behavior are important determinants of the success of different marketing activities. Experience is often used interchangeably with the

terms familiarity and expertise. More formally, the latter terms may be consequences of experience (Alba and Hutchinson, 1987). For the sake of our purpose, we will focus on experience and a number of its effects, drawing from literature in all three areas.

One fundamental effect of experience is increased speed. A single functional relationship characterizes virtually all investigated examples of practice and speed-up, suggesting that it is a rather fundamental property of the learning process (Alba and Hutchinson, 1987). Haider and Frensch (1999) show in a number of experiments that experienced users identify visual targets quicker than users with less experience of the task. Computer usage and search engine navigation have also been found to speed up with experience (cf. Moran, 1980, Lazonder et al, 2000). Repeat purchasing follows the same pattern, as repeat purchases tend to be made more and more quickly (Hoyer, 1984). In choice processes, consumers with low familiarity require the longest time, whereas consumers with high familiarity require the shortest time (Park and Lessig, 1981). Alba and Hutchinson (1987) summarize that there are simple but powerful effects of repetition on virtually every type of cognitive task: tasks are performed more rapidly and make smaller demands on cognitive resources.

A second major effect of experience is related to information detection and discrimination. According to Alba and Hutchinson (1987), the ability to analyze information, isolating that which is most important and task-relevant, improves as familiarity increases. The expert restricts processing to relevant and important information. This is considered a key facet of expertise (Johnson and Russo, 1983; Alba and Hutchinson, 1987). Haider and French (1999a) call this information reduction - with practice, people learn to distinguish task-relevant from task-redundant information and to ignore task-irrelevant information. The focus on relevant information also leads to less search (Punj and Staelin, 1983), as the information is better organized (Johnson and Russo, 1983; Park and Lessig, 1981).

A third effect of increasing experience is decreased cognitive effort. Simple repetition improves task performance by reducing the cognitive effort required to perform the task (Alba and Hutchinson, 1987). Repeat buying is one example. Consumers may not be motivated to engage in a great deal of in-store decision making at the time of purchase when the product is purchased repeatedly, lending them to apply very simple choice rules or tactics that provide a satisfactory choice while allowing a quick and effortless decision (Hoyer, 1984). Wright (1975) states that certain decision strategies require a considerable degree of cognitive effort which the consumer may be unwilling to expend. The major goal in many repetitive decisions is not to make an "optimal" choice but, rather, to make a satisfactory choice while minimizing cognitive effort.

Consumers optimize time and effort as opposed to consequences. This is also noted by Bettman and Park (1980), who conclude that high experience consumers do not have the motivation to process more information. Assuming that consumers generally have a disutility for cognitive effort, one major benefit of product familiarity should be a reduction in effort expended during consumer decision making and product usage and, in some cases, repetition leads to performance that is automatic (Alba and Hutchinson, 1987). This last effect, called automaticity, will be discussed further in the next section.

Related to the effect of decreased cognitive effort is the decrease in involvement. Inexperienced consumers engage in extensive problem solving (cf. Howard and Sheth, 1969; Howard, 1977; Bettman and Park, 1980). With repetition and familiarity, task performance tends to become more routine and less involving (Howard and Sheth, 1969; Howard, 1977; Alba and Hutchinson, 1987; Rossiter and Percy, 1987; 1997). Consumers become less involved and try to minimize their efforts as they gain experience (Wright, 1975; Bettman and Park, 1980; Alba and Hutchinson, 1987). The effects of this will be discussed under the section on involvement with the medium.

The four discussed effects seem to be common for most repetitive activities. They are especially prominent under conditions of time pressure and information overload, e.g., through the presence of distracting stimuli (Wright, 1975; Hoyer, 1984; Alba and Hutchinson, 1987). These conditions are likely to be found on the Internet.

Usage of the Internet is likely to fairly often occur under some amount of time pressure. This may be due to the fact that the user is surfing the Web at work or in school (a very large amount of the reported usage, cf. GVU, 1998), where other activities or users compete for the time. Another reason may be the wish to keep costs down when surfing from the home or a café. Furthermore, if experience leads to increased speed of usage, this time pressure should be reinforcing to some extent, as later visits are made on less time. The number of distracting stimuli tends to be rather high on the Web, which is an information-intensive medium where many advertisers, links, pictures and more compete for attention (cf. Dahlén, 1997, Khan and Locatis, 1998).

We would thus expect experienced users to make shorter visits on the Web, as their performance speed increases. This may also be due to the fact that experienced Web users are better able to find what they are looking for and not engage in distracting activities. This leads to our first hypothesis:

H1: Experienced users have shorter Web sessions than less experienced users.

Furthermore, experienced users should be less inclined to search around on the Web. They want to reduce cognitive effort and rely more on internal information. Thus, experienced users should rely more on an evoked set of Web sites they are already familiar with and visit fewer new Web sites. This leads to our second hypothesis:

H2: Experienced users visit fewer new Web sites than less experienced users.

As Internet users become more experienced, involvement goes down. The fascination with the medium fades and we would expect Web usage to become more routine. This should be reflected in the activities undertaken on the Net. This leads to our third hypothesis:

H3: Experienced users use the Web more for practical and routine uses than do less experienced users.

Automaticity

Automaticity is a more extreme effect of experience than speed-up and reduced cognitive effort. Automaticity manifests itself in processes that can be performed with minimal effort and without conscious control (cf. Schneider and Schiffrin, 1977; Alba and Hutchinson, 1987). The impact of automaticity is important for marketers, as it may influence the effects of e.g. in-store activities and advertising (Alba and Hutchinson, 1987). As the limit of advertising is not that of retention but that of attention, when consumers try to economize their efforts (Krugman, 1988), the impact of automaticity may be critical.

During automaticity, people learn what they attend to (Logan et al, 1996). Automatic performance emphasizes speed, as automatized targets are more easily recognized. Eye-movement tracking experiments show that with automaticity, task-redundant information is ignored at a perceptual rather than conceptual level of processing (Haider and Frensch, 1999b). Spatial indexing is an effect of automaticity, resulting in a familiarity with potential target locations. This enhances visual search performance and attentional processing (Fournier, 1994; Wright and Richard, 1999). Consumers encode locations of stimuli (Logan, 1998). When locations are changed, performance is significantly worsened. Locations of stimuli, in patterns, in relation to context etc., are more important during automatization than other factors such as element identities and color (Lassaline and Logan, 1993; Chun and Jian, 1998).

On the Web, consumers navigate using their visual attention. Most Web pages tend to have similar layouts, i.e., content in the middle of the screen and ads and links in the periphery of the screen. As Internet users become more experienced,

they should automatically focus their attention on the content in the middle of the screen and ignore the peripheral stimuli.

According to Alba and Hutchinson (1987), the effects of automaticity will have an especially strong impact when the consumer is under time pressure or when the stimulus environment is complex. As we have previously concluded, both these conditions apply on the Web. Of particular importance is the fact that many Web sites are crowded with stimuli competing for attention. Thus, there is a strong likelihood that Web users will focus their attention through automaticity.

More specifically, we expect Web users to automatically screen out advertising (which mainly takes the form of banner ads, cf. IAB, 1999) on the Web pages they visit, as they become more experienced. Thus, experienced users should have lower ad awareness than less experienced users. Ad awareness can be measured as both ad recall and ad recognition (Tellis, 1998). This leads to our fourth hypothesis:

H4: Experienced users have lower ad awareness (ad recall and ad recognition) than less experienced users.

Involvement with the medium

We have previously argued that involvement will decrease as users become more experienced. Involvement has been proven to be a major determinant of consumer behavior and advertising response (cf. Laurent and Kapferer, 1985; Celsi and Olson 1988; Dahlén et al, 2000). Consumers highly involved in the specific product or advertisement process the ad more and remember it better (cf. Petty et al, 1983; Petty and Cacciopo, 1984, Laurent and Kapferer, 1985). Here we will focus on involvement with the medium. Involvement with the medium, or advertising context, has been shown to affect consumer response to inserted ads, making this an important factor for advertisers to consider (cf. Lorch et al, 1994; Tavassoli et al, 1995).

Most research on involvement with the advertising context has focused on television advertising. The results are not completely clear. Krugman (1983; 1986) finds that commercials placed in continuous involving program formats have 2-3 times the effect of commercials placed in less involving formats. Kennedy (1971) provides evidence that learning is affected by the emotional environment in which it takes place. An individual, upon completion of an intense emotional experience provided by a TV program, tends to be susceptible to new or previously opposed ideas, for example in the following

advertisements. Kennedy's (1971) conclusion is that involvement with the program environment affects commercial performance positively.

Soldow and Principe (1981) and Pavelchak et al (1988) find that high involvement in a TV program affects advertising performance negatively. Tavassoli et al (1995) conclude that there is evidence both for a positive effect of involvement and a negative effect. The authors reconcile these differences in an inverted-U relationship. Moderate involvement has a positive effect, whereas high and low levels of involvement have negative effects on memory and attitudes toward advertising. It may be worth to note that the levels of high involvement in some studies (e.g. the super bowl frenzy) may be considered as extreme.

Studies have also been conducted in other media. Norris and Colman (1996) provide evidence for context effects operating in the radio medium. More involving programs yield higher ad recall and brand communication effects. Pham's (1992) study of a sponsored event shows that increasing involvement (unless extreme) tends to benefit embedded advertising. Studies on print media may be particularly interesting since the Web is similar to print media, where ads are embedded in the pages. Buchholz and Smith (1991) argue that print media require the active participation of the audience since reading words is a relatively demanding cognitive task. Greenwald and Leavitt (1984) note the limited ability of print media to get a meaningful response from uninvolved consumers through rapid page turning and only partial scanning of page contents. Thus, print media have limited opportunity to influence uninvolved or passive audience members. Print media may not get far (if anywhere) in terms of processing depth for low-involvement consumers.

Another context factor that has been suggested to have an effect on advertising performance is pleasure. Pleasure may affect commercial performance positively (cf. Golberg and Gorn, 1987) and enhance ad recall (Pavelchak et al, 1988). This is due to the fact that a positive affective state promotes learning by increasing consumer motivation (Pham, 1992).

We expect Internet user involvement with the medium to decrease with experience (as discussed earlier). High or moderate involvement (we believe that initial user involvement will be high, but not extreme. Relating to previous studies, this level can be defined as either high or moderate – the level of involvement will be high enough to positively affect advertising performance, but not too high.) will prevail initially as the task of using the Internet is new and the novelty of the medium produces some fascination. With experience, the fascination wears off and usage becomes more routine (as stated in H3), leading to a low level of involvement with the medium. When it comes to advertising,

the Web bears close resemblance to print media, where ads are embedded in the pages. Here, reader involvement seems to be crucial. Thus, we would expect a decrease in Web advertising performance as users become experienced. Furthermore, as usage of the Internet becomes more routine and practical, the amount of pleasure should be smaller. This also suggests that advertising performance should decrease. Advertising performance on the Web is generally measured as banner ad clickthrough (cf. Briggs and Hollis, 1997; Dahlén et al, 2000; Hoffman and Novak, 2000). Increased brand attitude is a universal communication goal for all advertising (Rossiter et al, 1991; Rossiter and Percy,1997) and thus another important basis for evaluating Web advertising performance (cf. Briggs and Hollis, 1997; Dahlén et al, 2000). This leads us to the following hypothesis:

H5: Experienced users respond less to Web ads than do less experienced users. More specifically, experienced users a) click less on banner ads and b) exhibit a smaller change in brand attitude in response to banner ad impressions.

Method

Data were collected in three different studies.

Study 1

The aim of this study was to test hypotheses H1-H3. In order to do this, the behaviors of Internet users with varying levels of experience had to be compared. This was done in a survey of Swedish Internet users in 1997.

A random sample of 1100 email addresses to Internet subscribers was drawn from the customer database of Sweden's second largest Internet service provider. The subscribers were both private users and company users. They received an email invitation to participate in the study and a link to the questionnaire site. 413 respondents completed the questionnaire, yielding a response rate of 38 percent.

For measurement of *Internet experience*, the respondents were asked how long they had used the Internet. This corresponds with the conceptualization of Internet experience in Ward and Lee (2000) and Novak et al (2000). The question was measured on an open-ended ratio scale, where respondents typed in any number of months. Similarly, the *length of Internet sessions* was measured with an open-ended question: "how long is a typical Internet session for you?", where respondents typed in any number of hours and minutes. The *proportion of new Web sites visited* was measured with the question "approximately, how big a share of your Web site visits are visits to new,

previously unvisited Web sites? ". The answer was given in percent on a ratio scale. The *form of visit* was measured with two questions: "How often do you engage in activities with no specific purpose or activities you had not planned beforehand?" and "How often do you engage in focused, practical activities decided beforehand?". The answers were given on a five-point scale (1=never, 5=every visit).

Study 2

The aim of this study was to test H4. In order to do this, we needed to compare users with varying levels of Internet experience and their reactions to Web ads. This was done in a study where Internet users were unobtrusively observed as they were exposed to banner ads and later surveyed. Visitors to three high traffic, Swedish magazine Web sites were intercepted with a pop-up dialog box inviting them to participate in a study on marketing. Those who agreed, were given cookie files that registered the banner ads they were exposed to. An invitation to participate in a survey was sent out via email 2-5 days later. In this survey, ad awareness was measured and matched with each respondent's behavior from the cookie file. The response rate in the first recruitment step was 23 percent. In the second step, 78.6 percent completed the questionnaire. The study was conducted in 1999.

Internet experience was measured the same way as in study 1. *Ad awareness* was measured as brand-prompted ad recall ("in the last few days, have you seen a Web ad for *brand x*?") and as ad recognition ("do you recognize this ad?"), on a dichotomous yes/no scale. These measures were based on the recommendation by Tellis (1998).

Study 3

The aim of this study was to test H5. In order to do this, we needed to compare users with varying levels of Internet experience and their reactions to Web ads. This was done in a study similar to study 2, where Internet users were unobtrusively observed as they were exposed to banner ads and later surveyed. Clickthrough was also automatically reported. This time, visitors to Sweden's most visited web site were intercepted. The response rate in the first recruitment step was 29 percent. In the second step, 75 percent completed the questionnaire. A total of 14600 responses were collected. The study was conducted in 2000.

Internet experience was measured as length of usage on a five-point ordinal scale (see tables II and III in the results section), taken from Ward and Lee (2000) and Novak et al (2000). Brand attitude was measured with a seven-point semantic differential (1=*brand X* is the best in *the product category*, 7=*brand X*

is the worst in *the product category*). For each product, the brand name and the product category were substituted in the statement. This measure was based on the recommendations by Rossiter and Percy (1987; 1997).

Results

In study 1, Internet users were divided into quartiles, based on their experience. Differences were rather small – the least experienced quartile consisted of people with five months or less experience, whereas the most experienced quartile consisted of people with ten months or more experience. This is not so surprising, as the Internet was new to most users at the time and overall experience was thus comparably low. Therefore, comparisons were only made between these two extreme quartiles. The results are depicted in Table I.

Table I. Hypotheses H1-H3. Internet experience and user behavior.

Internet experience	**Low experience (< 5 months)**	**High experience (> 10 months)**
Web session length $n = 413, p < 0.001$	59 minutes	26 minutes
Percentage of new sites visited $n = 285, p < 0.001$	45.3 %	23.3 %
Form of the visit	*No purpose/no plan* Every visit: 21.4 % Never: 5.4 % *Practical/plan* Every visit: 35.3 % Never: 17.6 %	*No purpose/no plan* Every visit: 3.8 % Never: 17.5 % (53.8 % rarely) *Practical/plan* Every visit: 67.1 % Never: 1.2 %
$n = 326, p < 0.001$		

In order to test the hypothesis that Web sessions become shorter with experience, mean comparisons were made between high experience users and low experience users. Low experience users were found to spend more than twice the amount of time on average during a typical Web session than did high experience users. Hypothesis H1 is thus supported: experienced users have shorter Web sessions than less experienced users.

Mean comparisons were also made between the two user groups with respect to the proportion of new Web sites they visit. Once again, low experience users produced a mean value double the mean for high experience users, indicating that the former are more frequent visitors to new Web sites. H2 is thus supported: experienced users visit fewer new Web sites than less experienced users.

In order to test the hypothesis that experienced users are more practical and routinized in their Web usage, cross-tabulations were conducted for "no purpose or plan" visits and "practical and planned" visits, respectively. Among high experience users "no purpose or plan" visits were clearly under-represented, whereas "practical and planned" visits were significantly over-represented. The opposite patterns were found for low experience users. Hypothesis H3 is thus supported: experienced users use the Web more for practical and routine uses than do less experienced users.

The data in study 2 on Internet experience was divided into five groups in order to match the scale in study 3. Cross-tabulations were conducted to compare ad recall and ad recognition between the user groups. The results are shown in Table II.

Table II. Hypothesis H4. Internet experience and ad recall and ad recognition.

User experience	**< 6months experience**	**6-12 months experience**	**1-3 years experience**	**4-6 years experience**	**> 6 years experience**
Ad recall n = 1204, p<0.01	28.7 %	25.5 %	24.8 %	21.2 %	15.7 %
Ad recognition n = 1204, p<0.01	39.1 %	28.7 %	26.1 %	23.4 %	23.1 %

As can be seen, both types of ad awareness follow a clear pattern. The least experienced users display the highest levels of ad recall and ad recognition. The levels drop through the more experienced user groups, and the lowest levels are found in the most experienced user group. H4 is thus supported: experienced users have lower ad awareness than less experienced users.

In order to test hypothesis H5, clickthrough rates and brand attitude changes from mere banner ad impressions were compared between the user groups. The results are depicted in Table III.

Table III. Hypothesis H5. Internet experience and brand attitude change.

User experience	< 6 months experience	6-12 months experience	1-3 years experience	4-6 years experience	> 6 years experience
Clickthrough rate n = 5916, p < 0.01	2.3 %	0.6 %	0.4 %	0.3 %	0.3 %
Brand attitude n = 3930	+ 16.9 % (p<0.01)	not significant	not significant	not significant	not significant

There is a marked difference between the least experienced users and the other groups in the propensity to click on banners. The least experienced users are four times more likely to click on banner ads than the other users.

To test the effects of banner ad impressions (without clickthrough), brand attitude was compared between users exposed to certain banner ads and users who were not exposed to the banner ads. As can be seen in table III, there is a significant difference in brand attitude between exposed and non-exposed consumers in the least experienced user group. This indicates that banner ad impressions have a positive effect on brand attitude for these users. The comparisons between exposed and non-exposed consumers in the other, more experienced, user groups produced no significant results. With respect to brand attitude, more experienced users do not seem to be affected by banner ad impressions.

Hypothesis H5 is thus supported: experienced users respond less to Web ads than do less experienced users. More specifically, experienced users a) click less on banner ads and b) exhibit a smaller change in brand attitude in response to banner ad impressions.

Summary and Managerial Implications

The results in this article indicate that Internet experience is an important factor for marketers to consider. Three different data sets, spanning over a period of four years, all provide evidence on the effects of increasing user experience. This suggests that the investigated effects are not related to the novelty of the medium, but rather the process of learning that all Internet users go through. Internet experience is thus an enduring phenomenon, which deserves increasing attention in the future.

As experienced Internet users change their behavior and make shorter, more practical and routine visits to a decreasing number of familiar Web sites, they

become harder to attract on the Net. This should be a bad thing for marketers, as the space for marketing decreases. However, in one respect, the effects may be positive. Shorter, routine visits to mostly familiar sites indicate that, contrary to popular belief, Internet users should become more loyal with experience. If a Web site manages to get into the Internet user's evoked set, it may take a very favorable position and become more immune to competition as the user gains experience. E-loyalty could thus be the most important marketing weapon in the future (cf. Reichheld and Schefter, 2000).

Considering this, Web marketing should be differentiated with respect to user experience. One aspect of this is, of course, that more focus should be put on marketing towards new users. Firstly, this gives the potential advantage of gaining loyal consumers. Secondly, as far as "traditional" Web marketing in the form of banner ads and the like goes, new users are the only target group where marketing seems to have a major effect. Marketing to more experienced users may be a waste.

A second aspect of this is that new Web marketing formats are needed to influence experienced users. One way is to challenge the automaticity of the users and try to gain attention through new page layouts and challenging (or integrated) ad placements. Another way is to offset the low user involvement by making the Web visit more compelling. Activities should be designed to engage users more actively in the advertising context.

In conclusion, the view of Internet users both among practitioners and researchers need to be altered. Instead of focusing only on how the medium develops, we need to learn how the users develop. Internet users can not be seen as static in their behavior. Rather, we must learn how usage changes and be able to predict how users will respond to marketing as time progresses. This is important as more and more users are becoming experienced.

Turning to more general theoretical issues, the present studies have shown that experience is an important factor not only in product search and usage and performance of specific tasks, or reactions to advertisements, but also in general media usage and response. Specifically, we have suggested that involvement with the medium may decrease with experience. These issues deserve more attention.

Limitations

There are two limitations with the methodology in this article that need to be considered. Firstly, the frequency measures in study 1 are based on self-reports. This is always a potential source of error (for a review, see Schwarz, 1999). The

absolute values should therefore be viewed with caution. However, the focus of analysis is relative values and comparisons, in which errors should cancel each other out. The second limitation is the conceptualization of Internet experience as length of usage. This corresponds well with previous work by Ward and Lee (2000) and Novak et al (2000). However, there are other ways to measure experience, such as frequency of usage. This was used by Bruner and Kumar (2000), in their study. The frequency measure could possibly yield different results. Furthermore, the relationship between the two different measures deserves more attention.

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Real Consumers in the Virtual Store

Abstract

This article deals with shopping on the Internet. On a basis of environmental psychology theory, we examine the effects of this new retail interface on consumer shopping behaviour. In an empirical study we contrast Web shopping with physical store shopping. The findings show discrepancies with regard to the amount and form of purchase planning. Internet shoppers plan their purchases better and seem to be less susceptible to marketing activities. However, these discrepancies can be attributed to differences in store stimuli, as the Web retail interface is not well designed in marketing terms. The mediating effect of shopping orientation was examined and found not to be significant. However, the distribution of shopping types has important implications.

Introduction

Electronic marketing has the potential to upset almost every industry in the 21st century and the law-like generalisations of marketing need to be revisited (Achrol and Kotler, 1999; Sheth and Sisodia, 1999). The Web is a new retail format (Griffith and Krampf, 1998), as yet largely unexplored. As business moves onto the Web, retailers are confronted by a new consumer interface. What effects does this shift bring about? This is one of the most important issues in marketing today (Hoffman and Novak, 1996; Degeratu et al, 2000). In this article we will address the issue of changing consumer shopping behaviour as marketing and retailing moves online.

A growing body of research has focused on the new marketing logic in the Internet shopping environment (cf. Hoffman and Novak, 1996; 1997; Armstrong and Hagel, 1996; Berthon et al, 1996; Peterson et al, 1997; Venkatesh, 1998; Klein, 1998). However, research concerned with comparing shopping behaviour in online and traditional stores is still very limited. Alba et al (1997) discuss information search conceptually. Degeratu et al (2000) test empirically the differences in the salience of search attributes. In the present article we go one step further and empirically investigate the differences between shoppers on the Net and in traditional stores with respect to actual purchase behaviour.

Previous research on the impact of Internet retailing on shopping behaviour has treated the virtual store layout as a given, exogenous factor (cf. Alba et al, 1997; Degeratu et al, 2000). In this article we will not only identify differences between online and offline shoppers, but will also explain how these differences are based on the virtual store layout. In doing so we draw on the vast body of

literature regarding traditional store layout. This is important since at the present time Web store formats are fairly rudimentary, e.g. taking the form of product lists in alphabetical order. This need not be so. The Internet offers enormous technological potential for promotion and manipulations of store design (Burke, 1996; 1997a; 1997b), a potential that has not yet been exploited (cf. Jarvenpaa and Todd, 1997a; 1997b; Spiller and Lohse, 1997). What is the customer response to existing Web store formats, and how can Internet shoppers be expected to respond to more advanced designs? These questions will be addressed below.

The article begins with the presentation of a theoretical framework based on environmental psychology and the classical S-O-R model. We then review the theory that is relevant to the three elements in the S-O-R model on retailing: the way marketing stimuli affect consumer behaviour and how the stimuli differ as between Web stores and physical stores, consumers' inherent shopping orientations and central aspects of shopping behaviour. On a basis of this, a number of hypotheses regarding differences between Internet shoppers and traditional shoppers are proposed and tested in an empirical survey of Web grocery shoppers. The article ends with a discussion of our results and some implications for management, as well as suggestions for further research.

Theoretical framework: environmental psychology

Environmental psychology has been applied in numerous studies on the effects of store layout on consumer shopping behaviour (for a review, see Spangenberg et al, 1996; Bitner, 1992; Ridgway et al, 1990). It is based on the stimulus-organism-response (S-O-R) model. The model indicates that different stimuli (S), mediated by consumer characteristics (O), will result in different consumer responses (R) (cf. Wärneryd et al, 1979). Thus, marketing stimuli, such as retail environments and promotional activities, will affect consumer behaviour (Spangenberg et al, 1996; Bitner 1992; Donovan and Rossiter, 1982).

Investigated stimuli include colour (Crowley, 1993), clutter (Bitner, 1990), crowding (Eroglu et al, 1990), in-store music (Milliman, 1986) and scent (Spangenberg et al, 1996), for example. These are all factors that should be considered when designing a physical retail store. On the Internet, the interesting aspects are those that are directly related to the presentation of the merchandise constituting the customer interface. Technology enables endless manipulations of this interface (Burke, 1996; 1997a; 1997b). The Web retail interfaces of today differ markedly from traditional stores.

When comparing consumers' shopping behaviour in the Internet and in traditional stores it can be useful to consider the consumers' shopping

orientations, as they have been proven to affect marketing response (cf. Spiggle and Sewall, 1987; Solomon, 1992; Laaksonen, 1993). The consumers' shopping orientations can mediate the effects of the differences between the Web and traditional store customer interfaces and can operate as an organism variable.

Consumer responses to different store stimuli have been measured in terms of evaluations of the store (e.g. overall attitude towards the store, shopping enjoyment, perceived time spent etc.) and of actual shopping behaviour (cf. Spangenberg et al, 1986; Bitner, 1990; 1992; Donovan and Rossiter, 1982). In this study we will focus on actual shopping behaviour. We will look at three important facets of shopping behaviour: purchase planning (cf. Kollat and Willett, 1967; Cobb and Hoyer, 1986; Iyer, 1989), store patronage patterns (cf. Magi, 1999; Dréze and Hoch, 1998) and goal-derived purchases and consumption (cf. Ratneshwar and Shocker, 1991; Cohen and Basu, 1987; Lange and Wahlund, 2000). These all help to determine how much influence the retailer has on consumer choice, with regard to the choice of products and the amount of products purchased. The first concerns the extent of planning involved in the individual purchase, the second concerns the extent of planning over purchases, and the third concerns the form of the planning. All three can be expected to change when consumers are faced with the new retail environment.

Applying the S-O-R model to the problem at hand, we find that the Internet and the physical store constitute two completely different customer interfaces and thus present consumers with different stimuli. Hence, we have reason to believe that consumers will behave differently when shopping on the Internet, in response to the different stimuli that the Web store offers. The impact of the stimuli (i.e. the Web store design) and resulting behaviour may differ between consumers depending on their shopping orientations. In the following section we review the literature supporting the claim that customer interface affects consumer behaviour, and take a look at retail practice on the Internet to date.

The impact of customer interface on consumer behaviour

A majority of product choices are made in-store (cf. Needel, 1998; Malhotra, 1993; Lange and Wahlund, 1997). Since most purchases are low involvement, simple external cues are consequently all that are needed (cf. Engel et al, 1995; Solomon, 1992; Petty et al, 1983). This means that consumers may be greatly influenced by the store layout and promotional activities. Studies of catalogue shopping have shown that visual cues such as the groupings, the placement and the size of products all affect the attention and search behaviour of the consumers and the rules that govern their decisions (cf. Huffman and Kahn, 1998; Janiszewski, 1998).

There are several examples of innovative layouts leading to an increase in sales and margins. Walters (1991), Drèze et al (1994) and Drèze and Hoch (1998) have shown that cross-merchandising (i.e. presenting certain products next to each other or promoting them jointly) can boost sales substantially. Interestingly, Drèze and Hoch (1998) found that two cross-promoted brands do not have to be complementary or located close to each other in the store to generate higher sales. One reason for this is the increase in in-store 'foot traffic', with consumers walking around more in the store.

Space management is a common device employed by retailers and manufacturers. The idea is to optimise the shelf space used by various products in order to maximize revenue. This entails deciding how much space to allot to different product categories and brands, and where these should be placed. There is strong evidence that placement affects consumer choice, e.g. products that are given more space (cf. Cox, 1970; Curhan, 1972; Dreze et al, 1994; Janiszewski, 1998), or put on special display (cf. Chevalier, 1975; Wilkinson et al, 1981; Julander, 1984) will sell better (they attract attention and are being flagged as important). Me-too brands placed next to category leaders will also do better (Buchanan et al, 1999).

Few experiments have been performed on the effects of Web store layout on consumer behaviour and sales. Those reported have all been conducted in a laboratory setting. Westland and Au (1997) compared catalogue search, bundling and virtual reality storefront Web interfaces, and found that the last of these requires more search time but does not generate more sales. The experimental design was presented to student subjects and simulated gift shopping, a fairly special category where there is a low propensity for impulse buying and the consumers probably have rather a fixed budget. In another laboratory experiment, Burke (1997b) notes that a virtual reality storefront requires less time on the part of the consumers and makes them less price-sensitive, compared with a text based system. Comparisons have also been made between scanner data generated by physical store shopping and computer simulated shopping. Burke et al (1992) and Campo et al (1999) found discrepancies in the quantities purchased, the selection of products and the effects of promotions.

The Web retail customer interface

In an often-cited article, Burke (1996) describes the existing technology for virtual shopping, as mirroring or even surpassing existing physical structures. Compared to the physical shopping environment, production costs are low, as displays are created electronically, added to which it is very flexible – '...the virtual store has great flexibility. It can display an almost unlimited variety of

products, styles, flavours, and sizes in response to the expressed needs and desires of consumers' (ibid. p. 131). It is possible to extract knowledge about consumers in a much more detailed way (e.g. time spent shopping in each product category, time spent examining each side of a package, quantity of products ordered and the order in which items are purchased). 'One benefit of a computer-simulated environment is that it gives marketers more freedom to use their imagination' (Burke, 1996; p. 123). This author believes that the virtual store may one day become a channel for direct, personal and intelligent communication with the consumer, a channel that encompasses research, sales, and service. The argument is developed further in Burke (1997a; 1997b).

There should with the virtual shopping technology available, one might think, be ample opportunity for virtual retailing today. Griffith and Krampf (1998, p. 73) claim that 'The Web may be a fundamental paradigm shift in retail format', and go on to say that '[t]he limitless opportunities of the Web make it one of the most important issues in retailing today'. An evaluation of the way retailers actually use the Internet and its various features can flesh out these prophecies somewhat. In a study of the US Top 100 Retailers, Griffith and Krampf (1998) found that 64 per cent maintained Web sites. Only a fraction of these used sales promotion, visual aids and product displays or other marketing stimuli. Shelley Taylor and Associates (1999) studied 50 retail sites and concluded that Web retailers fare less well in compared with physical retailers, as they provide little help and put little marketing effort into the consumer interface.

In a survey of Internet users, Jarvenpaa and Todd (1997a) found a general dissatisfaction with Web stores due to their lack of knowledge of consumer behaviour and their poor performance when it comes to important factors such as product perceptions, shopping experience and customer service. Similarly, in a classification of Internet retail stores, Spiller and Lohse (1997) reveal that 'a preponderance of the stores ... had limited product selection, few service features and poor interfaces'.

A review of Web retail sites shows that the customer interface differs markedly from that in physical stores. Generally speaking, there is a lack of the kind of marketing stimuli that we have treated in the preceding section. Few promotional activities are employed and the presentation of products is fairly rudimentary. We can thus conclude that there is a difference in stimuli as between the Web store and the physical store, and we expect this to result in a different kind of in shopping behaviour on the Net. This point will be discussed further in the later section on the development of hypotheses.

Shopping orientation

A prominent feature in models of shopping behaviour is the consumer's *shopping orientation*, which can be described as a general attitude towards shopping (Solomon et al, 1999). The consumer's shopping orientation is an enduring trait that affects the individual's store patronage, behaviour in the store and reactions to marketing activities (cf. Spiggle and Sewall, 1987; Solomon, 1992; Laaksonen, 1993). It has been the subject of research over the last fifty years or so and has been used to explain how people react to changes in the retail environment (for a review, see Dahlén, 1999). As Web retailing poses a major change in the retail environment, it is relevant to look at shopping orientation as a mediating variable to consumer response.

Stone (1954) categorizes consumers in four different shopping types. The *economic consumer* is rational and goal-oriented and seeks to maximize the value of his or her money. The *personalizing consumer* wants service, assistance and personal contact, while the *ethical consumer* shops with a conscience, for example by supporting the local store. The *apathetic consumer*, finally, sees shopping as a necessary but unpleasant chore to be dealt with as painlessly as possible. In a later study, Bellenger and Korgaonkar (1980) identify a fifth shopping type called the *recreational shopper*. This person enjoys the shopping experience and devotes much time to it. Solomon (1992) brings these together in a set of five shopping categories. Laaksonen (1993) points out that a consumer can appear in different categories depending on the product (a person may be an apathetic grocery shopper for instance, and a recreational clothes shopper).

In groceries, for instance, every consumer can be described in terms of one of these shopping orientations. Depending on the shopping orientation, the consumer will behave in a specific way both when choosing a store and when being in it. The economic consumer will look for the lowest prices and will not be affected by special displays etc., whereas the apathetic consumer will not be interested in shopping around and will care less about prices and service. The recreational shopper will take her time, browse and be stimulated by the shopping environment, whereas the personalizing consumer will appreciate assistance and information.

Several studies have been made on consumers' shopping orientations. Table 1 presents a summary of the distribution of shopping types in previous studies.

Table 1.

Shopping orientation	Per cent
Economic consumer	27 – 48
Personalizing consumer	10 – 28
Ethical consumer	7 – 18
Apathetic consumer	17 – 35
Recreational shopper	3 – 3

Table 1: Shopping orientation – previous studies (Stone, 1954; Williams et al, 1978; Tollin, 1990; Dahlén, 1999)

For our purpose, a study of Internet shoppers' shopping orientations is interesting on two counts. Firstly, we can identify the current distribution of shopping types is in the Web store and what potential this offers. Secondly, we can expect that the five shopping types will react differently to the Web retail environment and will thus differ in the way they change their behaviour. Some shopping types are more susceptible to marketing stimuli than others and the different shopping types will focus on different aspects, which means that the Web customer interface will constitute a greater change for some than for others. For example, apathetic consumers may be more influenced by the retail environment than economic consumers; hence they will change their behaviour more when they shop on the Internet.

Consumer Response: development of hypotheses

In this section we will discuss three important dimensions of shopping behaviour that may change in the new environment: consumers' planning, store patronage patterns and goal-derived purchases and consumption. We will consider how the 'webbified' retail environment may affect these aspects of shopping behaviour. On this basis we will then develop hypotheses regarding the way Internet shoppers are likely to differ from shoppers in physical retail stores.

Planning: purchases

The impact of in-store purchase decisions on retail profits is great (for a review, see Persson, 1995). For retailers the propensity among consumers to make unplanned purchases is therefore a very important factor.

Research on physical store shopping shows that consumers make many purchase decisions at the point-of-purchase (Cobb and Hoyer, 1986). Empirical findings revealed a strong propensity among consumers to make unplanned purchases.

Cobb and Hoyer (1986) report that two-thirds of all product purchases are unplanned. In a Swedish study Lange and Wahlund (1997) found that total grocery purchases exceeded planned purchases by 80 per cent. Moreover, a large proportion of the planned purchases are only partially planned (Engel et al, 1995; Lange and Wahlund, 1997). That is to say, the choice of category to be purchased is made outside the store while brand choice is deferred until the consumer is at the store shelf. The consumers' choice of brands is thus often made in the store. Figures of up to 80 per cent have been reported (cf. Needel, 1998; Malhotra, 1993).

Few shopping trips are completely planned or completely unplanned (Iyer, 1989). Shoppers actively use the grocery stores to remind them of purchase needs and even to inspire them about what to consume (Holmberg, 1996). Because consumers make considerable use of grocery stores as a planning tool, the store layout and the merchandise presentation are very important factors for retailers. Once the consumer has chosen which store to buy from, in-store marketing can have a strong impact on retailer sales on individual shopping trips. Consumers who are prone to be "non-planners" will use the store itself as the main tool in their planning process (Holmberg, 1996). These shoppers may be influenced more than others by a stimulating store design with special displays and visual aids. Iyer (1989) relates the extent of unplanned purchases with the shoppers' knowledge of the store environment. A consumer who is unfamiliar with the store layout and the assortment will make more unplanned purchases. Knowledgeable consumers can use the store as an external memory and can plan their purchases in advance.

The level of unplanned purchases on individual shopping trips is expected to be lower on the Internet than in physical stores, since consumers are discouraged from browsing in the Web store by the alphabetical product displays and the paucity of visual stimuli offered by Internet retailers. Moreover, the simple design of Web stores is easily learned by shoppers. Web shoppers are thus not stimulated or inspired to make unplanned purchases. This leads us to our first hypothesis:

H1: Internet shoppers will make fewer unplanned purchases than traditional shoppers.

By traditional shoppers we mean shoppers in physical retail stores. We contrast grocery shopping on the Internet (the new store environment) with shopping in physical retail stores, which can be characterized as traditional shopping behaviour. By unplanned purchases we mean purchases that are not planned either as regards product category level or as regards particular brands. Following Iyer (1989), we include impulse buying in our conceptualisation of

unplanned purchases. However, unplanned purchases embrace more than impulse buying, as some products can be purchased as a result of a decision made in the store but *without* a sudden urge felt by the consumer.

Planning: Store patronage

Grocery store patronage is intensive. Eighty-four per cent of the shoppers in one study visited physical retail stores twice or more each week (Mägi, 1995). Consumers' planning of their purchases can be represented by a distribution over three kinds of shopping trip, which together constitute a patronage pattern: stockpiling, complementary purchases and single-item purchases (Lange and Wahlund, 2001; Kollat and Willett, 1967; Cobb and Hoyer, 1986).

Stockpiling is mainly a question of large purchases that consumers undertake rarely but regularly. These shopping trips can be regarded by default as being well-planned as the consumer has several consumption episodes in mind and a longer planning time span ('I need to buy the following products for breakfast, lunch and dinner for the whole of next week'). Complementary purchases may be less regular and less well-planned ('I need to buy breakfast for tomorrow on the way home from work'). Lange and Wahlund (2001) specifically establish that single-item purchases are common in grocery retailing. A single-item purchase can be regarded as highly specific to one consumption goal ('I ve run out of cigarettes. Where's the nearest store?' or 'I crave a sugar rush. I need a candy bar now!') and can be carried out at any time.

The structure of the patronage pattern will obviously differ from one consumer to another. Those who make many single-item and complementary purchases will be more unplanned regarding their purchases as a whole, and will make more store visits than the stockpiling-prone consumers, who will have longer intervals between visits and will thus behave in a better planned manner overall.

The patterns of consumers' store patronage make a strong impact on the conditions for retailer organization and on retailer profits. One aspect concerns the number of visits that consumers make to the store, and thus the number of opportunities for the retailer to influence their choices. A second aspect, as noted above, concerns the planning of purchases. It has been shown that planned purchases are made in the categories that serve basic consumption needs (cf. Kollat and Willett, 1967; Lange and Wahlund, 1997). The profitability of these products is presumably lower than that of products serving needs of an higher order, which are often bought on impulse.

In this study we focus on retailer stimuli. Is it possible that store type will affect the nature of shopping activities consumers make in the store? What is the role

of Web stores? Consumers perceive the Web environment as dull and not very stimulating. Studies by Indiana University and KPMG (1999) and NFO Interactive (1999) show that Internet users perceive Web stores as boring compared to physical stores, and do not feel inspired to shop there. Web shoppers can thus be expected to make fewer store visits and try to get as much as possible (i.e. stockpile) out of each shopping trip. The store design also encourages large purchases, since the only discriminating criterion in presentation of the merchandise is the differences in price, suggesting a disposition to buy economy packs.

We can expect longer intervals between store visits on the Web, which in turn will call for better overall planning of grocery purchases. Grocery purchases on the Internet will then consist mainly of the kind of products that consumers do normally plan for. We expect the patronage pattern of Internet shoppers to be better planned in, i.e. that they will make fewer shopping trips for complementary or single-item purchases and that they will stockpile more. This brings us to our second hypothesis:

H2: In their patronage patterns, Internet shoppers will be better at planning their overall purchases than traditional shoppers. More specifically, Internet shoppers will a) do more stockpiling, b) make fewer complementary purchases and c) make fewer single-item purchases than traditional shoppers.

Goal-derived consumer behaviour

In developing our third hypothesis we start from the idea the categorization and choice of products on the part of consumers is, as evidence shows, goal-derived – that is to say, consumers consume products to fulfil goals (Cohen and Basu, 1987; Ratneshwar and Shocker, 1991). Exploitation of this situation holds much promise for retailers, as it makes it easier to inspire consumers and remind them of their needs than the more traditional presentation of the merchandise based on logistics. The goal-derived approach is attracting increasing attention in research (Barsalou, 1983; Ratneshwar and Shocker, 1991; Ratneshwar, Pechmann and Shocker, 1996; Lange and Wahlund, 2000) and in practice (cf. Burke, 1997 a).

It is generally thought that the goal-derived categorization operates as a means to an end (Ratneshwar and Shocker, 1991). Examples of goal-derived categories are "foods to not eat on a diet" and "snacks to eat in front of the TV". Products belonging to several supply-defined categories may be considered in the same purchase situation, while products from the same supply-defined category may never be included in the same goal-derived category (Lange and Wahlund, 2001). Thus, product choice consideration often operates across supply-defined product categories, which suggests that consumers categorize products

differently compared with producers and retailers (Cohen and Basu, 1987; Alba et al, 1991).

Since product categorization precedes product evaluation (Sujan, 1985), the former will 'decide' the brands between which the consumers will choose when they make their purchases. Retailers traditionally use store shelves to separate different product categories from each other. We have already pointed out that the majority of purchase decisions are made in the store. The retailer's categorization of products will thus probably be a major factor in determining the products that consumers will evaluate – in terms of shelf space allocation in physical stores and the alphabetical product displays in Internet grocery retailer stores.

Grocery retailers do not usually think in terms of goal-derived categorization. Logistics, rather than consumer behaviour, have been the main reason why traditional retail stores look the way they do (Fader and Lodish, 1990). And logistical considerations have often been an obstacle when retailers have tried to use consumer-based product categories. Internet retailing can omit logistics in their interaction with consumers, and can instead build assortments that are more in line with the way consumers make their categorizations, since the restrictions of physical space management are far less prominent. The identification of attractive goal-derived product bundles or constellations can lead to larger purchases (Chintagunta and Haldar, 1998). Burke (1997 a) reports that an American retail chain boosted its sales by 50-600 per cent as a result of their meal composition programme, a different form of product categorization than the usual.

It might be expected that goal-derived assortment-building and merchandise presentation would give Internet retailers an opportunity to serve their consumer needs better than traditional retailers. Has this opportunity been exploited? Far from it. On the contrary, Web retailers do the opposite: the alphabetical presentation of supply-defined categories and of the brands within these categories does very little to stimulate goal-oriented purchase behaviour. Compared with the customers of physical retailers, who are faced with some cross-merchandising and enjoy interaction with store employees who can remind them of consumption goals, Web consumers will be less inclined to think in goal-derived categories when they are doing their shopping. We expect therefore Web stores to discourage goal-derived shopping. This leads us to our third hypothesis:

H3: Internet shoppers will be less goal-oriented in their shopping behaviour than traditional shoppers.

The mediating effect of shopping orientation

Changes in customer interface should lead to different reactions on the part of the different shopping types (cf. Spiggle and Sewall, 1987; Laaksonen, 1993). We would expect apathetic consumers to change their shopping behaviour more than economic consumers. As the former are more susceptible to external visual stimuli and tend to seek the simplest solution, they should be much better at planning in the virtual store (compared to the physical store, where the store itself can be used as a planning tool) as well as being far less goal-oriented (as no such stimuli are offered). Economic consumers, on the other hand, look for low prices regardless of the store environment and are less dependent on external visual stimuli, which means that the virtual store should exert less impact on their patronage patterns and their goal-oriented shopping. The same differences from economic consumers could be expected among recreational shoppers. These last are greatly affected by 'atmospherics', that is to say the presence of a variety of salient in-store stimuli (Bellenger and Korgaonkar, 1980). Fewer and less prominent stimuli in the customer interface should therefore lead to a greater change in behaviour among recreational shoppers than among economic consumers. This leads us to our fourth hypothesis:

H4: The consumer's shopping orientation will mediate the effects of the 'webbified' retail interface on the consumer's change in behaviour. More specifically, economic consumers will change their behaviour less a) than apathetic consumers and b) than recreational shoppers.

Research Method

To test our hypotheses we need to compare shopping behaviour on the Internet with traditional shopping in physical stores. In an earlier study Degeratu et al (2000) used separate samples of Web shoppers and physical store shoppers, and behaviours were compared at the aggregate level. In order to claim that differences are due to changes in behaviour that in turn are due to the 'webbified' environment, and to test for the mediating effect of shopping orientation, we cannot compare aggregate behaviours from separate samples. Instead we need to compare shopping behaviours on and off the Net at the level of the individual consumer, which thus calls for data on the same individual's shopping behaviour in the Web store and in the physical store.

The necessary data must include information on the actual shopping behaviours of these consumers on and off the Net. Actual behaviour data in physical stores is very hard to come by. The best proxy is scanner data. This data has certain drawbacks for our purpose, as it shows only the *outcome* of one shopping trip – or in the best case, when a panel is employed, of several shopping trips

(Håkansson, 1994). Retail-level scanner data is better suited to studies focusing on brand and product-category effects (cf. Blattberg and Wisniewski, 1989; Persson 1995). Scanner data tells us nothing about how the consumers actually act and think in their shopping, e.g. whether or not the purchase of a product was planned. For this kind of information it is necessary to ask the consumers. We wanted to get information about the consumers' general shopping behaviours and about how they use the stores in their shopping. Consequently we conducted a survey, asking consumers questions about their shopping behaviours.

The appropriate sample must consist of people who shop both on the Internet and in physical stores. As we can safely assume that everybody buys at least some groceries in physical stores, the solution is to sample consumers who are customers in a Web store. For this study we have sampled consumers from the customer database of one of Sweden's largest Web grocery retailers.

The Web store

We chose this particular Web retailer because it is one of Sweden's largest grocery retailers on the Web, as well as being the one that is most active in marketing its Web presence, for example through TV commercials and direct mail. The retailer is a typical example of a Web grocery store, with the same features that are generally found on grocery retail sites. Its interface consists of 15 product categories including bread, meat, fish, frozen foods and so on, which are listed in a frame on the left of the screen. If you click on one of the categories, an alphabetically ordered list of products is displayed, giving package size and price information. The customers click on the product they want and specify the number of items, whereupon it is placed in the shopping basket. It is also possible for shoppers to create their own shopping lists on the site, thereby standardizing their shopping by choosing automatically to buy products on the list.

Data collection and the sample

A sample of 1000 e-mail addresses to active Internet shoppers, defined as having shopped on the Internet at least three times during the last six months, was drawn from the Web store's customer database. The addresses included both private and work addresses. By e-mail, a letter was sent to all the selected shoppers, stating the purpose of the study and inviting them to participate.

A Web site was designed, with an on-line questionnaire for visitors to complete. The address to this site was given in the e-mail to the selected Internet grocery shoppers. These were the only people to know the address, and there were no links elsewhere to the questionnaire. All these measures were taken to ensure

full control over the sample. During a two-week period from 15-29 June 1999, 368 responses were recorded, giving a response rate of a little less than 40 per cent. No reminders were sent, as we did not want to intrude on the customers more than necessary. Further, all respondents were anonymous, so it was not possible to make an analysis of potential non-response bias.

All 368 respondents were active Web customers. They were also active shoppers in physical stores. The reported share of grocery purchases on the Internet gave a mean value of 33.9 percent and a median value of 25.0 percent, indicating a combination of Web store and physical store grocery shopping.

Measures

The Web retailer asked us to keep the number of questions to a minimum, so as not to annoy their customers. A considerable effort was thus made to capture the central issues connected with our hypotheses in as few items as possible. This corresponds to the suggestions in Kingsley and Anderson (1999), which criticize the old paradigm of multiple-item measures (see also Outman, 1977).

Unplanned purchases: The operationalization of unplanned and planned purchases has varied among the studies in this area (Cobb and Hoyer, 1986). The differences in research approach have been most obvious in studies comparing the purchase planning for different categories of products. In measuring the overall planning of grocery purchases a combination of entrance interviews and exit observations was used. These observations were either made visually or with the help of check-out receipts (cf. Granbois, 1968; Lange and Wahlund 1997). In analysing data, the number of products given on entry to the store have been compared with the number of products actually purchased. We deemed this approach to be too difficult in our context, as "entrance" interviews are very difficult and expensive to conduct in a Web retail setting.

Hence we used a self-reported measure of purchase planning on the Net. It has been shown that respondents develop well-formed scripts as to how they conduct grocery shopping (cf. Iyer, 1989), which suggests that they do have reasonable knowledge of their behaviour when it comes to planning their grocery purchases. The respondents' propensity to make unplanned purchases in the Web store was measured by asking 'How large a share of the grocery purchases you made last time on the Internet was *not* planned in advance?'. The answers were to be given in any figure between 1 and 100 per cent. In order to validate this self-reported measure, one more item was included: the statement 'I know what I am going to buy before I enter the Web store' was measured on a seven-point scale, ranging from 'never' (1) to 'always' (7).

Patronage pattern: Drawing on previous research (e.g. Kollat and Willett, 1967; Cobb and Hoyer, 1986; Lange and Wahlund, 2001) we included three items, namely stockpiling, complementary shopping trips and single-item shopping trips. To measure consumers' patronage patterns when shopping on and off the Net, a seven-point Likert scale was used (1 = never, 7 = always). Following Iyer (1989), the wording chosen for the items was, 'I use grocery retail stores (Web store) for stockpiling', 'I use grocery retail stores (Web store) for complementary purchases' and 'I use grocery retail stores (Web store) for single-item purchases'.

Goal-derived categorization: To measure consumers' behaviour as regards goal-derived categorization when shopping on and off the Net, a seven-point Likert scale was used (1 = rarely, 7 = often). The same six items were used for the Web store and the physical store. The wording of the question was based on previous studies of goal-derived categorization (Barsalou, 1983; Ratneshwar and Shocker, 1991), 'Does it occur that you shop in a grocery store (Internet grocery store) for a specific purpose?' which gives the respondents a relevant context (cf. Barsalou, 1983). The listed purposes were breakfast, lunch, dinner, party, picnic and evening in front of the TV, namely six goal-derived categories in which taxonomically different product categories can be evoked. In selecting the six usage situations we followed the recommendation in Ratneshwar and Shocker (1991), i.e. that goal-derived categories should be broadly rather than narrowly defined. To ensure their economic relevance for marketers they are also based on enduring consumer needs (Ratneshwar and Shocker, 1991).

Shopping types: For our classification of respondents into shopping types, we used the detailed descriptions that were given in Stone (1954) and Solomon (1992) and tested in Dahlén (1999). Respondents were asked: 'When shopping for groceries, which of the following types do you resemble most?'. The five descriptions were then listed, without labels, as types 1-5, from which the respondents were to choose one.

Results

Planning: purchases

The first hypothesis stated that Internet shoppers will make fewer unplanned purchases than traditional shoppers. We have reported data from several sources regarding the share of unplanned purchases on the consumer's latest visit to a physical store. In a study of Swedish grocery shoppers Lange and Wahlund (1997) found that the mean value of unplanned purchases was 45 per cent. This is a comparatively low figure (cf. Cobb and Hoyer, 1986, for a review;

Malhotra, 1993). A mean value significantly lower than 45 per cent for the latest shopping trip in the Web store should thus support our hypothesis.

The responses to the question 'How large a share of the grocery purchases you made last time on the Internet was *not* planned in advance?' produced a mean value of 13.0 per cent (median 10 per cent). Comparing this with the mean value of 45 per cent from the survey data on traditional shopping in Lange and Wahlund (1997), the share of unplanned purchases in the Web store is significantly lower ($p < 0.001$). The item 'I know what I am going to buy before I enter the Web store' yielded a mean value of 5.69 (median 6), indicating that the consumers plan their purchases well and do not let themselves be influenced in the Web store. The bivariate correlation between this question and the share of unplanned purchases on the Internet was –0.49 ($p < 0.0001$), providing strong validation of the self-reported measure. The purchase-planning behaviour in the Web store is in stark contrast to the behaviour in physical stores that has been reported in several of the studies reviewed above.

Hypothesis 1 is thus supported: Internet shoppers make fewer unplanned purchases than traditional shoppers.

Planning: patronage patterns

The second hypothesis stated that in their patronage patterns Internet shoppers will be better at planning their purchases. Paired samples t-tests were performed on the mean values reported for the different shopping trips on and off the Net. The results are presented in Table 2.

Table 2.

Type of store visit	Web store	Traditional store	Significance of mean difference
Stockpiling	6.1903	4.5994	$p < 0.01$
Complementary purchases	1.3125	5.1187	$p < 0.01$
Single item purchases	1.2089	3.8449	$p < 0.01$

Table 2: Store patronage patterns in Web stores and in traditional stores.

As can be seen, stockpiling reveals a much higher mean value in the Internet case, whereas the mean values for complementary purchases and single-item purchases are considerably lower. All three mean differences are statistically significant ($p < 0.0001$). We find that stockpiling is more common in connection with shopping on the Internet, and other shopping behaviour is less common. Further, behaviour on the Internet seems to be more polarized between stockpiling and the other types of shopping trip than the more evenly distributed

behaviour in traditional stores. There are no significant correlations between the amount of stockpiling on the Internet and the share of purchases on the Internet, which could have indicated that the Web store is just a substitute for traditional stockpiling store visits. This is not the case: Internet shopping represents a change in patronage patterns.

Hypothesis 2 is thus supported: In their patronage patterns Internet shoppers are better at planning their overall purchases than traditional shoppers. More specifically, Internet shoppers a) do more stockpiling, b) make fewer complementary purchases and c) make fewer single-item purchases than traditional shoppers.

Goal-derived shopping

The third hypothesis stated that Internet shoppers will be less goal-oriented in their shopping behaviour than traditional shoppers. Paired samples t-tests were performed on the mean values reported for goal-derived shopping on and off the Net. The results are presented in Table 3.

The mean values are overall quite low, suggesting that grocery stores can do more to remind consumers of consumption goals. Only two of the twelve alternatives – 'dinner' and 'party' in physical stores – have a mean value significantly above the middle alternative of the scale ($p < 0.001$).

Table 3.

Goal-derived category	Web store	Traditional store	Significance of Mean difference
Breakfast	2.51	2.97	$p < 0.01$
Lunch	2.38	2.57	$p < 0.05$
Dinner	3.26	4.70	$p < 0.01$
Party	2.96	4.65	$p < 0.01$
Pic-nic	1.93	3.51	$p < 0.01$
TV-dinner	1.79	2.75	$p < 0.01$

Table 3: Goal-derived purchases in Internet stores and in traditional stores.

For the specific usage situations studied, consumers make their purchases in traditional stores more often than in Internet stores. Five of the six tested mean differences are highly significant ($p < 0.001$). The exception was 'lunch', where the difference between stores was significant at the 5% level.

Thus, goal-derived shopping behaviour seems to be more frequent in traditional stores than in Web stores. The differences reported between store types indicate

that Internet retailers in particular do not encourage consumers to think about and purchase for consumption purposes.

Hypothesis 3 is thus supported: Internet shoppers are less goal-oriented in their shopping behaviour than traditional shoppers.

The mediating effect of shopping orientation

The fourth hypothesis stated that the consumer's shopping orientation will mediate the effects of the 'webbified' retail interface on the consumer's change in behaviour. Table 4 shows the distribution of shopping types in the sample.

Table 4.

Shopping orientation	Frequency	Percent
Economic consumer	43	11.7
Personalizing consumer	8	2.2
Ethical consumer	11	3.0
Apathetic consumer	294	80.1
Recreational shopper	11	3.0
Missing value	1	<0.1
Total	368	100

Table 4: Shopping orientation, frequency and percentage distribution

A large majority, 80 per cent, of the shoppers report themselves as being apathetic consumers. The second largest category of shoppers are economic consumers, comprising 12 per cent. The other shopping types together constitute eight per cent of the sample. Compared with the studies reviewed above, apathetic consumers are greatly overrepresented (80 per cent as against 17-35 per cent), while economic consumers are clearly underrepresented (12 per cent as against 27-46 per cent). These are very interesting results, as the majority of Web store customers prove to be apathetic consumers with great potential for being influenced by marketing efforts. Further, the other shopping types do not seem to be particularly attracted by the existing Web store format.

In order to test the mediating effect of shopping orientation on change in shopping behaviour as proposed in hypothesis 4, we calculated difference scores for each individual for the two previous questions, H2 and H3, and performed mean comparisons with shopping type as the factor. Difference scores have been used in several areas of consumer and marketing research as measures of constructs (cf. Peter et al, 1993; Ross and Lusch, 1982)

Difference scores were computed for all individuals and for each of the matched items (between Internet store and traditional physical store) regarding patronage patterns and goal-oriented shopping. As an example, the average difference score for stockpiling between Internet store and traditional store was 1.59 for apathetic consumers (6.19-4.60 averages for original stockpiling variables) and 1.45 for economic consumers (6.00-4.55 averages for original stockpiling variables).

An independent samples t-test was performed on the mean values of the difference scores between apathetic consumers and economic consumers. The mean values were *not significantly different* for any of the patronage pattern or goal-oriented shopping items. Mann-Whitney U non-parametric tests on the mean values of the difference scores between recreational shoppers and economic consumers yielded similar non-significant results.

Hypothesis 4 is thus not supported: the consumer's shopping orientation has not been shown to mediate the effects of the 'webbified' retail interface on the consumer's change in behaviour.

Implications

What happens when the physical store is replaced by the virtual Internet-based store? What happens about the opportunities for brand managers and retailers to influence consumers in the purchase situation? In this article we have shown that Internet shoppers differ from traditional shoppers in several respects. Internet shoppers plan their purchases better, stockpile to a greater extent, and are less goal-derived in their shopping behaviours. Using the S-O-R theoretical framework, we have suggested that these differences in behaviour were to be expected as a consequence of the new Web retail environment.

The Web store and the Internet shopping experience are both still new to the consumers, and we can expect shopping behaviour to change even more as consumers get used to and adapt to the new interface. An empirical study reported in Dahlén (1997) showed that Internet users tend to form rather stable and focused usage patterns, as they get more experience of the new medium. Web shopping behaviour may progress towards automaticity (cf. Alba and Hutchinson, 1987), whereby the visit to the Web store becomes a routine matter and minimal effort need be exerted once the consumer is in the store.

The uninspiring Web retail interface as it is designed today, and the use of electronic shopping lists for automatic shopping can be problematic for both consumers and marketers. Well-known brands and low prices are probably the strongest factors influencing the choice of products from the alphabetical lists.

This probably results in rather stable purchase patterns. Electronic shopping lists makes shopping even more a matter of habit. This must make it difficult for new brands to get across and be tested. Moreover, we know that most consumers display at least some variety-seeking behaviour (cf. Trivedi, 1999). However, there is probably less variation in the consumption, as there are few stimuli to encourage alternative product selections. The consumers are thus worse off in the long run.

An examination of the shopping orientations of Internet shoppers suggests that there is great potential for this new marketing arena. We have found that Web store customers are not generally rational, in the sense of being price-focused or well-planned in the ordinary way. A large majority describe themselves as apathetic consumers, whereas a much smaller fraction say they are economic consumers. The Web retail interfaces today are fairly rudimentary, and with the only differentiating factor between products in the same category being price, they make little input into the consumers' purchase processes . This does not seem to be an effective match for the actual behaviours of the consumers. The apathetic consumers are highly impressionable and together they represent a great potential opportunity for marketers to inspire and persuade the consumers in the store and use it as a marketing arena in much the same way that the physical store has always been used.

A first implication is thus that the potential for marketing efforts directed at the existing customers is not being exploited. The study has also shown that other shopping types such as the personalizing or recreational shoppers are poorly represented in the Web store, indicating that Internet shopping as it is today does not cater for their needs. This suggests that Web retailers need to redesign the store interface if they want to attract more customers. Both the personalizing and the recreational customer types could be very profitable, as they appreciate marketing stimuli in the form of interaction, product information, suggestions, pleasing displays and so on

Traditional promotion tends to focus on price. Research has shown that in the long run this has created problems for marketers. Consumers learn to anticipate promotions and adjust their behaviours accordingly, becoming much more price-sensitive and buying brands only when a sale is on (Doyle and Saunders, 1990; Zenor, 1994). This makes traditional promotion costly and renders it less attractive (Buzzell et al, 1990). We have mentioned other techniques above that focus less on price, namely space management, cross-merchandising, special displays and the presentation of information. Research has proven these techniques to be effective, but logistical constraints have limited their use in physical stores.

The Web store is the perfect arena for these non-price-based marketing tools. They are all about perception, with customers being exposed to various kinds of visual stimuli and product information, special displays and cross-merchandising. On the Internet there are no limits to the way products and information can be presented and combined. Consequently, marketing in the Web store can go far beyond the modes of promotion in traditional physical stores. The use of perception-based marketing tools will make an impact on the purchase process, helping consumers with ideas, making their visits more enjoyable and less demanding. All shopping types could benefit from this.

Going one step further than is possible in physical stores, *effective promotion* can be used. This means focusing on promoting the right product at the right time, e.g. effective cross-merchandising: when a customer picks out or investigates a particular product, another complementary product can automatically be displayed and promoted. On the Internet the retailer does not have to force the promotion on every customer, nor risk missing any customer who would have been interested in the promoted item. The Web store retailer can use effective promotion, approaching each customer at the right time.

Further, the interface does not have to be the same for all customers. In our study we found no evidence that the different shopping types reacted differently to the 'webbified' retail environment. An obvious reason for this is that existing Web stores offer few stimuli and leave little room for variations in shopping behaviour. Active marketing may exploit the potential differences that exist between the shopping types. Different store designs can be displayed to match the shopping orientations of different customer groups, perhaps as identified from previous purchase patterns. Using *effective display*, Web retailers can design the interface with the consumer in focus. The Web store can collect and use knowledge about its customers, enabling the interface to suit different consumer profiles. Effective display means designing different interfaces for different customers, for example more fun-filled, experiential interfaces for recreational shoppers and more deal-focused interfaces for economic consumers. The matching of profiles can be based on data about previous purchase behaviours (log files), and questionnaires.

We have pointed out above that consumers categorize products differently compared with marketers. Just like retailers, households presumably plan and build assortments of their own. The rationale for the consumers' assortment building lies in the planning of their consumption needs, and their household supply of groceries will thus consist mainly of complementary products. Goal-derived categorization does not focus solely on substitutes but also on complementarities. The consumers' perception of the kind of product

constellations that are attractive to them will be a cornerstone in their assortment building.

The results in our study indicate that retailers, especially on the Web, are not consumer-oriented in the way they define and manage their product categories. The alphabetical displays offered by Internet grocery retailers do very little to encourage consumers to think in terms of consumption situations or to facilitate purchases for specific purposes.

Thus, at the present time grocery retailers do not build their assortments in accordance with consumer needs. A retail store can adjust its product categorization to the consumers in several ways. A limited step would involve systematic use of cross-merchandising. Earlier research has indicated that these promotion campaigns do not necessarily have to include complementary products, since the increased foot traffic had a major impact on the extra profit generated. Retailers on the Web, however, cannot take advantage of increased foot traffic since cross-merchandising in Internet stores will not involve any walking on the part of the consumers. Hence, they may be restricted to cross-merchandising between product categories that the consumers perceive as usage complements.

A bigger step for the retailers would involve the full implementation of consumption-oriented goal-derived categories. Instead of having sections for frozen food, dairy product and soups, grocery stores are designed in sections according to needs such as breakfast, parties or TV-dinners. Since they represent the distribution channel's interface with the consumers, retailers could collect data about the consumers' assortment building and product categorization, and then plan the grocery retail assortment and define the product categories accordingly.

If consumers find that their grocery shopping trips are facilitated by this new categorization, they will in all likelihood find it preferable to the present arrangement. Retailers will doubtless have to educate consumers in the ways of the new store environment, as the current practices have a long history in the market for groceries. Retailers in the physical world may benefit from a more consumer-focused product categorization, but they will have to offset higher in-store logistical costs. For Web retailers the cost of changing the presentation of the merchandise from an 'alphabetical' to a goal-derived system will be low, making additional profits easier to earn.

Further Research

The present study has made some theoretical contributions to our understanding of how the 'webbified' retail environment affects shopping behaviour. Previous research has shown that Internet users change their behaviour with experience (Dahlén, 1997). The same thing can be expected to apply to Web shoppers. Empirical studies should be conducted to capture the Internet grocery shoppers "e-learning curve". This would provide a valuable construct for attempts to produce models for future shopping behaviour as well as development of the Web interface.

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