

Why People (Don't) Shop Online: A Lifestyle Study of the Internet Consumer

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ABSTRACT

This study examines the lifestyle characteristics of on-line households. By means of a U.S. national probability sample of on-line heads of households, this descriptive research is the first of its kind to provide a lifestyle perspective of who is using the Internet to shop, who does not shop, and why. It is hypothesized and shown that, compared with on-line nonshoppers, on-line shoppers are younger, wealthier, better educated, have higher computer literacy, spend more time on their computer, spend more time on the Internet, find on-line shopping to be easier and more entertaining, and are more fearful of financial loss from on-line shopping. The study further hypothesizes that on-line shoppers, and on-line nonshoppers, are heterogeneous groups comprised of particular market segments having unique Internet-related lifestyles. Four on-line shopper segments and four on-line nonshopper segments are identified. Each segment is profiled and its marketing implications discussed. © 2003 Wiley Periodicals, Inc.

Internet shopping represents the launch of a new industry with corresponding levels of praise and concern. It is both the golden child for innovative net users, and the evil empire for anxious brick-and-mortar retailers. That on-line purchasing is growing at a dramatic rate is well-known and documented (see for example, Solomon-Wolff, 1998; U.S. Department of Commerce, 2002; Retail Forward, 2003a). Yet the expected explosion of Internet shopping has not occurred; its market share is

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small, at under 2% of total retail spending (Retail Forward, 2003a). Most consumers have been slow to adopt on-line shopping.

This study has been designed to explore why on-line shopping is growing so fast among some households, and so slowly among others. It focuses on characterizing the fundamental satisfiers and dissatisfiers of e-retail shopping. And it examines computer-oriented lifestyles of both Internet and nonshoppers to find that these are not homogeneous groups at all, but discrete market segments, each seeking distinctive benefits from the Internet.

BACKGROUND

Literature

Virtually anyone beginning a project on Internet shopping would begin with some preconceptions or expectations, for example, that on-line shoppers are more computer literate than nonshoppers, or that on-line nonshoppers have higher fears of credit-card theft than shoppers, etc. These in fact represent two hypotheses discussed here. Throughout this article, the terms *on-line shoppers* will refer to heads of households having an at-home Internet connection that make Internet retail purchases. *On-line nonshoppers* refer to individuals that have made no such purchase.

The search criteria in searching and reviewing the literature was to identify articles providing some attitudinal or lifestyle discussion of on-line shoppers or on-line nonshoppers. Internet marketing is a topic receiving considerable attention, for example, in specialized journals (i.e., *Journal of Interactive Marketing* and *Information Systems Research*), and in journal special issues (*Journal of the Academy of Marketing Science*, Fall 2002). Although it was expected that dozens of articles would be identified as relevant to the topic of on-line shopper/nonshopper characteristics, a thorough review found but 13. These are summarized in Table 1. This Table suggests that, compared with on-line nonshoppers, on-line shoppers

- have higher levels of education and experience, and greater knowledge of the on-line channel (Li, Kuo, Russell, 1999)
- have greater Internet experience, make wider use of other nontraditional purchasing methods, have more favorable attitudes toward technology, and are more venturesome (Miyazaki & Fernandez, 2001; Siu & Cheng, 2001)
- will buy more often from and be more loyal to on-line vendors having lower pricing and better customer-service practices (Srinivasan, Anderson, & Ponnnavolu, 2002; Swaminathan, Lepkowska, Rao, & Bovac, 1999)

- are older and wealthier, are more convenience oriented and less risk averse, and less brand/price conscious (Donthu & Garcia, 1999; Tan, 1999)

In contrast to the final point, however, other data compete with the assertion by Donthu and Garcia (1999) that on-line shoppers are older than nonshoppers. Several commercial reports (Brady, 2000; Whitfield, 1999) have indicated that though the demographics of on-line shoppers is becoming more similar to the average consumer, they are still generally younger than on-line nonshoppers, a result consistent with the prevailing view that technology is more quickly adopted by younger consumers.

Smith and Whitlark (1999) used means–end analysis or laddering (see Reynolds & Gutman, 1988 for a description of this technique) leading to 13 themes of Internet lifestyles. Curiously, none of these themes include on-line shopping. The 13 themes are

- *Doer*. When it comes to promoting causes, I am a doer and not just a talker. I use the Internet to actively support causes that make people or communities better.
- *Change*. I hate repetition and I don't want the same old thing. I am excited by a million web pages to explore.
- *Competitive*. In today's competitive world, you make dust or eat dust. I use the Internet to make me and those I love more productive and successful.
- *Family*. I want my family to run smoothly and I use the Internet to make me and those I love more productive and successful.
- *Non-tech*. I often have a hard time figuring out how to use current Internet technology.
- *Games*. Internet games unlock my imagination and help me to meet interesting people and do neat stuff.
- *Hobbies*. Hobbies are a very important part of my life. I use the Internet to expand my world of fascinating hobbies, interests, and activities.
- *Art*. I am fascinated by art, culture, and knowledge from around the world. I use the Internet to explore art and culture.
- *Expert*. I consider myself an expert on the computer. When people have questions about the Internet, I always have the answer.
- *Friends*. I have lots of friends and stay close to my family. I spend a lot of time on the Internet keeping in touch with family and friends with e-mail.
- *Job*. On-the-job productivity is the key concern for me. I use the Internet to help me get more done with the time and energy I have to spend on work-related activities.

Table 1. Empirical On-line Shopping Studies.

Source	Objective	Outcome
Donthu and Garcia (1999)	Investigated several characteristics of the on-line shopper and related these to on-line shopping activity.	Found that Internet shoppers were older and made more money than Internet nonshoppers, and they were more convenience seekers, innovative, impulsive, variety seekers, and less risk averse than Internet nonshoppers. They were also less brand and price conscious, and had a more positive attitude toward advertising and direct marketing.
Emmanouilides and Hammond (2000)	Investigated predictors of active or current use of the Internet, with consumer panel data.	Main predictors are time since first use of Internet, location of use, and services used.
Keen (2000)	Used Azjen's theory of reasoned action to examine consumers' behavioral intentions to use available retail formats, including brick-and-mortar stores, catalogs, and the Internet	Showned that price and prior experience had the greatest importance in the decision about where to shop. Ease of use, control, and subjective norms were secondary influences. The results suggested that the Internet will likely pull market share from the catalog industry rather than brick-and-mortar stores.
Li, Kuo, and Russell (1999)	Proposed that consumer on-line buying behavior is affected by demographics, channel knowledge, perceived channel utility, and shopping orientations.	Found that, compared with the on-line nonbuyer, on-line buyers are better educated, have higher income, are more convenience oriented, and have a better knowledge of the Internet.
Mathwick (2001)	Used clustering analysis to survey data collected on-line to identify segments characterized by relational norms and behavior, in order to describe on-line social activities.	Identified four groups: <ul style="list-style-type: none"> • Transactional community members • Socializers • Personal Connectors • Lurkers
Miyazaki and Fernandez (2001)	Explored risk perceptions among consumers of varying levels of Internet experience and how these perceptions relate to on-line shopping activity.	Showned evidence of relationships among consumers' levels of Internet experience, the use of purchasing methods such as telephone and mail-order shopping, the perceived risks of on-line shopping, and on-line purchasing activity.

Siu and Cheng (2001)	Examined the personal characteristics of potential on-line shopping adopters and perceived innovation attributes for on-line individuals in Hong Kong.	Results indicate that the economic gains, availability, compatibility, security risk monthly income, opinion leadership on technological product, attitudes towards technological development, and venturesomeness are the key factors in classifying potential on-line shoppers.
Smith and Whitlark (2000)	By means of e-mailed questionnaires, collected national data from 3090 on-line users. The data were analyzed in conjunction with personal interviews using means-end analysis or laddering.	Identified 13 themes of Internet lifestyles.
Srinivasan, Anderson, and Ponnnavolu (2002)	Examined the antecedents and consequences of customer loyalty in an on-line business-to-consumer context.	Eight factors are identified that potentially impact e-loyalty: customization, contact interactivity, care, community, convenience, cultivation, choice, and character. Data collected from 1211 on-line customers demonstrate that all these factors, except convenience, impact e-loyalty.
Swaminathan, Lepkowska, and Rao (1999)	Examined antecedents to on-line shopping, including factors influencing on-line shopping, and the role of privacy and security concerns.	The findings suggest that perceived vendor characteristics, particularly price competitiveness and ease of canceling orders, affect the frequency of purchases on the Internet. Shows that frequent on-line shoppers are interested in the creation of new laws protecting privacy on the Internet.
Tan (1999)	Studied risk perception among on-line Singaporeans, and examined the effectiveness of several strategies Internet vendors could use to promote on-line shopping.	The results show that those having higher risk aversion also perceive Internet shopping to be a risky activity. Suggests several vendor actions that could reduce this sense of risk (good reputation and brand image, specific warranty strategies, etc.).
Torkzadeh and Dhillon (2002)	A scale-development study. One instrument was used to measure objectives that influence on-line purchase (e.g., Internet vendor trust) and another to measure objectives customer perceive important for Internet shopping (e.g., Internet product value).	The outcomes included a five-factor, 21-item instrument that measures shopper objectives in terms of Internet product choice, on-line payment, Internet vendor trust, shopping travel, and Internet shipping errors.
Volk (2002)	Considers the relationship of Ajzen's theory of reasoned action on nine Internet behaviors (e.g., clicking on banner ads, reading e-mail ads, searching for product information, using comparison engines).	Found that the attitudinal component of the theory predicted users' intention to participate in all nine of the on-line behaviors. That is, the individual's attitudes toward the act predicted their intention to perform the act.

- *People*. I use the Internet to meet interesting people. I watch chat rooms and sometimes participate with people or topics that I find interesting.
- *Overall*. The Internet makes an important contribution to almost all parts of my life.

As can be seen, the academic literature for Internet shopping has not reached mature development. No single study has comprehensively studied attributes that encourage or discourage Internet shopping, nor apparently have any academic studies yet reported how the lifestyle characteristics of on-line shoppers differ from nonshoppers.

The trade has also discussed on-line shopper and nonshopper characteristics, though that literature is difficult to access, because much of it is proprietary or by subscription. For Forrester Research, Inc., McQuivey (2000) reported the top reasons why young consumers do not shop on-line. The five most common mentions began with concerns about credit-card security (given by 59% of their respondents). Indeed, credit-card fears are often reported as a major deterrent to on-line shopping (see for example, InternetNews, 1999; Strauss & Frost, 1999; TechWeb, 2002).

McQuivey (2000) found that credit-card concern was the most important deterrent to on-line shopping, followed by inability to see and touch the product (56% of Internet users), not trusting that on-line ordering will go smoothly (43%), having concerns about giving out personal information (43%), and the expense of shipping (43%). A titles review of Forrester's commercial projects through the time of this writing revealed 122 reports dealing with e-retailing, but none indicating a characterization of the on-line customer in terms of personality or psychographic characteristics (Forrester, 2002).

Retail Forward's "E-Retail Intelligence System" (2003b) has reported that the top reasons Internet users did not make an on-line holiday purchase were that shoppers wanted to see the products before buying (39% of respondents), refused to pay shipping (37%), could find better deals in brick-and-mortar stores (35%), enjoy shopping in malls and brick-and-mortar stores (30%), and were worried they would not receive the item in time (25%). PricewaterhouseCoopers reported that, among on-line households, 52% of adults access it more than once a day, and another 27% daily (PricewaterhouseCoopers, 2000b). In yet another report, those researchers indicate that, although 75–80% of consumers with Internet access have ever made an Internet purchase, the shopping frequency is modest. At least two-thirds of these consumers shop on-line less frequently than monthly (PricewaterhouseCoopers, 1999).

However, despite its large commitment to Internet-shopping research, PricewaterhouseCoopers/Retail Forward collects little data on on-line–consumer Internet- or technology-related lifestyles. In a personal communication with PricewaterhouseCoopers the authors ob-

tained the measures that organization uses to characterize on-line consumers. Their lifestyle measures deal with concerns about financial loss and of sharing personal information (PricewaterhouseCoopers, 2000c), and include scant attitudinal or lifestyle measures.

Hypotheses

The existing literature provides little insight into any truly configurable differences between on-line shoppers and nonshoppers, much less identifying lifestyle segments within those groups. Hence in developing hypotheses there exist but a few published precedents, augmented by personal discoveries, beliefs, and intuition as this project was developed. The preceding discussion, along with the qualitative data gathered during the developmental procedures (described below) led to the formation of the following hypotheses:

- H1:** Among connected consumers, compared with nonshoppers, on-line shoppers . . .
- (a) are younger
 - (b) are wealthier
 - (c) have a better education
 - (d) have higher computer literacy
 - (e) spend more time on their computer
 - (f) spend more time on the Internet
 - (g) report that on-line shopping is easier and more entertaining
 - (h) are less fearful about financial loss resulting from on-line transactions

With respect to the market segments themselves, the existing literature classifies on-line shoppers and on-line nonshoppers, using only rudimentary demographics. Though the hypotheses lack *a priori* data about the directionality or specificity of outcomes, it seems clear that a key to understanding on-line shoppers and nonshoppers is to understand their Internet-related lifestyles. Thus it is suggested that . . .

- H2:** (a) Among on-line users, on-line shoppers are not a single market segment; they are a heterogeneous group whose members will not respond similarly to marketing effort, and likewise, (b) among on-line users, on-line nonshoppers are not a single market segment; they are a heterogeneous group whose members will not respond similarly to marketing effort.

DEVELOPMENTAL PROCEDURES

Because existing measures or scales of Internet shopping lifestyles scales appear not to exist, before proceeding with data collection it be-

came necessary to fill this substantial gap with measure and scale development. The project began by conducting 20 depth interviews with individuals having an Internet connection at home, focusing on why they do or do not make on-line purchases and (if they did not buy on-line) what could influence them to buy on-line. Although a large number of issues emerged here, the most frequent were financial fears, low familiarity or comfort with the technology, low familiarity or comfort with Internet resources (e.g., vendor rating sites, shopping bots), and inability to see/touch/try the product before purchase.

The single most important task in measure development was identification of on-line shopper attributes—satisfiers and dissatisfiers (Swinyard, 1993). The aim for the focus on lifestyle was the development of measures that draw recognizably human portraits of on-line individuals. To this end, a simple open-ended questionnaire was administered to 322 undergraduate business students asking them to list reasons why people would, or would not, shop on the Internet. There were many near duplications, which were eliminated.

These responses were keyed into a spreadsheet, which permitted the items to be examined and sorted by similarity. This led to a reduced attribute listing of 107 satisfiers and 54 dissatisfiers. Scaled measures for these items were next collected from the same undergraduate business students. Results from this procedure were factor analyzed. Sixteen factors emerged. Included in these factors were credit-card and financial fears, trust and security, shopping fun and social experience while shopping, computer expertise, on-line store service, on-line store return policies, product value and prices, lack of ability to get personal help while shopping, late delivery, and backorder worries. Particular attention was paid to items showing high factor loadings.

The above techniques were again followed by a review of factor loadings and an investigator screen leading to the identification of final items for a questionnaire to be used in a national probability study. After several pretests among small samples, the questionnaire was finalized. In its final form it contained measures of 14 Internet behaviors, 38 Internet shopping lifestyle statements, and the 13 Internet-use themes (from Smith & Whitlark, 1999). To these were added measures dealing with computer and Internet use and knowledge, and demographics.

To measure familiarity with and knowledge of Internet and computer technology an additional set of measures was developed, representing a new construct—a computer-literacy index. This was a summed measure ($\alpha = .900$) based on 12 items collected with the use of a three-point scale (*I could do this* [+1] to *I could not do this* [-1]). The items were: sending or reading email messages, using word-processing programs, installing computer software, configuring computer drivers, fixing a system (e.g., Windows) problem, installing an operating system (e.g., Windows), browsing the Internet, using an Internet search engine,

making a purchase on the Internet, finding the best price on the Internet, using an Internet shopping bot, and finding Internet-retailer quality ratings.

The above procedures resulted in a dense four-page questionnaire having 136 individual item measures.

RESEARCH METHOD

Data Collection

Data were collected by mail. The address listing of on-line household heads was purchased from Experian Information Solutions, Inc. (2000), with the postal addresses identified by means of its national consumer panel. E-mail questionnaire delivery was initially considered but then rejected for a several reasons. These included expectations that, with on-line questionnaire administration,

- The sample would be biased.
- The population would be unknown.
- The length of the questionnaire would be overly long for a point-and-click user.
- Completion rates would be low.
- System slowdowns or lockups would aggravate the completion rate.

Thus the questionnaire was delivered by mail, to a national probability sample of 4000 U.S. heads of households having an Internet connection at home. Fifty percent of the outgoing questionnaires were addressed to women, and 50% to men. This mailout occurred on January 8, 2001.

It was desirable for the questionnaire to arrive just after the Christmas holiday, because this is the most significant retail period of the calendar year—indeed, retailers of nonessential goods report that typically 50–60% of their annual revenues occur during this period. In addition, a January 8th mailout date was chosen because by this time any young children in the household were back in school, and it was expected to be a time of somewhat reduced activity in households following a busy school vacation. An incentive was offered for the return of the questionnaire. Each mailout included a postcard-sized entry for one of five chances to win a cash award of \$500, to be returned with the completed questionnaire.

Thus each mailout included:

- A personalized, hand signed, cover letter showing sponsorship both by the authors' University and the e-Research Institute for a study entitled, The Internet Usability Project.

- A four-page questionnaire printed with a single fold on 8 1/2 in. by 17 in. stock.
- The drawing entry card.
- A preaddressed business-return envelope.

By the cutoff date, 1738 questionnaires had been returned, for a return rate of 43.5%. Although one must always wonder how respondents differed from nonrespondents, this is a remarkable return, especially considering the mobility of U.S. families with corresponding deliverability problems, and their growing aversion to unsolicited mail. This high return rate is likely a function of (a) a strong interest in Internet use and shopping among these on-line households, (b) the personalized handling of the outgoing letter, (c) the university affiliation contained in the questionnaire mailout, and (d) the financial incentive.

Analysis

The analysis procedure began with factor analysis and a breakdown of means. For this, principal-components analysis with varimax rotation was used, principally to condense the large number of Internet usage and lifestyle items data into a smaller set of factors. Factor analysis also helped describe the fundamental Internet attributes—both its satisfiers and its dissatisfiers. In addition, factor scores were calculated for each respondent. The cross tabulation and breakdowns of means are simple procedures but brought the entire analysis to a focus. By cross tabulating each household's Internet lifestyles with key descriptive variables, they could be profiled in a more retrievable and interpretable way.

RESULTS

On-line shoppers were defined as on-line household heads, in those households having an Internet connection at home, who reported making a *personal* on-line purchase during the preceding holiday season. On-line nonshoppers are on-line household heads, in those households having an Internet connection at home, who made no such personal purchase. It was found that on-line shoppers represented 42% of the total sample of household heads having Internet access. The study's questions about on-line shopping and computer activities referred the respondent to their use during the previous holiday season.

This discussion will begin with a short review of descriptive information about these on-line households: their demographics, Internet use, and computer literacy.

Demographics

Just over half of the sample was female. The average age for the sample as a whole was approximately 49 years. As predicted by H1(a), the on-line shopper is indeed younger than the nonshopper ($F = 23.760$ with 1 and 1724 df , $p < .001$). The typical respondent has well-above-average income, with an average annual pretax household income of \$60,882 and personal pretax income of \$41,069. Note that the 1999 median U.S. household income was \$40,816 (U.S. Department of Commerce, 2002). In support of H1(b) the data show that on-line shoppers are also wealthier both in personal and in household income than on-line nonshoppers (personal income: $F = 26.139$ with 1 and 1607 df , $p < .001$; household income: $F = 42.603$ with 1 and 1597 df , $p < .001$). In support of H1(c) on-line shoppers are better educated than nonshoppers ($F = 23.996$, with 1 and 1723 df , $p < .001$).

Three-quarters of all respondents are married, having an average of 2.8 people (including themselves) in the household. Just over half of the respondents had no children under 20 years of age at home. Four-fifths live in a single-family home, with a large majority of home ownership. Three-quarters of the respondents have completed at least some college, and 43% are college graduates, which is consistent with the relatively sophisticated technology to which they subscribe.

On-line shoppers are much bigger gift spenders overall—not for just on-line spending—than nonshoppers. Average total household holiday-gift spending for the on-line shoppers was \$1348 (all sources), whereas among on-line nonshoppers the average spending was lower at \$1008 ($F = 8.75$, with 1 and 1720 df , $p < .005$). Considering all personal Internet buying during the holiday, whether for gifts or other purpose, on-line shoppers spent \$352 on-line during the holiday. Of this sum, \$261 was for gifts.

Computer Literacy and Use

As discussed, the study measured computer literacy, having a scale mid-point coded as 0. The average respondent overall has a computer literacy index of 0.11. On-line shoppers have a computer literacy index of 0.42, whereas nonshoppers are significantly less computer literate, having a score of -0.31 ($F = 251.60$ with 1 and 1725 df , $p < .001$). This is considered in support of H1(d).

On average, on-line household heads personally use their home computer nearly 15 h per week, of which about 9 h a week is on-line, with other members of their household spending just over 10 h additionally per week on the computer. Thus their home computer is in use about 25 h per week. Most frequent personal uses of respondents' computers were check or send e-mail messages, visit Internet sites related to hob-

bies, play games, read on-line news or magazines, visit retail sites looking for merchandise, and conduct business-related work. On-line shoppers use their computer more than on-line nonshoppers—16.7 versus 12.9 h per week for nonshoppers ($F = 15.821$ with 1 and 1677 df , $p < .001$). This is considered in support of H1(e).

In H1(f) it was hypothesized that on-line shoppers spent more time on the Internet than on-line nonshoppers. In support of that hypothesis, on-line shoppers report being personally on-line 10.3 h per week on average, whereas on-line nonshoppers report 8.3 h per week ($F = 6.024$ with 1 and 1680 df , $p < .05$).

Internet Lifestyles

Measures. The major aim for the collection of lifestyle measures was to draw recognizably human portraits of connected households in shopping activities. Lifestyle measures useful in marketing can seem more like demographic than psychological measures (e.g., “I often return items I have purchased”). Others may tap deeper levels (e.g., “Buying things on the Internet scares me”). Although the present study includes some measures like the preceding, most are specifically reflected e-retail shopping lifestyles (e.g., “I don’t think Internet stores carry things I want,” “I like having products delivered to me at home”).

Respondents were asked to indicate the extent to which they felt the items in Table 2 described them, with the use of a 5-point scale (1 = *Not at all like me*, 5 = *Just like me*). The table shows those characteristics in sorted order, with those reported as most descriptive of all respondents appearing first. Readers should be careful to note the attributes at the top of this table, as these indicate the lifestyle issues having the greatest influence on Internet and e-retail behavior.

Table 3 reports the factors and loadings for these 38 Internet psychographic items. On-line shoppers and on-line nonshoppers were first factor analyzed separately on these items, but the results from each group were so similar as to deserve the same factor labels. However, inasmuch as the loadings for the two groups were to be compared, a single factor solution for the shoppers and the nonshoppers combined was finalized. Although a number of factor solutions were examined, in the end a scree-plot approach was used for each of these analyses. The key factors that serve as satisfiers and dissatisfiers for Internet shopping are the following:

- Internet shopping is easy and fun.
- Internet shopping is a hassle.
- Like the energy of brick-and-mortar stores.
- Fear of financial theft on the Internet.
- Don’t know how to shop or find things on the Internet.
- The Internet has good prices and quality.

Table 2. Internet Psychographics—All Respondents.

Characteristic	<i>N</i>	Mean	<i>sd</i>
I dislike the idea of shipping charges when buying on the Internet.	1712	3.84	1.23
I always search for the lowest price in just about everything I buy.	1723	3.83	1.18
I worry about my credit-card number being stolen on the Internet.	1725	3.81	1.30
I want to see things in person before I buy.	1717	3.80	1.09
I want my purchases to be absolutely private.	1719	3.78	1.29
It's hard to judge the quality of merchandise on the Internet.	1712	3.68	1.13
It would be a real hassle to return merchandise bought on-line.	1707	3.65	1.24
I don't want to give out my credit-card number to a computer.	1718	3.57	1.39
I like the help and friendliness I can get at local stores.	1728	3.53	1.04
I like browsing on the Internet.	1707	3.41	1.30
I like having products delivered to me at home.	1713	3.33	1.25
I think local stores have better service policies than Internet stores.	1704	3.16	1.24
I would shop on the Internet (more) if the prices were lower.	1706	3.12	1.30
I like the energy and fun of shopping at local retail stores.	1718	3.04	1.27
Local stores have better prices and promotions than Internet stores.	1705	3.01	1.14
I dislike the delivery problems and backorders of Internet buying.	1713	3.00	1.30
I don't like having to wait for products to arrive in the mail.	1712	2.89	1.22
I often go to the Internet to preview products.	1712	2.88	1.35
I often go to the Internet for product reviews or recommendations.	1719	2.88	1.38
I like to go shopping with my friends.	1714	2.84	1.40
I think Internet shopping would avoid the hassle of local shopping.	1718	2.83	1.21
I like it that no car is necessary when shopping on the Internet.	1717	2.82	1.35
Buying things on the Internet scares me.	1717	2.82	1.42
For me, shopping in stores is a hassle.	1720	2.77	1.18
I would like not having to leave home when shopping.	1718	2.76	1.29
I just don't trust Internet retailers.	1721	2.75	1.24
I'd have a hard time searching the Internet to find what I need.	1712	2.74	1.29
I think on-line buying is (or would be) a novel, fun way to shop.	1727	2.71	1.20
I enjoy buying things on the Internet.	1712	2.54	1.25
I find the Internet ordering process is hard to understand and use.	1714	2.44	1.24
I don't think Internet stores carry things I want.	1710	2.41	1.12
I think the Internet offers lower prices than local stores.	1697	2.36	1.03
I think Internet shopping offers better selection than local stores.	1711	2.36	1.04
None of my friends shop on the Internet.	1689	2.34	1.16
I don't know much about using the Internet.	1717	2.31	1.31
I often return items I have purchased.	1713	2.22	1.05
I think Internet shopping offers better quality than local stores.	1706	2.12	0.94
I often buy using layaway or store payment programs.	1716	1.77	1.23

Table 3. Factor Loadings, Psychographic Variables—All Respondents.

	Factor					
	1	2	3	4	5	6
Internet shopping is easy and fun						
I like that no car is necessary on Internet	0.78	−0.08	−0.03	0.03	−0.14	0.09
I like not having to leave home when shopping	0.77	−0.08	0.01	0.05	−0.22	0.15
Internet shopping is easier than local	0.75	−0.12	−0.11	−0.12	−0.18	0.15
I like having merchandise delivered to me at home	0.71	−0.22	−0.11	−0.05	−0.01	0.03
On-line buying is fun	0.67	−0.16	−0.29	−0.26	0.02	0.11
I enjoy buying things on the Internet	0.66	−0.16	−0.35	−0.31	0.00	0.16
I'd shop more on the Internet if prices were lower	0.60	0.30	−0.11	−0.07	0.02	−0.25
Shopping in stores is a hassle	0.56	−0.00	0.04	0.06	−0.50	0.16
Internet shopping is a hassle						
I don't like waiting for products to arrive	−0.17	0.65	0.04	0.11	0.04	0.17
It's a hassle to return merchandise bought on-line	−0.09	0.62	0.14	0.28	0.04	−0.15
It's hard to judge merchandise quality on Internet	−0.15	0.62	0.08	0.27	−0.00	−0.03
Internet buying has delivery problems	−0.07	0.62	0.32	0.10	0.11	−0.15
I dislike shipping charges on the Internet	0.23	0.61	−0.01	0.03	0.01	−0.16
Stores have better service policies	−0.12	0.53	0.13	0.13	0.26	−0.20
I want to see things in person before I buy	−0.40	0.50	0.12	0.29	0.15	−0.08
None of my friends shop on the Internet	−0.07	0.33	0.27	0.06	0.10	0.15
I don't know how						
I don't know much about using the Internet	−0.12	0.05	0.72	0.22	0.10	0.08
I'm not good at finding what I want on Internet	−0.00	0.27	0.71	0.11	0.15	−0.10
Internet ordering is hard to understand and use	−0.12	0.31	0.66	0.22	0.17	0.02
Internet stores don't carry things I want	−0.02	0.35	0.56	0.12	0.18	−0.14
I go to the Internet for reviews or recommendations	0.49	0.08	−0.55	−0.04	0.06	0.21
I like browsing on the Internet	0.48	−0.00	−0.55	0.05	0.12	0.14
I go to the Internet to preview products	0.52	0.04	−0.56	−0.07	0.08	0.20

Table 3. (Continued)

	Factor					
	1	2	3	4	5	6
Fear of financial theft						
I worry about my credit card number being stolen on the Internet	-0.11	0.21	0.15	0.82	0.12	-0.05
I want my purchases absolutely private	0.10	0.12	-0.04	0.71	0.10	-0.08
I don't want to give a computer my credit-card number	-0.24	0.23	0.30	0.69	0.08	-0.02
Buying things on the Internet scares me	-0.15	0.20	0.34	0.68	0.19	0.02
I just don't trust Internet retailers	-0.19	0.39	0.26	0.50	0.16	0.00
I search for lowest price in everything	0.24	0.17	-0.10	0.29	0.29	-0.28
Like the energy of brick-and-mortar stores						
I like to go shopping with my friends	-0.10	0.01	0.02	0.11	0.76	-0.05
I like the energy at local retail stores	-0.36	0.19	0.03	0.12	0.69	-0.13
I like friendliness of local stores	-0.22	0.17	0.05	0.11	0.48	-0.08
I buy using layaway programs	0.10	-0.03	0.17	0.15	0.44	0.10
I often return items I have purchased	0.08	0.24	0.20	0.02	0.35	0.14
Internet has good prices and quality						
Internet offers lower prices than local stores	0.31	0.01	-0.14	-0.02	-0.01	0.70
Internet shopping offers better selection	0.47	-0.04	-0.15	-0.13	0.00	0.58
Internet has better quality than stores	0.44	-0.14	0.06	-0.05	0.11	0.54
Local stores have better prices, promos	0.09	0.34	0.15	0.03	0.29	-0.52

Each of these is a factor shown (in bold) in Table 3, accompanied by its associated measures—characteristics that respondents perceive as being related to each other and to the factor. On-line shoppers are more likely to patronize sites that have the most positive, or the least negative, performance, on these factors.

Respondent's factor scores were developed with the use of Anderson-Rubin coding (a procedure that produces a factor-score mean = 0 and *sd* = 1). These scores are illustrated in Figure 1 for the on-line shoppers

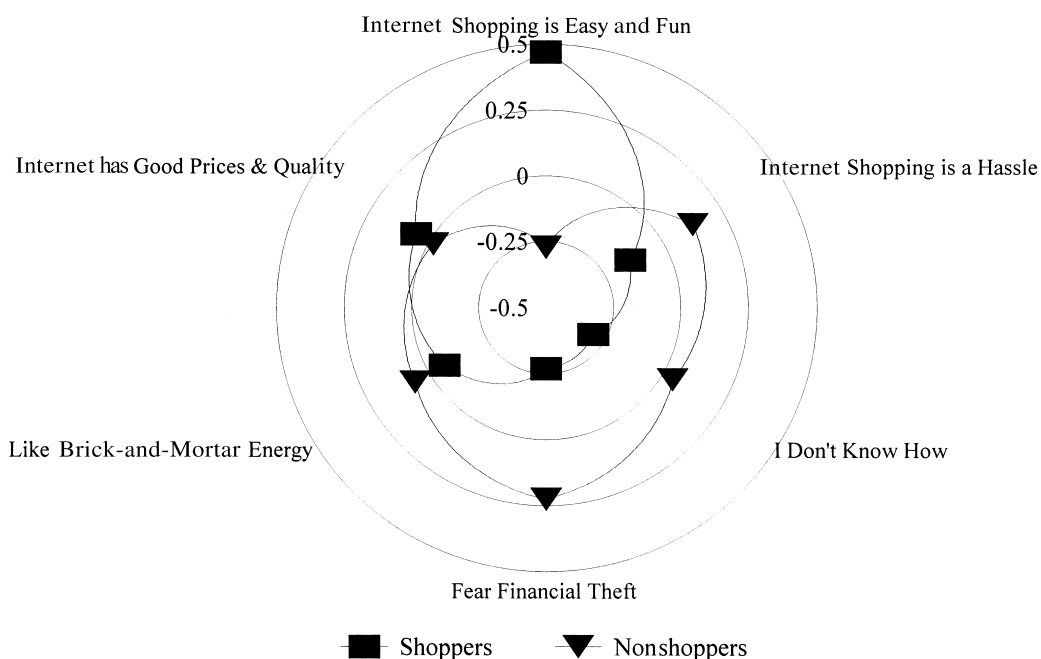


Figure 1. Average factor scores, shoppers versus nonshoppers, Anderson-Rubin coding (mean = 0, $sd = 1$).

versus the on-line nonshoppers. The chart's vertical axis values convey important information. Among each group, values of 0.0 are at the mean, and numbers higher or lower than 0.0 reflect the number of standard deviations from the average of the entire sample.

H1(g) hypothesized that, compared with on-line nonshoppers, on-line shoppers would report Internet shopping to be easier and more entertaining. This was tested with the use of two measures. For the scaled measure, "[I find that] Internet shopping is easier than local shopping" (1 = *Not at all like me*, 5 = *Just like me*) the mean for on-line shoppers was 3.34, and 2.45 for nonshoppers ($F = 262.931$ with 1 and 1709 df , $p < .001$). And for the measure, "I enjoy buying things on the Internet," the mean for shoppers was 3.32, and 1.95 for nonshoppers ($F = 709.190$ with 1 and 1703 df , $p < .001$). Both of these measures were included in the factor, "The Internet is easy and fun." Mean on-line shopper factor scores for that factor were 0.468, and the on-line nonshopper mean was -0.310 ($F = 257.073$ with 1 and 1451 df , $p < .001$). This analysis is considered in support of H1(g).

Clearly, there are substantial differences between the two groups. Shoppers are higher than nonshoppers on the factors of "Internet shopping is easy and fun" ($p < .001$), and nonshoppers on "Don't know how to shop or find things on the Internet" ($p < .001$), and that "Internet shopping is a hassle" ($p < .001$).

H1(h) proposed that, compared with on-line shoppers, on-line non-

shoppers are more fearful of financial loss resulting from on-line transactions. Over 70% of on-line nonshoppers versus a third of the on-line shoppers, agreed with the statement, "I don't want to give a computer my credit-card number." Further, three-fourths of the nonshoppers versus nearly half of the on-line shoppers agreed that, "I worry about my credit-card number being stolen on the Internet." On-line purchases were made by 20% of those who most agreed with the statement, "I don't want to give a computer my credit-card number" versus by 63% of those who most disagreed.

Consistent with H1(h), it was found that nonshoppers score higher than shoppers on the factor, "Fear of financial theft on the Internet" ($F = 110.074$ with 1 and 1451 df , $p < .001$). All but one of the six items comprising that factor are also significantly different between on-line shoppers and nonshoppers (at $p < .001$). This is considered in support of H1(h). The one *ns* item was, "I want my purchases absolutely private."

Internet Segments

H2 predicted that neither on-line shoppers, H2(a), nor on-line nonshoppers, H2(b) comprised a single market segment. To address these issues, a cluster analysis was conducted within each group. The cluster analysis was based on factor scores for each respondent, using the SPSS k-means cluster procedure. One analysis was done among the on-line shoppers, and a second among the on-line nonshoppers. After examining several clustering solutions for each group, solutions were reached that met these criteria: that each cluster or segment (a) was to be substantial in size, (b) was clearly differentiated from other segments (c) had characteristics that were internally consistent, and (d) was interpretable. These solutions provided four segments among on-line shoppers, and another four segments among on-line nonshoppers. The segments were named on the basis of their prevailing factor loadings.

Table 4 reports the similarities and differences across the eight segments for the study's nonlifestyle measures.

To summarize the segments on their lifestyle measures, average factor scores were plotted for each segment. See Figure 2(a) for the on-line shoppers and Figure 2(b) for the on-line nonshoppers. These figures include the results of a second set of factor scores (with the use of procedures equivalent to those described above) based on factor analysis of measures of 14 Internet activities. This resulted in three factors. The two sets of factor scores are combined in the charts: Average factor scores for the six factors resulting from analysis of the 38 computer lifestyle variables (discussed earlier), and factor scores on the three additional factors derived the Internet activities. On the charts' vertical axes, values of 0 are at the average of the on-line household population. Numbers higher or lower than 0 reflect the number of standard deviations of segment's average factor score versus the average on-line house-

Table 4. The Eight On-line Segments.

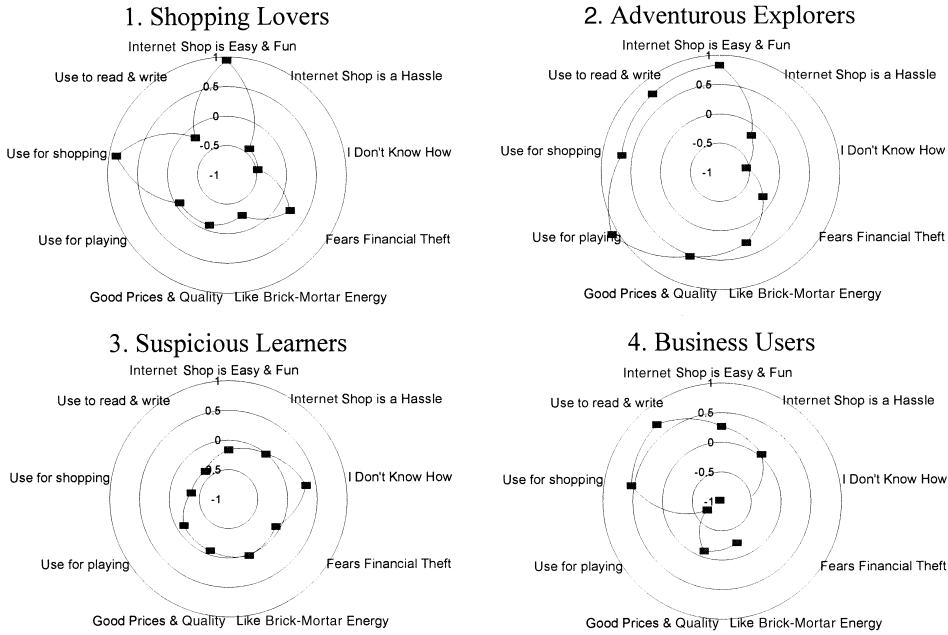
Characteristic	Internet Shoppers				Internet Nonshoppers			
	Shopping Lovers	Adventuresome Explorers	Suspicious Learners	Business Users	Fearful Browsers	Shopping Avoiders	Technology Muddlers	Fun Seekers
On-line household market share	11.1%	8.9%	9.7%	12.5%	10.6%	5.6%	19.5%	12.0%
Weighted household Internet purchasing index	192	195	106	172	39	30	46	20
Weighted personal Internet purchasing index	238	257	142	260	—	—	—	—
Holiday gift spending by retailer type:								
Overall household holiday gift spending ^a	\$1,282	\$1,361	\$1,367	\$1,363	\$1,056	\$1,069	\$1,060	\$851
From local stores ^a	\$ 784	\$ 793	\$ 982	\$ 895	\$ 895	\$ 896	\$ 849	\$739
From mail-order vendors ^a	\$ 153	\$ 164	\$ 144	\$ 182	\$ 158	\$ 226	\$ 208	\$168
From Internet retailers ^a	\$ 344	\$ 435	\$ 219	\$ 274	\$ 74	\$ 38	\$ 47	\$ 32
Internet gift purchases as % of total gifts ^a	27.8%	29.2%	14.8%	23.2%	6.7%	3.2%	4.3%	3.9%
Total personal Internet purchase spending ^a	\$ 326	\$ 440	\$ 225	\$ 317	—	—	—	—
Total personal Internet gift purchase spending ^a	\$ 278	\$ 356	\$ 186	\$ 239	—	—	—	—
% of households buying these items on-line: ^a								
Other items	67.0%	45.0%	47.0%	48.0%	—	—	—	—
Clothing	42.0	42.0	23.0	35.0	—	—	—	—
Books or Magazines	27.0	31.0	21.0	35.0	—	—	—	—
Music CDs	20.0	31.0	20.0	28.0	—	—	—	—
Software	19.0	27.0	10.0	13.0	—	—	—	—
Videotapes, DVDs	17.0	21.0	8.6	12.0	—	—	—	—
Home electronics	12.0	19.0	8.0	12.0	—	—	—	—
Computer hardware	8.6	19.0	6.2	9.1	—	—	—	—
Flowers	4.3	13.0	3.7	8.6	—	—	—	—
Tickets	2.7	9.3	3.7	7.6	—	—	—	—
Travel	2.7	4.0	3.1	7.6	—	—	—	—
Services	0.5%	0.7%	0.0%	1.0%	—	—	—	—

Hours per week computer is used:								
Personally, on-line	9.7	15.5	7.3	9.3	9.0	7.8	3.9	14.9
Personally, not on-line	5.8	9.3	4.3	6.8	5.4	5.1	3.2	5.4
By someone else on-line	6.5	7.3	5.7	5.5	5.8	4.7	7.0	6.6
By someone else not on-line	4.5	6.5	4.2	3.7	3.6	3.2	5.1	3.7
Total hours per week computer is in use	26.6	38.5	21.5	25.2	23.8	20.7	19.0	30.6
Computer Literacy Index ^b	0.50	0.82	-0.33	0.70	0.38	-0.27	-0.80	-0.10
Connection type at home:								
Dial-up modem	89.8%	79.2%	78.8%	86.1%	85.3%	82.2%	71.2%	84.2%
High-speed connection	9.0	18.8	11.2	12.4	13.0	10.0	6.1	9.9
Cable or ISDN	6.4	13.4	5.0	8.1	7.9	6.9	5.2	6.9
DSL line	2.1	4.7	5.6	4.3	4.5	3.1	0.9	2.5
T1 or faster	0.5	0.7	0.6	—	0.6	—	—	0.5
Don't know	1.1%	1.3%	5.6%	1.0%	1.7%	6.2%	12.3%	4.0%
Demographics:								
Married	84%	66%	79%	79%	77%	79%	73%	75%
Age	44.0	45.8	49.6	47.5	44.0	56.0	49.3	49.3
No. of people in household	3.0	3.1	2.8	2.9	3.0	2.5	2.9	2.8
Children at home	46%	47%	57%	50%	55%	53%	43%	50%
Own (vs. rent)	91%	88%	92%	94%	91%	88%	92%	94%
College graduate or better	36%	35%	42%	88%	43%	70%	62%	25%
Annual household income before taxes	\$60,200	\$61,500	\$58,300	\$64,400	\$63,700	\$61,700	\$54,400	\$48,100
Annual personal income before taxes	\$39,500	\$45,000	\$40,700	\$55,400	\$42,000	\$47,500	\$37,800	\$34,570

^aDuring previous holiday season.

^bEntire sample mean = 0, *sd* = 1.

A. Online Shopper Segments



B. Online Non-Shopper Segments

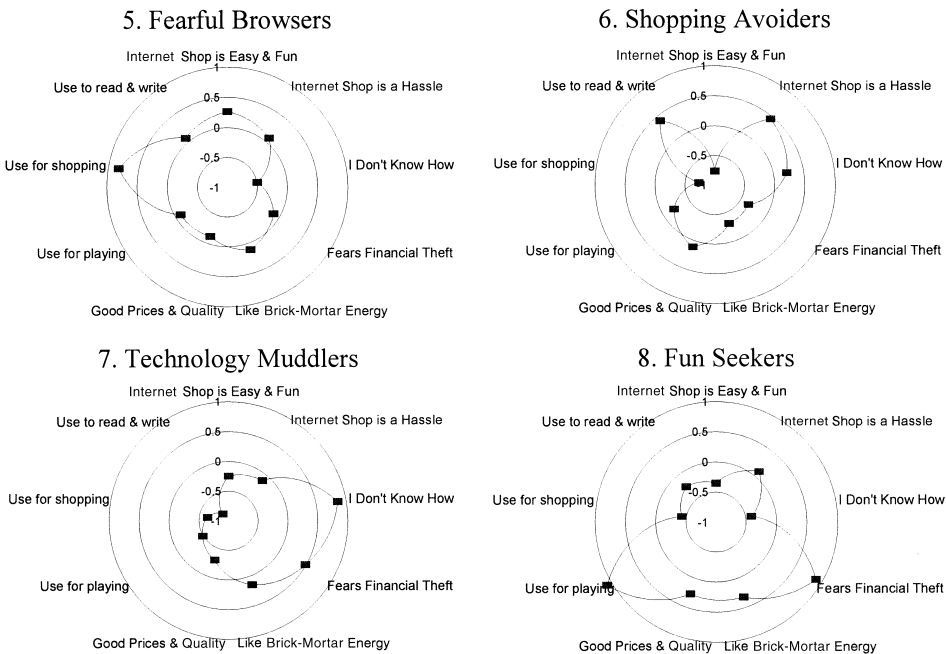


Figure 2. (a) On-line shopper segments. (b) On-line nonshopper segments.

hold population score for that factor. Between the on-line shopper segments, Figure 2(a), and also between the on-line nonshopper segments, Figure 2(b), significant differences are found for each of the nine factors reported (at $p < .001$ for each factor). This analysis reveals important differences within each major group, and is considered in support of H2(a) and H2(b).

The following section will attend to the marketing implications of each segment for e-retailers, merely to suggest that such an analysis can have large implications for marketing practice. Included in the following discussion is a short listing of lifestyle descriptive of each segment. Data for the 38 computer lifestyle measures were standardized and sorted high to low for each segment. The items reported for the segment are the top five for that segment.

The On-line Shopper Segments

Internet shoppers comprise 42.2% of on-line households—families having an on-line connection in which the respondent *personally* made an on-line purchase during the holiday season. This section will examine the four segments that comprise this on-line shopper group, with focus given to their marketing implications. See Table 4 and Figure 2(a).

Shopping Lovers. Shopping Lovers represent an online market share of 11.1% among the eight on-line household segments, or 26.4% of on-line shoppers. Though only the fifth largest segment of all on-line households, it represents a substantial on-line shopping group. When weighted by the volume of their total-household Internet purchases, their purchasing level is higher than *any* group—92% higher than the average in on-line household purchases. In personal on-line purchases, it is the third largest.

This segment has an average age of 44, one of the youngest segments. Average household and personal income for individuals in this segment is \$60,200 and \$39,500, respectively. About 36% are college graduates—lower than the average education of the segments.

The primary home computer in this segment is in use 26.6 h per week, with 16.2 h on-line use—third highest in computer use. In addition to being big on-line buyers, people in this segment are big window shoppers while on-line. More than other segments, those in this group use their computer on-line for visiting retail sites looking for merchandise, and visiting auction sites. Shopping Lovers have a computer literacy index of 0.5, substantially above the average on-line household. This is a segment easily able to shop on-line, and having few obstacles to this activity. People in this segment represent an ideal target market for on-line vendors, particularly of clothing, books, and music.

Among on-line shoppers, Shopping Lovers agree with the statements that

- I like browsing on the Internet.
- I like having merchandise delivered to me at home.
- I want my purchases to be absolutely private.
- I search for the lowest price in everything.
- I dislike shipping charges on the Internet.

These people love to buy on-line and will buy with little on-line vendor intervention or training. They use the Internet often for shopping; on-line shopping appears to be a novel, fun way for them to shop. They are competent computer users, are familiar with on-line shopping methods, and will likely continue to be enthusiastic on-line buyers. Further, these people are likely to be true on-line shopping champions, spreading the Internet word wherever they have an opportunity.

Adventuresome Explorers. Adventuresome Explorers represent a on-line market share of 8.9% among the eight on-line household segments. Though this is smallest segment of all on-line households, it is a very significant on-line buying group. When weighted by the volume of total-household Internet purchases, its purchasing level is the largest of any group—95% higher than the average on-line segment in on-line household purchases. In looking at the respondent's *personal* on-line purchases, it is the second largest of the four shopper segments.

People in this segment are versatile and prolific in their on-line use. They are higher than other segments in the use of their computer for checking or sending e-mail messages; looking at financial information (stocks, trends); reading on-line news or magazines; visiting Internet sites related to [their] hobbies; visiting sites looking for tickets or reservations; looking for job opportunities; finding and viewing photographs, clip art, or images; searching for or downloading software; chatting on line; and visiting message news groups. Their Internet activity is the highest in every category except for three: conducting business-related work, visiting retail sites, and playing games.

This segment has an average age of 45.8. Average household and personal income for people in this segment is \$61,500 and \$45,000, respectively. About 35% are college graduates—lower than the average of the segments.

The primary home computer in this household is in use for 38.5 h per week, of which 22.8 h is on-line. This is higher than any other segment. Adventuresome Explorers have the highest computer literacy index of all eight segments, at 0.82. This is a highly competent, computer-literate group of people who spend a great deal of their week on-line.

Among on-line shoppers, Adventuresome Explorers show strong agreement with the statements that

- I like browsing on the Internet.

- I like having merchandise delivered to me at home.
- I go to the Internet for reviews or recommendations.
- I go to the Internet to preview products.
- I search for lowest price in everything I buy.

Though a small segment, Adventuresome Explorers represent a big resource to on-line vendors because of their spending level. On-line shopping is fun for these people; it is just one more adventure for them to explore. They appear to need no special attention to on-line vendors; indeed this is likely the group that are the opinion leaders for all things on-line. Vendors would do well to cultivate and nurture this segment to be on-line community builders and on-line shopping advocates.

Suspicious Learners. Suspicious Learners represent an on-line market share of 9.7% among all eight on-line household segments. This is the next-to-smallest segment of all eight online household segments. When weighted by the volume of their total-household Internet purchases, their total-household purchasing level is 6% higher than the average segment in on-line household purchases. In personal on-line purchases, at 37% below the average, it has the smallest spending level of the four on-line shopper segments.

This segment has an average age of 49.6. Average household and personal income for people in this segment is below average at \$58,300 and \$40,700, respectively. About 42% are college graduates—below average among all respondents but still higher than other on-line shoppers.

The primary home computer in these households is in use for 21.5 h per week, of which 13 h is on-line. Among the eight segments, this is among the three lowest in computer use. Their on-line use is primarily to play games; visit sites looking for tickets or reservations; chat online; look for job opportunities; and to find and view photographs, clip art, or images. Suspicious Learners have a computer literacy index of -0.33 , or second lowest among the eight segments. This is a great weakness to them, inhibiting just about everything they want to do with their computer.

This segment is just learning how to use the Internet. They are frustrated by it, struggling to complete tasks found easy by others. To become a significant on-line shopper group, this segment needs direction and hands-on guidance. They strongly agree with the statements that

- I dislike shipping charges on the Internet
- I worry about my credit-card number being stolen on the Internet.
- It's a hassle to return merchandise bought on-line.
- I want to see things in person before I buy.
- It's hard to judge merchandise quality on the Internet.

Though this is a relatively small segment, it has potential for growth in its on-line shopping. People in this group will not easily convert to on-line buying, but much of their reluctance appears to hinge on lack of training. In contrast to some other more fearful segments, these people are relatively trustful of Internet retailers, are not particularly fearful of buying on-line nor of giving a computer their credit-card number. But as to Internet and computer use, they do need training to ease their way further into on-line buying.

Business Users. Business Users is a large segment. It has a total on-line market share of 12.5% among the eight on-line household segments and is the largest on-line shopper segment. When weighted by the volume of household Internet purchases, its total-household on-line purchasing level is the third highest of any group—72% higher than the average on-line segment. In personal on-line purchases, at 16% above the average, it is the largest of the four shopper segments.

This segment has an average age of 47.5. Average household and personal income for people in this segment is higher than any other segment, at \$64,400 and \$55,400, respectively. This segment has 88% college graduates—the highest of any group.

The primary home computer in this household is in use for 25.2 per week, of which 14.7 h is on-line. This is about average in computer use among the eight segments. Business Users are more likely than any segment use their on-line access to conduct business-related work. They are less likely than any segment to chat on-line or to go on-line to play games. Business Users are not troubled by any of the issues that so many would-be shoppers struggle with—fear of on-line credit-card theft, lack of trust of Internet retailers, or lack of knowledge about the Internet. They strongly agree with these statements

- I dislike shipping charges on the Internet.
- I like browsing on the Internet.
- I like having merchandise delivered to me at home.
- I search for the lowest price in everything I buy.
- I go to the Internet to preview products.

And Business Users have no trouble with computer or Internet tasks. They have a computer literacy index of 0.70, second only to Adventuresome Explorers.

Business Users are not the computer or Internet hobbyists that characterize Shopping Lovers and Adventuresome Explorers. They use the Internet more for business than other groups, and take a serious interest in what the Internet can do for them professionally. Although they use the Internet frequently for shopping, this, and other on-line activities for that matter, appears to have little novelty for them. Though

these are computer-literate people, they are not likely to be champions for Internet shopping.

The On-line Nonshopper Segments

On-line nonshoppers are defined as those households in which the head of household did not make a *personal* on-line purchase during the holiday buying season. To the extent that on-line purchases were made by these segments, those purchases were made by household members other than the head of household. On-line nonshopper households comprise 57.8% of all on-line households. This section will examine the four segments that comprise on-line nonshoppers, along with the marketing implications of the data. Each of these four segments is characterized in Table 4 and in the radar charts shown in Table 2(b).

Fearful Browsers. Fearful Browsers represent a total on-line market share of 10.6% of all eight on-line household segments. This is the smallest nonshopper segment and third smallest of all on-line segments. When weighted by the volume of their household on-line purchases, their total household purchasing level is 61% lower than the average on-line segment in on-line purchases. Personal on-line purchases are zero, of course, as this is a nonshopper segment.

This segment has an average age of 44. Average household income for people in this segment is the second highest of all segments, at \$63,700, but personal income is average at \$42,000. About 43% are college graduates—average for the segments.

The primary home computer in this household is in use 23.8 per week, of which 14.8 hours is on-line. This is about average in computer use among the eight segments. Even though this segment does not purchase on-line, its people do like to visit on-line vendor sites. When on-line, they most often visit auction sites, other retail sites looking for merchandise, sites offering tickets or reservations, and Internet sites related to their hobbies.

Though they personally do not shop on-line, Fearful Browsers are relatively computer literate, having a computer literacy index of 0.38, fourth highest of all eight segments and substantially higher than any other nonshopper segment. This segment consists of lookers, not buyers. Along with other nonshoppers, this segment is fearful of several on-line risks: having their credit-card number stolen, shipping charges, and wishing they could see products in person before they buy. Among on-line nonshoppers, they show strong agreement with statements that

- I search for lowest price in everything I buy.
- I dislike shipping charges on the Internet.
- I like browsing on the Internet.

- I want to see things in person before I buy.
- I worry about my credit-card number being stolen on the Internet.

People in this segment are on the cusp of substantial on-line buying. They are capable computer and Internet users, spend a good deal of their time window shopping on-line, but have not been able to get past some Internet fears. These include having their credit-card number stolen, shipping charges, and wishing they could see products in person before they buy. As on-line vendors move these people past such worries, this segment will become a significant buying group.

Shopping Avoiders. Shopping Avoiders are the second largest segment, representing a total on-line market share of 15.6% of on-line households. When weighted by the volume of their total household Internet purchases, their total household purchasing level is 70% lower than the average on-line segment. As this is a nonshopper segment, personal on-line purchases are zero.

At an average of 56, this is the oldest group. Average household income for people in this segment is third highest of the eight segments, at \$61,700, and personal income is second highest at \$47,500. About 70% are college graduates—second highest of all segments.

The primary home computer in this household is in use for 20.7 h per week, with 12.5 h on-line. Among the eight segments, this is second lowest in computer use. People in this segment like to use the Internet to look at financial information (stocks, trends), to check or send e-mail messages, to read on-line news or magazines, to play games, and to conduct business-related work. But they abhor shopping on-line, holding values that are not inconsistent with Internet shopping. Shopping Avoiders have a computer literacy index of -0.27 , second lowest in computer literacy. They strongly agree with statements that

- I want to see things in person before I buy.
- It's hard to judge merchandise quality on Internet.
- I dislike shipping charges on the Internet.
- It's a hassle to return merchandise bought on-line.
- I don't want to give a computer my credit-card number.

Shopping Avoiders have an appealing income level for on-line vendors, offset by values that are inconsistent with on-line shopping. They do not want to wait for products to arrive in the mail, they want to see things in person before they buy, their friends do not shop on the Internet, they do not understand the Internet ordering process, and they do not know how to evaluate the quality of Internet merchandise. Though these are severe obstacles, their higher incomes may still make them

appear an attractive target, but this will be a group difficult to convert to on-line shopping.

Technology Muddlers. The Technology Muddlers segment is the largest on-line segment, having a market share of 19.5% of on-line households. These individuals represent 33.8 percent of nonshoppers. However, when weighted by the volume of their total household Internet purchases, their total household purchasing level is 54% lower than the average on-line segment in on-line *household* purchases, but still the greatest of any nonshopper segment. Personal on-line purchases of course are zero.

This segment has an average of 49.3, about average. Average household income and personal income for people in this segment is below the average of the eight segments at \$54,400 and \$37,800, respectively. However, about 62% are college graduates—above average for the segments.

People in this segment use the computer the least of any segment, and are the least computer literate, at -0.80 . The primary home computer in these households is in use for 19 h per week, of which 10.9 is on-line. Their favorite uses for the Internet are to look for job opportunities, chat on-line, play game, visit message news groups, and conduct business-related work. They show strong agreement with

- I worry about my credit-card number being stolen on the Internet.
- I don't want to give a computer my credit-card number.
- I want to see things in person before I buy.
- I want my purchases absolutely private.
- It's a hassle to return merchandise bought on-line.

The Technology Muddlers segment is not an attractive target market for on-line selling. Members of this segment not only face a large computer-literacy obstacle, they also show little excitement about increasing their computer and on-line comfort level. They spend less time than any other segment on their computers, or on-line, and hold a set of values inconsistent with on-line shoppers.

Fun Seekers. Fun Seekers is an average-sized segment, having an on-line market share of 12% of on-line households. When weighted by the volume of their total household Internet purchases, their total household purchasing level is the largest of the nonshopping segments, but still 56% lower than the average on-line segment in on-line household purchases. Personal on-line purchases are zero.

This segment has an average age of 49.3, about average. Average household and personal incomes for people in this segment are lowest

of all segments, at \$48,100 and \$34,5700, respectively. About 25% are college graduates—the lowest education among the segments.

The primary home computer in this household is in use for 30.6 h per week, of which 21.5 h is online. Among the eight segments, this is the highest in computer use. Members of this segment look to the Internet for its entertainment value. They like to use the Internet to play games; chat on-line; find and view photographs, clip art, or images; search for or download software; and visit Internet sites related to [their] hobbies. But they do not like using it for shopping.

Fun Seekers have a computer literacy index of -0.10 , below average. They strongly agree with statements that

- I worry about my credit-card number being stolen on the Internet.
- I want my purchases to be absolutely private.
- I don't want to give a computer my credit-card number.
- I want to see things in person before I buy, and
- I search for lowest price in everything I buy.

Of all eight segments, this is the poorest and least educated. Although it is one of average size, it holds values inconsistent with likely converts to on-line shopping. Although some of these values could be overcome with education, the spending power of the segment suggests that such education tailored specifically for them would have only a long-term payback.

CONCLUDING DISCUSSION

This research shows that on-line shoppers differ substantially from on-line nonshoppers. On-line shoppers are younger, wealthier, better educated, have higher computer literacy, spend more time on their computer, spend more time on the Internet, find on-line shopping to be easier and more entertaining, and are less fearful about financial loss resulting from on-line transactions.

They also have substantially different Internet-related behaviors than on-line nonshoppers. Several of these differences are likely due to risk aversion associated with unfamiliarity or lack of comfort with the computer and Internet. The results reveal substantial differences between shoppers and nonshoppers in the time spent with their computers and on-line, and their computer literacy. Shoppers use computers more, are on-line more, and are more comfortable with both computer and Internet use.

By contrast, the nonshoppers more often use their connection time to play games, chat, search for images, look at financial information, visit news groups, search for software, and look for jobs. Their most frequent

activity is game playing, and several of their other Internet activities are entertainment oriented. Their Internet activities appear to be less adventuresome than shoppers' activities. These activities require lower computer literacy and are minimally subject to credit-card fears.

This research also examines why people do or do not shop on the Internet. The results suggest that substantial reason is fear. Over 70% of on-line nonshoppers—and even a third of the shoppers—agreed with the statement, “I don’t want to give a computer my credit-card number.” Three-fourths of the nonshoppers—and nearly half of the on-line shoppers—agreed that, “I worry about my credit-card number being stolen on the Internet.” If these fears can be minimized, a substantial increase in the overall spending in the e-retail market should be achieved.

Clearly, shoppers must have convincing evidence of the safety of their on-line financial transactions, and on-line vendors can take some simple steps to provide some safety assurances. Every page on an e-retailer's site should provide convincing evidence of financial security—logos, testimonials, declarations, records of achievement, and so on. Establishment of an independently provided financial-safety rating system, having a confidence-inspiring certification or declaration, will help minimize these fears. Independently managed payment sites (e.g., Verisign, Authorize.net, PayPal, Billpoint) can provide shoppers with financial assurances and could be more widely used by e-retailers. These sites require credit-card information to be entered only once, and provide payment opportunities for thousands of sites. Also, implicit in such payment sites is the notion that their only business is financial security, and they are thus motivated and able to provide protection levels unavailable at a normal e-vendor site. In clicking on a check-out button for a vendor using such a service, payment can be less obtrusive, will not require entry (or confirmation) of credit-card information, and therefore will not explicitly raise fear flags for the shopper. Hardware solutions are just becoming available to help relieve consumers' financial fears. Pocket-sized devices containing a customer identifier are available to minimize the fears of shopper checkout.

Whatever the security provided, vendors must acknowledge that asking for customer credit-card information risks losing the customer before checkout. This request exacerbates consumer fears of credit-card theft or misuse. Shopper's credit-card information should be visibly insulated from the on-line vendor, and it is clear from this study that vendors who shoppers associate with financial security will be preferred over other vendors.

Finally, the results from this study show that neither on-line shoppers, nor on-line nonshoppers, constitute a homogeneous market segment. Each contains segments of individuals who use and perceive the Internet differently. To properly address these segments requires a recognition of the differences between them and the unique perceptions of each. A variety of marketing opportunities exist among the different

segments. Profiling market segments is of little use unless they vary in their attractiveness to marketing practitioners.

Shopping Lovers and Adventuresome Explorers are buying on-line now and could well be the opinion leaders needed to convert and train others, particularly Suspicious Learners and Fearful Browsers, to be more comfortable with on-line shopping. Business Users are less likely than these to be on-line shopping advocates, as their on-line activity is driven by professional needs rather than personal ones. Technology Muddlers have computer-training hurdles so substantial as to make them unattainable to e-retailers in the near term, and Fun Seekers have values inconsistent with on-line shopping.

A careful review of the data supporting studies such as this may lead scholars and practitioners alike to distinguish between the appeals of these on-line household segments to the e-commerce market.

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