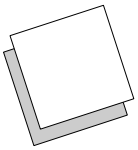
An executive summary for managers and executive readers can be found at the end of this article



Internet shopping, consumer search and product branding

Michael R. Ward
Assistant Professor, Department of Agricultural and Consumer Economics, University of Illinois, Urbana-Champaign, Illinois, USA

Michael J. Lee
Graduate Student Department of Economics, University of Illinois, Urbana-Champaign, Illinois, USA

Keywords *Brands, Internet, Consumer behaviour, Shopping*

Abstract *Recent interest in the Internet as a medium for commerce has raised questions about the usefulness of branding on the World Wide Web. Examines whether consumers use brands as sources of information when shopping on the Internet. Applying theory from the economics of information, predicts that recent adopters of the Internet will be less proficient at searching for product information and will rely more on brands. As they gather more experience on the Internet, their search proficiency should rise and their brand reliance should fall. These hypotheses are tested and confirmed using usage and opinion survey data from the Internet community. The results suggest that branding can facilitate consumers' acceptance of electronic commerce.*

Introduction

Rapid growth

Commerce on the Internet, or e-commerce, has experienced rapid growth during its infant years. The pace is not expected to slacken. Forrester Research estimates that online sales in the USA amounted to $7.8 billion in 1998, and forecasts that this form of electronic commerce will reach $108 billion by 2003. While this would still amount to under 5 percent of all retail sales in 2003, it would represent a dramatic increase in Internet retailing. Investors seem to believe that the volume of e-commerce will grow considerably. For example, Amazon.com, a leader in electronic retailing, now has a market capitalization of $22 billion, greater than either Sear's or all of America's bookstores put together.

Variety of choices

Online shoppers appear to be attracted to the ease with which they can find products on the Internet, the detailed product information available and the variety of choices offered. Because of the relative ease of vendors setting up shop, myriads of smaller retailers have embraced the Internet. However, with the proliferation of online retailers, sellers are having difficulty distinguishing their products or services from their competitors', especially those of unscrupulous fly-by-night companies. Consumers often bypass these problems by relying on branded products. Ernst & Young recently reported that 69 percent of those surveyed stated that brand names play a significant role in their online buying decisions. As a result, marketing through established brands may be required on the Internet, even though consumers' cost of information gathering seems quite low.

We investigate the ability of brand names to convey product information to potential buyers as a substitute for consumer's own information-gathering activities. It has long been debated whether advertising is used solely to promote brand loyalty (Dixit and Norman, 1978) and thus tends to be anticompetitive (Comanor and Wilson, 1974) or if it conveys information more efficiently than alternative mechanisms (Nelson, 1970, 1974). We find

evidence that suggests that consumers with more years of Internet experience are more efficient at gathering product information on their own and that they also tend to rely less on brand names when purchasing. We infer that brand names are substitutes for consumers' direct information gathering – at least on the Internet – and thus may contribute to market efficiency.

Our findings are based on data from Georgia Institute of Technology's Graphics, Visualization and Usability (GVU) center Eighth Survey of Internet Usage. The GVU has conducted semiannual surveys of Internet usage since 1994. GVU's Eighth Survey, conducted in October 1997, includes information about respondents' product search behavior, brand reliance and a measure of their Internet experience. We use these differences in Internet experience to track a natural progression from a relatively naive consumer who relies on brand information to a relatively savvy consumer who has less need of brand information. Unlike the near ubiquitous experiences and understanding consumers have with traditional retailing, knowledge of the Internet and how to shop using it varies widely. The newness of the Internet and the relationship between Internet experience and shopping proficiency allow us to identify effects that may not be apparent for other forms of retailing.

The Internet information and uncertainty

Exchange of data

The Internet was originally designed for the exchange of data between decentralized computers and has evolved into the World Wide Web[1]. The ease of publishing on the Web has facilitated the adoption of this technology by consumers and producers of goods alike. With the help of search engines like Altavista and Excite or portals like Yahoo! and AOL, consumers can obtain product information and often make purchases with much less effort than through other distribution channels. Likewise, with the low cost of Web publishing, firms can offer more product information through this medium than most others. This results in more product information, on balance, being supplied to consumers than ever before.

Plentiful product information may not alleviate all the problems of consumer search for two reasons. First, despite the increased availability of product information, it is still not costless to obtain (Brynjolfsson and Smith, 1999). On the Internet, search for information may involve a non-trivial navigation of hyperlinks between Web sites and an intelligent usage of the search engines and directories. For many users, especially those inexperienced to the Internet, finding product information may be frustrating. Indeed, 46 percent of those surveyed in the GVU's Ninth Survey in 1998, indicated that they had trouble finding new information. Thus, although consumers may often like to obtain all available information, they may not practically be able to do so.

Residual uncertainty

Second, even with the information available, some uncertainty about product quality is likely to linger. Although some product characteristics can be easily illustrated or described on a Web site, other product characteristics require consumption before their quality are known. For example, firms can and do sell food products from their Web sites. A firm could state the price, ingredients, and availability of its product, but it would have difficulty in both verifying the truthfulness of this objective information and describing subjective information, such as flavor or feel. As a result, some residual uncertainty about the product features is likely to remain.

The costs of search and the unverifiable nature of some product characteristics pose challenges to consumers. Both problems limit the

amount of confidence a consumer may have about a product's quality. These problems apply to all forms of retailing, but have specific consequences when applied to the Internet. Because of the low costs of setting up a Web site, unreputable firms offering low quality products could potentially claim their products are of high quality, earn a profit before the ruse is uncovered, and then quickly disappear. Thus, even though the Internet can easily provide more information than other distribution channels, the ease with which scams can develop may induce consumers to require more information in order to purchase.

Branding as an assurance of quality

Market failure

Information asymmetries between buyers and sellers can result in market failure (Akerlof, 1970). Buyers are only willing to pay the expected value of the products offered for sale. Sellers of a high quality product, however, may withhold their product if their costs exceed this price. Since this biases their expectations upward, buyers revise their expected value of products offered for sale downward. This, in turn, could deter sellers from offering relatively higher quality, more expensive products. The resulting adverse selection on the part of sellers can ultimately lead to a market failure, one in which only the lowest quality products are offered for sale. For example, in GVU's Eighth Survey, the second leading reason (38 percent of all respondents) why consumers do not purchase more products and services on the Internet is because they believed product quality is difficult to judge. In order for markets to work, or work more efficiently, some mechanism must be adopted to relieve the information asymmetry.

Nelson (1970, 1974) argues that brand advertising may be such a mechanism. He makes the distinction between two types of goods: search and experience. A search good's quality is verifiable on inspection, whereas an experience good's quality is difficult to judge on inspection. Therefore, only on the purchase and usage of an experience good can its true quality be revealed. A firm advertising a search good can directly inform its customers of its product's quality. In contrast, information regarding the merits of experience characteristics are inherently unverifiable and may not seem credible to consumers. Where it is available, producers of experience goods can seek credibility from third-party sources, such as *Underwriters Laboratory* and *Consumer Reports.* But third-party information may be hard to come by for the many new products offered by smaller firms operating on the Internet.

High product quality

Economic models based on Nelson's work show that an established brand name can signal high product quality (Klein and Leffler, 1981; Kihlstrom and Riordan, 1984; Milgrom and Roberts, 1986). Essentially, high quality producers advertise their brand heavily, but only expect to recoup the cost of the advertising from many repeat purchases. Low quality producers cannot mimic this behavior because the true product quality will be revealed before enough purchases have been made to recoup its investment in advertising. If a seller chooses to produce a high quality product, it can overcome the asymmetric information problem and differentiate itself from the low quality producer by developing a brand name and advertising more[2]. In these models, companies create brand-name equity to assure consumers of high product quality[3].

Relying on brands versus searching

Brand names are just one source of information; most consumers also conduct some form of product search (Stigler, 1961; Carlson and MacAfee, 1983;

Benabou, 1990, 1993). A general conclusion is that, since search is costly, in terms of time and effort, consumers will stop short of becoming perfectly informed. If brand advertising signals useful product information, consumers may rely on it as an ''expensive'' source of information (Butters, 1977; Pashigian and Bowen, 1994; Png and Reitman, 1995).

We test for this substitutability between consumers' use of brands and search by relating it to a measure that should be associated with exogenous changes in search costs. Specifically, consumers should become more proficient at searching for information on the Internet as they gain more experience with it. Navigating and evaluating information found on the World Wide Web can be daunting. Looking for information from search engines, directories and portals are skills developed with use. Indeed, authors have noted that a certain amount of experience is needed before one develops the proper skills to flow in an intermediated environment such as the Internet (Hoffman and Novak, 1996). Moreover, beyond merely finding relevant information, one must evaluate its credibility. Time and experience are required to learn the credibility-assuring institutions that have developed on the Web (e.g. site of the day, moderated rather than unmoderated newsgroups).

Reliance on brand names should decrease

If proficiency in searching the Internet increases with experience or over time, then reliance on brand names should likewise decrease. Internet search proficiency is likely to increase as users gain more experience with the medium. Increased proficiency decreases the cost of gathering and evaluating information, specifically product information. Alternatively, consumers can rely on well-known brand names as shortcuts in evaluating the merits of different products. Unlike search costs, increased Internet experience is not likely to make consumers more proficient at inferring product quality from brand names. Therefore, as the ''price'' of searching, relative to using brands, falls with increasing Internet experience – and if they are substitutes – more experienced consumers should rely on brands less.

Applying this argument to the Internet at its current point of development is likely to be more fruitful than applying it to other distribution channels. This is because current Internet users differ widely in their level of their experience with the medium and this experience is likely to have significant impacts on their usage proficiency. Other media used for obtaining consumer product information, such as traditional retailing, telemarketing and catalog shopping, are all developed enough that variation in consumers' search abilities is not likely to be linked with identifiable measures of consumers' experience with the media. Thus, we are exploiting a natural experiment that occurs because the adoption of the Internet is not yet ubiquitous.

Ordered logistics regression

To empirically test the hypothesis of brand reliance, we use survey data collected semiannually by the GVU center at the Georgia Institute of Technology. Though there are data limitations (discussed later), we will statistically analyze the relationship between brand reliance, search proficiency and experience on the Internet. Using cross-tabulations and ordered logistic regressions, we find evidence of increased search proficiency and decreased brand reliance as experience on the Internet increases. We infer from this that, on the Internet at least, use of brands and search are substitutes and, therefore, brands convey useful information.

Description of the data

The results of GVU's World Wide Web User Surveys, begun in 1994, have been made publicly available for academic research. These semiannual surveys record users' opinions and usage patterns for a large number of

Web-based activities. These survey data, however, pose two general problems to researchers. First, collected at high-exposure sites, the data may not fully represent the characteristics of the population of interest – all individuals who use the World Wide Web. Only those with a disposition toward highly-trafficked sites such as Netscape and Yahoo! are likely to be included in the samples. Second, only those willing to spend the time filling out the questionnaires were included. This creates a self-selection problem: those who answer the surveys may not represent the population of interest. However, self-selection should not affect within sample comparisons as much as comparing the GVU sample to other similar data. Comparisons between *less* experienced users to *more* experienced users, as in our analyses, do not depend much on whether the sample of less experienced users are different, on average, from the population of less experienced users.

Specialized surveys

We employ GVU's General Information and Opinions on Internet Commerce Questionnaires from the Eighth Survey (October, 1997). GVU's survey strategy is to require all respondents to answer general demographic questions and then proceed to specialized surveys on particular Internet-related topics (e.g. privacy, publishing, shopping, commerce, etc.). General demographic information is available for about 10,000 respondents for each survey, with 1,500 to 4,000 respondents answering questions from specialized surveys. For our analyses, we used answers related to online shopping proficiency from one specialized survey and brand reliance from another, as well as general demographic information. However, since respondents were not required to answer all the specialized surveys, only 1,671 of the 2,946 respondents in the shopping survey are among the 1,987 respondents in the Internet commerce survey that asks about brand reliance[4].

From the general demographics survey, the variables obtained from all respondents include gender, race, marital status, educational status, income, age, and the number of years the respondent has been using the Internet. Summary statistics of the demographic variables for both the shopping and branding surveys are reported in Table I. It is clear from this table, that the GVU samples do not reflect the population at large. In particular, survey respondents include a smaller proportion of blacks, a larger proportion of males, individuals with a college education or an advanced degree, people with higher incomes, and younger people than the general population. It is likely, however, that these samples better reflect the population of people who use the Internet.

Important determinant?

From the Internet commerce survey, a question is asked whether a Web site having a well-known brand name is an important determinant in product-purchasing decisions. The eight possible responses can be grouped into four broad categories that indicate different levels of brand reliance (see Table II). Our measure of brand reliance differs from the raw responses in two ways. First, while it is clear that a brand being ''necessary'' is more stringent than a brand being ''preferred'', it is not clear if any of the ''depends'' choices are more stringent than the others. Therefore, we aggregate all of the ''depends'' choices into one category. Second, while respondents were able to select more than one category, few did (see Table III)[5]. For those who did select more than one category, we put them into a category between the two they had selected. A series of questions from the online shopping survey measure how successful respondents are at shopping online, how long it takes respondents to find what they are looking for and how long it takes for them to give up their product search. These questions are asked separately for both personal and professional shopping.

	Searching sample	Branding sample
Male	62.7	67.2
Black	1.8	1.5
Married	45.1	43.4
Divorced	11.5	11.9
Living together	10.1	10.8
In college	5.5	5.3
Some college	28.3	27.4
College Grad	28.8	29.4
Post Grad	20.1	21.8
Income $20,000-$40,000	26.6	25.6
Income $40,000-$50,000	12.1	11.9
Income $50,000-$75,000	19.4	19.5
Income over $75,000	19.7	19.6
Income not say	11.5	11.5
Age 25-39	39.8	40.9
Age 40-64	43.9	43.5
Age over 64	3.6	3.3
Internet experience six to 12 months	18.7	16.7
Internet experience one to three years	35.1	34.0
Internet experience three to six years	20.5	22.4
Internet experience over seven years	8.7	11.3
Observations	2,829	1,954

Table I Descriptive statistics – percent of sample with characteristic

Q: How important is each of the following when you consider ordering a product/service over the Web (even if you have never done so). (Please check all that apply.)

That the company and/or products have a well-known brand name:

Possible answer:	*Coded as:*
Site must have this	Require
I prefer sites that have this	Prefer
Doesn't matter to me	Don't care
Depends on what I'm ordering	Depends
Depends on how much I'm spending	Depends
Depends on how well I know the company	Depends
Depends on what information is being collected	Depends
Don't know	Dropped from sample

Q: When you are intentionally searching for product/service information, what percentage of the time do you find what you are looking for?

Possible answers are: All (close to 100 percent), Most (close to 75 percent), Half (close to 50 percent), Few (close to 25 percent), None (close to 0 percent), Not applicable

Q: On average, how many minutes do you spend searching before you find the first piece of useful product/service information?

Possible answers are: Less than five minutes, five to 15 minutes, 15-30 minutes, 30-60 minutes, More than 60 minutes, Don't know, Not applicable

Q: How many minutes on average does it take you to give up a search if you cannot find the product/service information you were looking for?

Possible answers are: Less than five minutes, five to 15 minutes, 15-30 minutes, 30-60 minutes, More than 60 minutes, Don't know, Not applicable

Table II. Electronic commerce questions from GVU 8

	and "Require"	and "Prefer"	and "Depends"	and "Don't care"	Total
Require	130	33	26	1	190
	68.4%	17.4%	13.7%	0.5%	100.0%
Prefer	33	609	245	6	860
	3.8%	70.8%	28.5%	0.7%	100.0%
Depends	26	245	560	50	781
	3.3%	31.4%	71.7%	6.4%	100.0%
Don't care	1	6	50	408	465
	0.2%	1.3%	10.8%	87.7%	100.0%
Total	190	860	781	465	1,954
	100.0%	100.0%	100.0%	100.0%	

Table III. Description of branding responses

Proficient at seeking product information

Tests and results

Our two hypotheses are that more experienced Internet users are more proficient at seeking product information and purchasing items on the Web and that more experienced Internet users rely less on brand names. The data that indicate experience, proficiency and brand reliance are categorical variables that take on a small number of discrete values. Therefore, we test these hypotheses with cross-tabulations and test for a random allocation across cells.

Tables IV and V report cross-tabulations for the percentage of the time respondents claim success in finding the product they are looking for and the time spent searching for a product online with Internet experience. There is a general trend towards both more success and quicker searches for more experienced people. For example, the percentage of people who are successful shopping more than half the time (the Most and All categories) rises from 61 percent for those with under six months of Internet experience to 72 percent for those with over seven years' experience. Likewise, the percentage of people requiring less than 15 minutes (the top two categories) rises from 68 percent to 75 percent. Differences across individuals with different amounts of Internet experience are statistically significant at the

	Internet experience					
Success rate	Under 6 months	6-12 months	1-3 years	4-6 years	Over 7 years	Total
None	5	2	4	1	2	14
(0% of the time)	1.07%	0.39%	0.41%	0.17%	0.82%	0.50%
Few	56	50	75	43	13	237
(25% of the time)	11.94%	9.67%	7.61%	7.52%	5.35%	8.50%
Half	122	120	222	134	54	652
(50% of the time)	26.01%	23.21%	22.52%	23.43%	22.22%	23.39%
Most	222	261	548	300	125	1,456
(75% of the time)	47.33%	50.48%	55.58%	52.45%	51.44%	52.24%
All	64	84	137	94	49	428
(100% of the time)	13.65%	16.25%	13.89%	16.43%	20.16%	15.36%
Total	469	517	986	572	243	2,787
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Note: Each cell contains both the count of respondents and the column percentage. The $\chi 2$ value for differences across columns is 29.9 which, with 16 degrees of freedom, is significant at the 2 percent level

Table IV. The relationship between Internet experience and online shopping success rate

Time searching	Internet experience: Under 6 months	6-12 months	1-3 years	4-6 years	Over 7 years	Total
Less than five minutes	101	132	236	177	84	730
	22.95%	26.29%	24.89%	31.72%	35.00%	27.16%
5-15 minutes	199	213	432	242	97	1,183
	45.23%	42.43%	45.57%	43.37%	40.42%	44.01%
15-30 minutes	93	103	194	93	39	522
	21.14%	20.52%	20.46%	16.67%	16.25%	19.42%
30-60 minutes	27	35	69	33	14	178
	6.14%	6.97%	7.28%	5.91%	5.83%	6.62%
More than 60 minutes	20	19	17	13	6	75
	4.55%	3.78%	1.79%	2.33%	2.50%	2.79%
Total	440	502	948	558	240	2,688
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Note: Each cell contains both the count of respondents and the column percentage. The $\chi 2$ value for differences across columns is 33.2 which, with 16 degrees of freedom, is significant at the 1 percent level

Table V. The relationship between Internet experience and time spent searching for products online

2 percent level in Table IV and the 1 percent level in Table V. These results suggest that search proficiency increases with experience.

Ambiguous applications

Table VI reports the cross-tabulation for the time before one gives up product search and Internet experience. The theory previously outlined has more ambiguous implications for this table. More proficient searchers may be willing to search longer if they are more confident of eventual success, but may give up sooner if they expect results more quickly. It is not clear *a priori* which effect should dominate. Nonetheless, the table indicates statistically significant differences across individuals with different levels of experience. For example, the percentage of people giving up within 30 minutes (the top three categories) falls from 77 percent for those with under six months of Internet experience to 68 percent for those with over seven

Time to give up	Internet experience: Under 6 months	6-12 months	1-3 years	4-6 years	Over 7 years	Total
Less than five minutes	41	30	53	26	17	167
	8.91%	5.92%	5.53%	4.63%	7.17%	6.13%
5-15 minutes	138	174	256	157	72	797
	30.00%	34.32%	26.69%	27.99%	30.38%	29.26%
15-30 minutes	172	186	340	205	72	975
	37.39%	36.69%	35.45%	36.54%	30.38%	35.79%
30-60 minutes	77	88	235	139	46	585
	16.74%	17.36%	24.50%	24.78%	19.41%	21.48%
More than 60 minutes	32	29	75	34	30	200
	6.96%	5.72%	7.82%	6.06%	12.66%	7.34%
Total	460	507	959	561	237	2,724
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Notes: Each cell contains both the count of respondents and the column percentage. The χ^2 value for differences across columns is 47.3 which, with 16 degrees of freedom, is significant at the 1% level.

Table VI. The relationship between Internet experience and time until online search given up

years' experience. These results are consistent with the hypothesis that search proficiency increases with experience.

Statistically significant

Table VII reports the cross tabulation of Internet experience and measures of brand reliance. Again, the differences across respondents with different levels of experience are statistically significant. The table indicates a rather steady decline in brand reliance with experience. For example, the percentage of people "requiring" a brand name falls from 11 percent to 7 percent between the least and most experienced Internet users, the percentage who at least "prefer" a brand name falls from 48 percent to 34 percent and the percentage who "don't care" rises from 16 percent to 27 percent. These results suggest that reliance on brand information falls as people gain experience on the Internet.

Search proficiency

It is possible that the above findings are a result of a relationship between demographic variables and experience. For example, it is possible that more educated people both have more experience and are more proficient at searching, which leads them to be less brand reliant. In this case, the effect of experience net of education could be negligible. In order to control for this, we also ran ordered logit regressions of the search proficiency and brand reliance variables against variables measuring gender, race, gender, marital status, educational status, income, age, and experience. Doing so requires that we impose a parametric structure on the data rather than the non-parametric cross-tabulations above. Specifically, the categories for product search and brand reliance are assigned ordinal values from 1 to 5 and 1 to 7 in the case of the brand reliance regression.

The results of the ordered logit regressions are reported in Table VIII. In general, they confirm the findings from the cross tabulations. Internet experience tends to increase measures of search proficiency and decrease brand reliance, all else held constant. We found only a few of the

	Internet experience					
Brand reliance	Under 6 months	6-12 months	1-3 years	4-6 years	Over 7 years	Total
"Don't care"	49	54	156	93	60	412
	16.01%	16.56%	23.46%	21.28%	27.27%	21.08%
Between "Don't care" and "Depends"	5	3	22	10	7	47
	1.63%	0.92%	3.31%	2.29%	3.18%	2.41%
"Depends"	64	76	171	117	55	483
	20.92%	23.31%	25.71%	26.77%	25.00%	24.72%
Between "Depends" and "Prefer"	40	33	69	63	24	229
	13.07%	10.12%	10.38%	14.42%	10.91%	11.72%
"Prefer"	107	127	195	127	63	619
	34.97%	38.96%	29.32%	29.06%	28.64%	31.68%
Between "Prefer" and "Require"	6	7	2	2	1	18
	1.96%	2.15%	0.30%	0.46%	0.45%	0.92%
"Require"	35	26	50	25	10	146
	11.44%	7.98%	7.52%	5.72%	4.55%	7.47%
Total	306	326	665	437	220	1,954
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Notes: Each cell contains both the count of respondents and the column percentage. The χ^2 value for differences across columns is 60.7 which, with 24 degrees of freedom, is significant at the 1% level.

Table VII. The relationship between Internet experience and reliance on brand names

	Search success	Time searching	Time to give up search	Brand reliance
Male	0.057	–0.219*	–0.222*	–0.010
Black	0.149	0.239	0.239	0.210
Married	0.144	0.019	0.031	–0.023
Divorced	0.040	0.285+	0.044	0.088
Living together	0.053	–0.050	0.221+	–0.148
In college	–0.206	–0.203	–0.221	0.147
Some college	–0.136	0.104	0.038	–0.062
College Grad	–0.364*	–0.077	–0.120	–0.031
Post Grad	–0.464*	0.051	–0.092	–0.010
Income $20,000-$40,000	0.218+	–0.523*	–0.326*	–0.013
Income $40,000-$50,000	0.391*	–0.623*	–0.463*	0.119
Income $50,000-$75,000	0.177	–0.426*	–0.203	0.003
Income over $75,000	0.165	–0.634*	–0.516*	0.050
Income not say	0.160	–0.426*	–0.555*	0.191
Age 25-39	0.031	–0.160	–0.054	–0.133
Age 40-64	0.013	–0.094	–0.241+	0.057
Age over 64	–0.638*	–0.023	–0.633*	0.548+
Internet experience 6-12 months	0.289*	–0.042	0.058	–0.057
Internet experience 1-3 years	0.364*	–0.026	0.407*	–0.498*
Internet experience 3-6 years	0.457*	–0.241+	0.381*	–0.442*
Internet experience over 7 years	0.646*	–0.299+	0.355*	–0.621*
Observations	2,787	2,688	2,724	1,954
Concordant	55.7%	53.1%	55.7%	55.4%

Note: The table does not report the various intercept coefficients. Asterisks and plus signs denote statistical significance at the 1 percent and 10 percent levels

Table VIII. Ordinal logit estimates of consumer Internet search behavior

demographic variables to have significant effects on shopping behavior. Men both spend less time searching and give up searching more quickly than do women. Race has no effect and marital status only has a marginal effect. Education appears to make people less successful at search. People with higher incomes may be more successful searchers, even though they spend less time searching and give up their searches sooner. Senior citizens seem to be particularly poor online searchers. Nevertheless, none of the demographic variables – other than Internet experience – significantly affects brand reliance.

Link between brand reliance and experience

Our previous discussion hypothesized a link between brand reliance and experience on the Internet. Since brands are used as time-saving devices to signal quality, the opportunity cost of time should be related to the reliance of brands. More specifically, those with a higher opportunity cost of time should rely more on brands. And since individuals with greater incomes generally have higher time costs, they should be more brand reliant. Other research finds evidence to confirm that higher incomes are associated to a greater dependence on brand names as a source of information (Pashigian and Bowen, 1994; Png and Reitman, 1995).

Our ordered logit regressions provide a direct test of the relationship between income, a measure of opportunity cost of time and brand reliance. These tests failed to find a significant relationship. We suspect this was owing to measurement problems in the income variable. First, income represents an imperfect measure of an individual's opportunity cost of time. Other idiosyncratic factors affecting opportunity cost, such as fondness for the Web, may be related to higher incomes. Second, while the respondents'

current income is reported on the surveys, no information can be obtained for the respondents' permanent income which more closely related time costs. Those individuals with a much higher permanent income than current income – such as college students – may be more reliant on brand names. If this is the case, then the expected relationship between brand reliance and income will be confounded.

Significant statistical relationship

In summary, our results indicate that a significant statistical relationship exists between Internet experience and both search proficiency and brand reliance. Thus, we find some evidence to validate the hypothesis that as individuals gain more search experience on the Internet, these individuals will be less reliant on brand names as a signal for product quality. Instead, more experienced searchers may opt to find more direct product information to discern product quality.

Conclusion

Our results indicate that as individuals gain more experience using the Internet, they are more likely to search for alternative sources for information and be less reliant on product branding. This finding is consistent with the substitutability of brand advertising for search, especially for consumers with relatively high search costs. We infer that this supports for the notion that branding does not merely promote product loyalty. It also conveys useful product information that tends to make markets more efficient. Our results suggest a number of possible hypotheses for further study.

First, we conjecture that as the Internet population matures, brand reliance to assure product quality may give way to reliance on direct product information, more easily found because of the decreasing costs of search. Our findings could have implications for the future of branding and the level of advertising on both the Internet and in general. As more consumers obtain access to the Internet and gain proficiency at searching for product information, producers may find that they need not advertise as heavily to signal their products' features. The advertising that producers do purchase is likely to be directed toward consumers with higher search costs, or those without Internet access. If so, advertising on the Internet, where consumers have relatively low search costs, may not reach levels comparable to other media, e.g. television, newspapers, magazines.

Increase in level of quality

Second, the Internet may lead to a general increase in the level of quality of consumer products[6]. Brands are an imperfect mechanism for assuring product quality. In particular, we found evidence that direct product search may be a more efficient mechanism, at least for experienced Internet users. If so, the total cost of assuring product quality may fall due to the Internet, making firms' investment in quality more lucrative.

Third, we might expect that markets for consumer goods will become more efficient because of the commercialization of the Internet. Our results also suggest that consumers are more informed about the products they search for on the Internet than if they had to rely information gathered through traditional means. Otherwise, they would not be willing to forego reliance on information conveyed through brand advertising. Models of product search (e.g. Carlson and McAfee, 1983) suggest that inefficient firms are viable only because consumers lack information about more efficient and less expensive alternatives. Lower search costs due to the Internet may lead to a weeding out of these inefficient firms.

In general, many of the existing models of decision making under imperfect information may apply to the advent of the Internet. Whether or not our specific results hold up under scrutiny, it is generally believed that the use of the Internet will decrease in the cost of gathering and conveying information. If so, models that rely on information costs could yield interesting differences between Internet and non-Internet based activities. Thus, future research that applies to models based on adverse selection, moral hazard, free-riding or costly search to the Internet could be especially fruitful.

Notes

1. For a brief and fascinating look at the early history of the Internet, read pages 3-13 of the *Internet System Handbook* by Daniel Lynch and Marshall Rose. For a good (and probably the most authentic) history of the World Wide Web, visit the birthplace of the Web – CERN – at www.w3.org
2. See Nichols, 1998, for a particularly robust test of this theory.
3. There are obviously many non-economic reasons for creating brand equity. A recent paper argues that brands are instrumental in creating personality-specific relationships between a firm and its customers (Fournier, 1998).
4. We limited our sample to those over 17-years of age because we expected more respondent error among those who claim to be 17 years or under. Had we included these respondents, 1,756 of the 3,144 shopping survey respondents would be among the 2,107 individuals who answered the Internet commerce survey.
5. Only 311 out of a sample of 2,072 selected more than one category for this question.
6. But see Lynch and Ariely (1998) for the view that increased availability of price information may not make demand more price sensitive if information about quality is more important.

References

Akerlof, G. (1970), ''The market for lemons: quality uncertainty and the market mechanism'', *Quarterly Journal of Economics*, Vol. 84 No. 3, pp. 488-500.

Benabou, R. (1990), ''Search market equilibrium, bilateral heterogeneity, and repeat purchases'', mimeo, MIT.

Benabou, R. (1993), ''Search market equilibrium, bilateral heterogeneity, and repeat purchases'', *Journal of Economic Theory*, Vol. 60 No. 1, pp. 140-58.

Brynjolfsson, E. and Smith, M. (1999), ''Frictionless commerce? A comparison of Internet and conventional retailers'', working paper January, <http://ecommerce.mit.edu/papers/friction/friction.pdf>

Butters, G. (1977), ''Equilibrium distribution of sales and advertising prices'', *Review of Economic Studies*, Vol. 44, pp. 465-91.

Carlson, J. and McAfee, R.P. (1983), ''Discrete equilibrium price dispersion'', *Journal of Political Economy*, Vol. 91 No. 3, pp. 480-93.

Comanor, W. and Wilson, T. (1974), *Advertising and Market Power*, Harvard University Press, Cambridge, MA.

Dixit, A. and Norman, V. (1978), ''Advertising and welfare'', *Bell Journal of Economics*, Vol. 9 No. 1, pp. 1-17.

Ernst & Young, LLP. (1998), *Internet Shopping: An Ernst & Young Special Report*, January <http:/www.ey.com/shopping.html>

Fournier, S. (1998), ''Consumers and their brands: developing relationship theory in consumer research'', *Journal of Consumer Research*, Vol. 24 No. 4, pp. 343-73.

Graphics, Visualization, and Utilization Center (1998), *GVU's WWW User Surveys*, <http://www.gvu.gatech.edu>

Hoffman, D. and Novak, T. (1996), ''Marketing in hypermedia computer-mediated environments: conceptual foundations'', *Journal of Marketing*, Vol. 60, pp. 50-68.

Kihlstrom, R. and Riordan, M. (1984), ''Advertising as a signal'', *Journal of Political Economy*, Vol. 92 No. 3, pp. 427-50.

Klein, B. and Leffler, K. (1981), ''The role of market forces in assuring contractual performance'', *Journal of Political Economy*, Vol. 89 No. 4, pp. 615-41.

Lynch, J. and Ariely, D. (1998), ''Electronic shopping for wine: how search costs for information on price, quality, and store comparison affect consumer price sensitivity, satisfaction with merchandise, and retention'', working paper November, <http://ecommerce.mit.edu/forum/papers/ERF104.pdf>

Lynch, D. and Rose, M. (1993), *Internet System Handbook*, Addison-Wesley Publishing, Reading, MA.

Milgrom, P. and Roberts, J. (1986), ''Price and advertising signals of product quality'', *Journal of Political Economy*, Vol. 94 No. 4, pp. 796-821.

Nelson, P. (1970), ''Information and consumer behavior'', *Journal of Political Economy*, Vol. 78 No. 2, pp. 311-29.

Nelson, P. (1974), ''Advertising as information'', *Journal of Political Economy*, Vol. 82, No 4, pp. 729-54.

Nichols, M. (1998), ''Advertising and quality in the US market for automobiles'', *Southern Economic Journal*, Vol. 64 No. 4, pp. 922-39.

Pashigian, B. and Bowen, B. (1994), ''The rising cost of time of females, the growth of national brands, and the supply of retail services'', *Economic Inquiry*, Vol. 32, pp. 33-65.

Png, I.P.L. and Reitman, D. (1995), ''Why are some products branded and others not?'', *Journal of Law and Economics*, Vol. 38, pp. 207-24.

Stigler, G. (1961), ''The economics of information'', *Journal of Political Economy*, Vol. 69 No. 3, pp. 213-25.

This summary has been provided to allow managers and executives a rapid appreciation of the content of this article. Those with a particular interest in the topic covered may then read the article* in toto *to take advantage of the more comprehensive description of the research undertaken and its results to get the full benefit of the material present

Executive summary and implications for managers and executives

Online branding will be different

We are still not sure what to make of e-commerce – especially where the target of the firm is the ordinary consumer. At the core of our dilemma is whether the brand will perform the same function as it has in traditional retailing or indeed whether brands are needed at all.

Ward and Lee investigate the way in which consumers use the brand as a source of information and assurance about product quality when shopping via the Internet. This investigation seeks to parallel the fact that, in traditional consumer markets, brands are shorthand for quality and assurance. Furthermore, as Ward and Lee point out that "...with the proliferation of online retailers, sellers are having difficulty distinguishing their products or services from their competitors', especially those of unscrupulous fly-by-night companies".

Despite this situation, Ward and Lee's contention is that more experienced Internet users will rely less on the brand in making a product selection. The authors note evidence suggesting the transference of brand impact to Internet shopping – 69 percent of respondents in one survey reported that brands play a significant role in product choice online. Despite the potential for more information, buyers remain uncertain about the claims and descriptions made by those promoting products and services on the Internet.

Product quality – is this the principal message from a brand?

We can recognise that the brand is a surrogate for assurance about product quality but this does not mean that communicating product quality is the only purpose for a brand. Indeed, most adherents to the brand marketing model would contend that the brand encapsulates a series of messages from the seller – quality, lifestyle associations, image and value for money are all possible brand elements. And, to make matters worse, some proponents of brand marketing would argue that it is difficult to deconstruct a brand.

Despite this contention, it remains a recognisable fact that the brand's main effect is to communicate a message of confidence and assurance about the product and, by doing so, relieve people of the need to think about what choice they will make. The question facing us is therefore to ask whether – given the Internet's superiority as a source of product information – this need for a short-cut remains valid.

Ward and Lee report that as consumers "... gain more experience of using the Internet, they are more likely to search for alternative sources for information and be less reliant on product branding". Rapid information search, coupled with the support of intelligent agents, negates the need for product quality assurance. But this does not mean that the brand become irrelevant. Instead, the brand takes on a different role – perhaps less dominant in consumer choice but still important.

A strong brand is not enough – you need good information, too

Internet retailers need to appreciate that product branding cannot replace the need to provide information on product features. Saying that this is "Blogg's widget" won't do. You need to explain the features of "Blogg's widget" because the consumer can obtain information about "Smith's widget" and "Brown's super-widget" with ease.

In creating the brand we have, in the past, relied on images and allusions to communicate our product quality message. On the Internet these methods

will work less well. Instead, brand managers will need to use product features and the provision of information as the basis for branding. We will not be able to abuse a brand, since the consumer can substantiate our claims and compare what we offer to other products or services. As Ward and Lee suggest, this change in the role of the brand will have a profound impact on overall product quality since "... the total cost of assuring product quality may fall ... making firms' investment in quality more lucrative".

As the Internet grows in importance we can anticipate that this change in the role of the brand will strengthen. However, any change will be mitigated by other factors since the Internet is not a static medium.

Brands on the Internet – information, time and technology

The number of Internet users continues to grow rapidly – with each passing day thousands more people plug in and start to search around. For the foreseeable future the numbers of inexperienced Internet-users will outnumber experienced users. Given this situation, the brand will retain its role for some time to come.

The growing number of users is matched by the rapid expansion of information. The result of this trend is that the amount of information available becomes unmanageable within the time consumers allocate to Internet search. Once again consumers will seek short cuts to information processing – the same process as created the strength on consumer brands off-line.

However, technology offers solutions to Internet search and information-processing problems. Such technologies as sophisticated search engines and "shopping bots" allow consumers to filter information however they wish. It is likely that, in the near future, consumers will permit technology to undertake all but the final stage of product selection. Since the "shopping bot" is (we hope) rational and unemotional, the use of these elements in branding will not apply. The main concerns will be whether the product does what we want, is readily available and is at the right price.

A bleak future for the product brand?

I do not believe we are anywhere near the death of the product brand. However, brand advertising as we know it will diminish for many products because electronic product search does not need to incorporate brand preferences. Brand messages will be focused on the existing user – aiming to maintain the custom rather than to attract new customers. Furthermore, not all the factors that influence purchase are rational and tangible, meaning that the product brand will continue, albeit in a less dominant form.

The shift away from product brands to corporate and service brands will continue. As consumers we may be concerned about the ethics and behaviour of the manufacturer as well as the way in which that firm reflects our personal "world view". Similarly, the branded retailer or service business will begin to take a more prominent place in our purchasing decision. Factors such as customer service, after-sales care, information quality and delivery are all elements that lie under the control of the retailer.

Brands will remain and, in some ways, become more important. But the traditional product branding model is losing its power. The Internet represents one place where product branding is eroded and joins media fragmentation and production technology as nails in the coffin of the classical brand management.

(A précis of the article "Internet shopping, consumer search and product branding". Supplied by Marketing Consultants for MCB University Press.)

This article has been cited by:

1. Nikolaos Pappas. 2016. Marketing strategies, perceived risks, and consumer trust in online buying behaviour. *Journal of Retailing and Consumer Services* **29**, 92-103. [CrossRef]
2. Jie Chen, Lefa Teng, Ying Yu, Xueer Yu. 2016. The effect of online information sources on purchase intentions between consumers with high and low susceptibility to informational influence. *Journal of Business Research* **69**, 467-475. [CrossRef]
3. Shahid Nakib Bhuian. 2016. Extending consumer online brand trust research in the Gulf Cooperation Council (GCC) region. *Journal of International Consumer Marketing* 1-10. [CrossRef]
4. Antoni Meseguer-Artola, Inma Rodríguez-Ardura. 2015. Learning from customer interaction: How merchants create price-level propositions for experience goods in hybrid market environments. *Computers in Human Behavior* **51**, 952-959. [CrossRef]
5. Carmen Gallucci, Rosalia Santulli, Andrea Calabrò. 2015. Does family involvement foster or hinder firm performance? The missing role of family-based branding strategies. *Journal of Family Business Strategy* **6**, 155-165. [CrossRef]
6. Richard Nathan Rutter, Chris Hanretty, Fiona Lettice. 2015. Political Brands: Can Parties Be Distinguished by Their Online Brand Personality?. *Journal of Political Marketing* 1-20. [CrossRef]
7. Sebastian Ullrich, Christian Boris Brunner. 2015. Negative online consumer reviews: effects of different responses. *Journal of Product & Brand Management* **24**:1, 66-77. [Abstract] [Full Text] [PDF]
8. Tsai Chen, Ming-Chang Lee. 2015. Personality Antecedents of Online Buying Impulsiveness. *Journal of Economics, Business and Management* **3**, 425-429. [CrossRef]
9. Hye-Mi Moon, Kyeong-Rak Lee, Sang-Joon Lee. 2014. The Effects of the Social Risk on the Resistance of Purchase in Mobile Shopping. *Journal of Digital Convergence* **12**, 93-106. [CrossRef]
10. Genevieve Elizabeth O'Connor. 2014. Emerging promotional and pricing approaches in the US pharmaceutical market. *Journal of Product & Brand Management* **23**:7, 572-580. [Abstract] [Full Text] [PDF]
11. Kevin V. Cavanagh, Blina Kruja, Catherine A. Forestell. 2014. The effect of brand and caloric information on flavor perception and food consumption in restrained and unrestrained eaters. *Appetite* **82**, 1-7. [CrossRef]
12. Balogun Naeem Atanda, Abd Rahman AhlanIssues of e-learning in developing countries: A Nigerian perspective 1-4. [CrossRef]
13. Rajesh Kumar Sinha, Subhojit Banerjee. 2014. Incentives & Freebies as a Moderator for Opt-In E-Mail Acceptability. *International Journal of Online Marketing* **2**:10.4018/IJOM.20121001, 54-67. [CrossRef]
14. Payam Hanafizadeh, Mehdi Behboudi, Maryam Asghari Ilani, Ramineh Kalhor. 2014. Why Do Iranians Avoid Shopping on the Internet?. *International Journal of Online Marketing* **2**:10.4018/IJOM.20120401, 44-56. [CrossRef]
15. Meisam Karami, Ali Akbar Hozhabri, Ezzatollah Asgharizadeh, Khalil Md Nor, Saif-Ur-Rehman Khan, Mohammad Ali Hajizadeh GashtiElements affect online repurchase intentions of Malaysia's online shoppers 1-9. [CrossRef]
16. Younkue Na. 2014. A Study on the Business Model of Fashion Mobile Commerce by Quality Evaluation. *Fashion business* **18**, 1-21. [CrossRef]
17. Ilyoo B. Hong, Hoon S. Cha. 2013. The mediating role of consumer trust in an online merchant in predicting purchase intention. *International Journal of Information Management* **33**, 927-939. [CrossRef]
18. José Rojas-Méndez. 2013. The nation brand molecule. *Journal of Product & Brand Management* **22**:7, 462-472. [Abstract] [Full Text] [PDF]
19. Arun Thamizhvanan, M.J. Xavier. 2013. Determinants of customers' online purchase intention: an empirical study in India. *Journal of Indian Business Research* **5**:1, 17-32. [Abstract] [Full Text] [PDF]
20. Isabel C. Botero, Jill Thomas, Christopher Graves, Tomasz A. Fediuk. 2013. Understanding multiple family firm identities: An exploration of the communicated identity in official websites. *Journal of Family Business Strategy* **4**, 12-21. [CrossRef]
21. JoongHo Ahn, Sangwook Ha, Hyunmi Baek. 2012. ALTools Case Study: How ESTsoft Lays Golden Eggs. *Asian Case Research Journal* **16**, 249-268. [CrossRef]
22. Eun Joo Park, Eun Young Kim, Venessa Martin Funches, William Foxx. 2012. Apparel product attributes, web browsing, and e-impulse buying on shopping websites. *Journal of Business Research* **65**, 1583-1589. [CrossRef]
23. Robert E. Hinson, Nnamdi O. Madichie, Masud Ibrahim. 2012. A dialogic communications interrogation of the online brand dispositions of banks operating in Ghana. *International Journal of Bank Marketing* **30**:7, 508-526. [Abstract] [Full Text] [PDF]
24. Abhishek Dwivedi, Bill Merrilees, Dale Miller, Carmel Herington. 2012. Brand, value and relationship equities and loyalty-intentions in the Australian supermarket industry. *Journal of Retailing and Consumer Services* **19**, 526-536. [CrossRef]

25. Chunsik Lee, Junga Kim, Sylvia M. Chan-Olmsted. 2011. Branded product information search on the Web: The role of brand trust and credibility of online information sources. *Journal of Marketing Communications* **17**, 355-374. [CrossRef]
26. M.S. Balaji, Srividya Raghavan, Subhash Jha. 2011. Role of tactile and visual inputs in product evaluation: a multisensory perspective. *Asia Pacific Journal of Marketing and Logistics* **23**:4, 513-530. [Abstract] [Full Text] [PDF]
27. Tae-In Kim, Myoung-Soo Kim. 2011. Sources of the customer loyalty in the high-speed Internet service. *Journal of the Korea Academia-Industrial cooperation Society* **12**, 728-735. [CrossRef]
28. Naveen Amblee, Tung Bui. 2011. Harnessing the Influence of Social Proof in Online Shopping: The Effect of Electronic Word of Mouth on Sales of Digital Microproducts. *International Journal of Electronic Commerce* **16**, 91-114. [CrossRef]
29. Constantinos-Vasilios Priporas, Irene Kamenidou. 2011. Perceptions of potential postgraduate Greek business students towards UK universities, brand and brand reputation. *Journal of Brand Management* **18**, 264-273. [CrossRef]
30. Mi-Young Choi. 2010. A Study on the Explanatory Variables of Internet Ongoing Information Search Behavior. *Journal of the Korean Society of Clothing and Textiles* **34**, 1527-1537. [CrossRef]
31. Jason C F Chan, Zhenhui Jiang, Bernard C Y Tan. 2010. Understanding Online Interruption-Based Advertising: Impacts of Exposure Timing, Advertising Intent, and Brand Image. *IEEE Transactions on Engineering Management* **57**, 365-379. [CrossRef]
32. Young Ha, Sharron J. Lennon. 2010. Effects of site design on consumer emotions: role of product involvement. *Journal of Research in Interactive Marketing* **4**:2, 80-96. [Abstract] [Full Text] [PDF]
33. Xiaolin Xing. 2010. Can price dispersion be persistent in the Internet markets?. *Applied Economics* **42**, 1927-1940. [CrossRef]
34. Gianluigi Guido, M Irene Prete, Luigi Sammarco. 2010. Prototypes versus examples: A new model of online credibility for commercial websites. *Journal of Targeting, Measurement and Analysis for Marketing* **18**, 3-16. [CrossRef]
35. Blanca Hernandez, Julio Jimenez, M. José Martin. 2010. Business management software in high-tech firms: the case of the IT services sector. *Journal of Business & Industrial Marketing* **25**:2, 132-146. [Abstract] [Full Text] [PDF]
36. Lars Silver, Björn Berggren. 2010. The Close Relationship Strategy – Corporate brand development in banking. *Journal of Brand Management* **17**, 289-300. [CrossRef]
37. Sonia San Martín, Carmen Camarero. 2009. How perceived risk affects online buying. *Online Information Review* **33**:4, 629-654. [Abstract] [Full Text] [PDF]
38. Jennifer Rowley. 2009. Online branding strategies of UK fashion retailers. *Internet Research* **19**:3, 348-369. [Abstract] [Full Text] [PDF]
39. Eleni K. Kevork, Adam P. Vrechopoulos. 2009. CRM literature: conceptual and functional insights by keyword analysis. *Marketing Intelligence & Planning* **27**:1, 48-85. [Abstract] [Full Text] [PDF]
40. Rashad Yazdanifard, Arash Najmaei, Zahra SadeghinejadCrafting Excellent I-Brands by Rendering an Intensive Internet Marketing Mix 527-535. [CrossRef]
41. Sergio Román, Pedro J. Cuestas. 2008. The Perceptions of Consumers Regarding Online Retailers' Ethics and Their Relationship with Consumers' General Internet Expertise and Word of Mouth: A Preliminary Analysis. *Journal of Business Ethics* **83**, 641-656. [CrossRef]
42. Rosa E. Rios, Hernan E. Riquelme. 2008. Brand equity for online companies. *Marketing Intelligence & Planning* **26**:7, 719-742. [Abstract] [Full Text] [PDF]
43. Katariina Mäenpää, Sudhir H. Kale, Hannu Kuusela, Nina Mesiranta. 2008. Consumer perceptions of Internet banking in Finland: The moderating role of familiarity. *Journal of Retailing and Consumer Services* **15**, 266-276. [CrossRef]
44. J.J. Blázquez Resino, A. Molina Collado, Á Esteban Talaya, D. Martín-Consuegra Navarro. 2008. ANÁLISIS DE LA EFICACIA PUBLICITARIA EN INTERNET. *Investigaciones Europeas de Dirección y Economía de la Empresa* **14**, 159-176. [CrossRef]
45. I. Rodríguez-Ardura, A. Meseguer Artola, J. Vilaseca i Requena. 2008. EL COMERCIO ELECTRÓNICO EN PERSPECTIVA: DINÁMICA Y DESENCADENANTES. *Investigaciones Europeas de Dirección y Economía de la Empresa* **14**, 55-66. [CrossRef]
46. Eun-Young Kim, Dee K. Knight. 2007. A Path Analytic Exploration of Consumer Information Search in Online Clothing Purchases. *Journal of the Korean Society of Clothing and Textiles* **31**, 1721-1732. [CrossRef]
47. Jihyun Lee, Yuri Lee. 2007. Exploring how the effect of attributes varies with fashion product e-tailer type. *Journal of Fashion Marketing and Management: An International Journal* **11**:4, 462-476. [Abstract] [Full Text] [PDF]
48. Tobias Kollmann, Christina Suckow. 2007. The corporate brand naming process in the net economy. *Qualitative Market Research: An International Journal* **10**:4, 349-361. [Abstract] [Full Text] [PDF]
49. Jamie Murphy, Arno Scharl. 2007. An investigation of global versus local online branding. *International Marketing Review* **24**:3, 297-312. [Abstract] [Full Text] [PDF]

50. J. Alberto Castañeda, Francisco J. Montoro. 2007. The effect of Internet general privacy concern on customer behavior. *Electronic Commerce Research* **7**, 117-141. [CrossRef]
51. Sharron J. Lennon, Minjeong Kim, Kim K. P. Johnson, Laura D. Jolly, Mary Lynn Damhorst, Cynthia R. Jasper. 2007. A longitudinal look at rural consumer adoption of online shopping. *Psychology and Marketing* **24**:10.1002/mar.v24:4, 375-401. [CrossRef]
52. Noor Hazarina Hashim, Jamie Murphy. 2007. Branding on the web: Evolving domain name usage among Malaysian hotels. *Tourism Management* **28**, 621-624. [CrossRef]
53. Blanca Hernández Ortega, Julio Jiménez Martínez, Mª José Martín De Hoyos. 2007. Influence of the business technological compatibility on the acceptance of innovations. *European Journal of Innovation Management* **10**:1, 7-24. [Abstract] [Full Text] [PDF]
54. Maria Sääksjärvi, Saeed Samiee. 2007. Nonprice antecedents of consumer preference for cyber and extension brands. *Journal of Interactive Marketing* **21**, 22-35. [CrossRef]
55. Soo Young Rieh, David R. Danielson. 2007. Credibility: A multidisciplinary framework. *Annual Review of Information Science and Technology* **41**, 307-364. [CrossRef]
56. Gaetano "Nino" Miceli, Francesco Ricotta, Michele Costabile. 2007. Customizing customization: A conceptual framework for interactive personalization. *Journal of Interactive Marketing* **21**, 6-25. [CrossRef]
57. Naveen Amblee, Tung BuiThe Impact of Additional Electronic Word-of-Mouth on Sales of Digital Micro-products over Time: A Longitudinal Analysis of Amazon Shorts 153b-153b. [CrossRef]
58. Dennis Pitta, Frank Franzak, Danielle Fowler. 2006. A strategic approach to building online customer loyalty: integrating customer profitability tiers. *Journal of Consumer Marketing* **23**:7, 421-429. [Abstract] [Full Text] [PDF]
59. Bernard J. Jansen, Marc Resnick. 2006. An examination of searcher's perceptions of nonsponsored and sponsored links during ecommerce Web searching. *Journal of the American Society for Information Science and Technology* **57**:10.1002/asi.v57:14, 1949-1961. [CrossRef]
60. Hui-Chih Wang, John G. Pallister, Gordon R. Foxall. 2006. Innovativeness and Involvement as Determinants of Website Loyalty: I. A test of the style/involvement model in the context of Internet buying. *Technovation* **26**, 1357-1365. [CrossRef]
61. Hui-Chih Wang, John G. Pallister, Gordon R. Foxall. 2006. Innovativeness and involvement as determinants of website loyalty: II. Determinants of consumer loyalty in B2C e-commerce. *Technovation* **26**, 1366-1373. [CrossRef]
62. Ezlika Ghazali, Adam Dilip Mutum, Nurul Azlinawatee Mahbob. 2006. Attitude Towards Online Purchase of Fish in Urban Malaysia. *Journal of Food Products Marketing* **12**, 109-128. [CrossRef]
63. Woo Gon Kim, Xiaojing Ma, Dong Jin Kim. 2006. Determinants of Chinese hotel customers' e-satisfaction and purchase intentions. *Tourism Management* **27**, 890-900. [CrossRef]
64. Henry Yu Xie, David J. Boggs. 2006. Corporate branding versus product branding in emerging markets. *Marketing Intelligence & Planning* **24**:4, 347-364. [Abstract] [Full Text] [PDF]
65. Neil F. Doherty, Fiona E. Ellis-Chadwick. 2006. New perspectives in internet retailing: a review and strategic critique of the field. *International Journal of Retail & Distribution Management* **34**:4/5, 411-428. [Abstract] [Full Text] [PDF]
66. Sarah Quinton, Sally Harridge-March. 2006. The interaction of technology in entrepreneurial marketing: an illustrative case from a wine merchant. *Strategic Change* **15**:10.1002/jsc.v15:2, 85-102. [CrossRef]
67. Marta Fernández-Barcala, Manuel González-Díaz. 2006. Brand equity in the European fruit and vegetable sector: A transaction cost approach. *International Journal of Research in Marketing* **23**, 31-44. [CrossRef]
68. Behrang Rezabakhsh, Daniel Bornemann, Ursula Hansen, Ulf Schrader. 2006. Consumer Power: A Comparison of the Old Economy and the Internet Economy. *Journal of Consumer Policy* **29**, 3-36. [CrossRef]
69. Xiaolin Xing, Zhenlin Yang, Fang-Fang Tang. 2006. A comparison of time-varying online price and price dispersion between multichannel and dotcom DVD retailers. *Journal of Interactive Marketing* **20**, 3-20. [CrossRef]
70. Rajshekhar (Raj) G. Javalgi, Lori P. Radulovich, Glenna Pendleton, Robert F. Scherer. 2005. Sustainable competitive advantage of internet firms. *International Marketing Review* **22**:6, 658-672. [Abstract] [Full Text] [PDF]
71. Hong-Youl Ha. 2005. Determinants influencing Consumer Perceptions of Web Site Trust and Outcomes. *Journal of Global Academy of Marketing Science* **15**, 1-25. [CrossRef]
72. Kurt Schimmel, Jeananne Nicholls. 2005. Media Mix Elements that Motivate Online Shopping. *Journal of Website Promotion* **1**, 53-63. [CrossRef]

73. Ramnath K. Chellappa, Raymond G. Sin. 2005. Personalization versus Privacy: An Empirical Examination of the Online Consumer's Dilemma. *Information Technology and Management* **6**, 181-202. [CrossRef]
74. Alison GallowayNon-Probability Sampling 859-864. [CrossRef]
75. Michael T. Elliott, Paul Surgi Speck. 2005. Factors that Affect Attitude Toward a Retail Web Site. *Journal of Marketing Theory and Practice* **13**, 40-51. [CrossRef]
76. Heejin Lim, Alan J. Dubinsky. 2004. Consumers' perceptions of e-shopping characteristics: an expectancy-value approach. *Journal of Services Marketing* **18**:7, 500-513. [Abstract] [Full Text] [PDF]
77. Lien-Ti Bei, Etta Y.I. Chen, Richard Widdows. 2004. Consumers' Online Information Search Behavior and the Phenomenon of Search vs. Experience Products. *Early Childhood Education Journal* **25**, 449-467. [CrossRef]
78. Natalia Vila López. 2004. Marketing Mix and the Internet: Globalisation or Adaptation?. *Journal of Euromarketing* **13**, 31-58. [CrossRef]
79. Xiaolin Xing, Fang-Fang Tang, Zhenlin Yang. 2004. Pricing dynamics in the online consumer electronics market. *Journal of Product & Brand Management* **13**:6, 429-441. [Abstract] [Full Text] [PDF]
80. Hong-Youl Ha. 2004. Factors influencing consumer perceptions of brand trust online. *Journal of Product & Brand Management* **13**:5, 329-342. [Abstract] [Full Text] [PDF]
81. Ruth Marciniak, Margaret Bruce. 2004. Identification of UK fashion retailer use of Web sites. *International Journal of Retail & Distribution Management* **32**:8, 386-393. [Abstract] [Full Text] [PDF]
82. Kenneth Traynor, Susan Traynor. 2004. A comparison of marketing approaches used by high-tech firms: 1985 versus 2001. *Industrial Marketing Management* **33**, 457-461. [CrossRef]
83. Dipayan Biswas. 2004. Economics of information in the Web economy. *Journal of Business Research* **57**, 724-733. [CrossRef]
84. Simon J Wilde, Stephen J Kelly, Don Scott. 2004. An exploratory investigation into e-tail image attributes important to repeat, internet savvy customers. *Journal of Retailing and Consumer Services* **11**, 131-139. [CrossRef]
85. Xiaolin Xing, Fang-Fang Tang. 2004. Pricing behavior in the online DVD market. *Journal of Retailing and Consumer Services* **11**, 141-147. [CrossRef]
86. Jennifer Rowley. 2004. Online branding. *Online Information Review* **28**:2, 131-138. [Abstract] [Full Text] [PDF]
87. Jennifer Rowley. 2004. Online branding: the case of McDonald's. *British Food Journal* **106**:3, 228-237. [Abstract] [Full Text] [PDF]
88. Julie M. Pharr. 2004. A Research Agenda for Brand-Building on the Internet with Banner Advertising. *Services Marketing Quarterly* **26**, 39-47. [CrossRef]
89. Byung-Kwan Lee, Ji-Young Hong, Wei-Na Lee. 2004. How Attitude Toward the Web Site Influences Consumer Brand Choice and Confidence While Shopping Online. *Journal of Computer-Mediated Communication* **9**, 00-00. [CrossRef]
90. Peter J. Danaher, Isaac W. Wilson, Robert A. Davis. 2003. A Comparison of Online and Offline Consumer Brand Loyalty. *Marketing Science* **22**, 461-476. [CrossRef]
91. Lien-Ti Bei, Etta Y. I. Chen, Jong-Youn Rha, Richard Widdows. 2003. Consumers' Online Information Search for a New Restaurant for Dining-Out. *Journal of Foodservice Business Research* **6**, 15-36. [CrossRef]
92. Alan Topalian. 2003. Experienced reality. *European Journal of Marketing* **37**:7/8, 1119-1132. [Abstract] [Full Text] [PDF]
93. Shirley Leitch, Neil Richardson. 2003. Corporate branding in the new economy. *European Journal of Marketing* **37**:7/8, 1065-1079. [Abstract] [Full Text] [PDF]
94. Despina A. Karayanni. 2003. Web-shoppers and non-shoppers: compatibility, relative advantage and demographics. *European Business Review* **15**:3, 141-152. [Abstract] [Full Text] [PDF]
95. Diana Luck, Geoff Lancaster. 2003. E-CRM: customer relationship marketing in the hotel industry. *Managerial Auditing Journal* **18**:3, 213-231. [Abstract] [Full Text] [PDF]
96. Michael R. Baye, John Morgan, Patrick Scholten. 2003. The Value of Information in an Online Consumer Electronics Market. *Journal of Public Policy & Marketing* **22**, 17-25. [CrossRef]
97. E.W.T. Ngai. 2003. Internet marketing research (1987-2000): a literature review and classification. *European Journal of Marketing* **37**:1/2, 24-49. [Abstract] [Full Text] [PDF]
98. Geraldine Peterson, Parisa Aslani, Kylie A Williams. 2003. How do Consumers Search for and Appraise Information on Medicines on the Internet? A Qualitative Study Using Focus Groups. *Journal of Medical Internet Research* **5**, e33. [CrossRef]

99. Hong-Youl Ha. 2002. The Effects of Consumer Risk Perception on Pre-purchase Information in Online Auctions: Brand, Word-of-Mouth, and Customized Information. *Journal of Computer-Mediated Communication* **8**:10.1111/jcmc.2002.8.issue-1, 0-0. [CrossRef]
100. Micael Dahlen. 2002. Learning the Web. *Journal of Interactive Advertising* **3**, 25-33. [CrossRef]
101. April Wright. 2002. Technology as an Enabler of the Global Branding of Retail Financial Services. *Journal of International Marketing* **10**, 83-98. [CrossRef]
102. Jennifer Rowley, David BirdOnline Branding 122-142. [CrossRef]
103. Salih Yıldız, Hüseyin Sabri KurtulduFactors Affecting Electronic Service Brand Equity 434-492. [CrossRef]
104. Kevin J. Shanahan, Barbara Ross-Wooldridge, Charles M. HermansDelivery and Payment Options as Antecedents to Enhanced Online Retailing 89-101. [CrossRef]