

# Consumers' Online Information Search Behavior and the Phenomenon of Search vs. Experience Products

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**ABSTRACT:** This study investigates consumers' importance evaluation and usage of the Internet as an information source, compared with other traditional information sources. The main issue is the extent to which experience products can be transformed so as to be searchable on the Internet. The results of a web-based survey showed that consumers of experience products tended to use more online information than those of search products. Online information sources from other consumers and neutral sources were perceived to be more important and were used more often by the consumers of experience products; whereas retailer/manufacturer websites were perceived to be more useful by consumers of search products. Perceived usefulness, perceived ease-of-use, market mavenism, and usage of offline information sources were also positively related to the usage of online information.

**KEY WORDS:** experience products; online information search; search products.

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Unlike traditional information sources, such as TV, newspaper and magazines, the Internet provides consumers with more interactive communications, which is its unique characteristic as a medium (Porter, 2001). The analysis of how consumers use the Internet as a new information source thus becomes an interesting topic for both researchers and practitioners. The growing dependency on the Internet to search information is due to the following benefits: low transaction costs, easier access to price and product information, convenient purchase of associated services, and the ability to pool volume (Porter, 2001). Compared to the era without Internet, consumers can more precisely make purchase decisions because of the abundant information sources on the Internet.

In the classification of products into search and experience products (Nelson, 1970), the importance of different sources of product information to consumers varies. According to Klein (1998), search products are defined as those dominated by product attributes for which full information can be acquired prior to purchase, like athletic shoes or mobile phones. Experience products are dominated by attributes that cannot be known until purchase and use of the product, or for which information search is more costly and/or difficult than direct product experience, such as travel packages and dinners at new restaurants.

In addition, consumers' information costs of searching are quite different based on the characteristics of search vs. experience products. The intrinsic attributes of search products are easy to access, concrete, and more objective for comparing the quality of the product (Zeithaml, 1988). In contrast, consumers rely on more extrinsic cues to judge the quality of experience products or services (Zeithaml, 1988). For example, the information for selecting a travel package is more abstract and experience oriented. Consequently, the recommendations of others would be used more for experience products than search products.

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Where the Internet is concerned, this interactive medium opens up possibilities of on-line information search as an alternative to experience. Consumers now can easily obtain information from others' experiences of these products (Rha, 2002). Rha (2002) studied consumers' attitudes and usage of information sources on the Internet, including web site advertising, business and retailer websites, online newsgroups, communities, and chat rooms. Inspired by Rha's work, this study further investigated the product effects on the consumer's reliance on different information sources on the Internet. The basic arguments of this study are that consumers of experience products should value and use online information more than those of search products, due to the different products' characteristics, and the cost/benefit ratio of various information sources.

Taiwan was selected as the research background to explore the phenomenon of product types and consumers' use of Internet information. According to the report, 'Focus On Internet News and Data (FIND)' from the Institute for Information Industry in Taiwan, frequent-online population in Taiwan increased from 0.44 million in 1996 to more than 8.76 million people in September 2003 with a penetration rate of 39% (FIND, 2003a). The penetration rate of online households was up to 57% (FIND, 2003b). Taiwan consumers have begun to rely on the Internet to connect with unknown people, gain more worldwide information, and shop on the Internet.

## **Research Hypotheses**

The first objective of this study is to understand the importance of the Internet as a new information source and the extent of its usage by consumers of different product types. The relationships between different product categories (i.e., search and experience products) and the major dependent variables of consumer online information search behavior are proposed after reviewing related literature.

### *Characteristics of Search and Experience Products*

Product taxonomy is usually an important research dimension in consumer behavior research because consumer behavior changes with the characteristic of certain product types. Nelson (1970) developed a highly simplified theory of consumer's quest for information about quality of goods. That is, the consumer can use search or trial experience to confirm the quality. By classifying products into two categories, search and experience products, he further predicted that the recommendations of others were more important for purchase of experience products than search products. Based upon Nelson's prediction, consumers who are going to make a decision for either search or experience products may rely on different information sources. For the purchase decision of experience products, a consumer will value the post-trial experience (either from the other consumers or a neutral evaluative report) more than the information from sellers. In this study, this information characteristic will support the argument for different information reliance online for either search or experience products.

### *Cost and Benefit on Information Search: Behavioral Change Online*

The cost and benefit concept proposed by Stigler (1961) is popular for the research on information search (Punj & Staelin, 1983; Srinivasan & Ratchford, 1991). The essence of the concept is that for either the buyers or sellers, the optimum amount of search for any unique purchase is when the cost of search is equated to the expected marginal return. The implication for consumer information search is that cost would affect search negatively and perceived benefits would influence search positively.

The Internet is a useful tool for information search (Hammond, McWilliams, & Diaz, 1998). Klein (1998) proposed that the experience products were likely to transform into search products under the impact of interactive media. Actually, for both search and experience products, the Internet will help the consumers to reduce the search cost and to increase the benefit of collecting more information when making a decision. However, the impact is argued to be more substantial for experience products than for search products. As a result, the information search behavior on the Internet is expected to be different from what it would be offline.

### *Perceived Importance of Information Sources*

The required information set for decision making of search products usually includes product attributes, such as styles, specifications, sizes, and functions. This kind of information tends to be standardized in terms of criteria and terminology. The implication is that consumers who search for information on search products can rely more on so called 'hard data' provided by retailers or manufacturers. In contrast, experience products usually do not carry those intrinsic attributes for consumers to search information or evaluate the quality objectively. Consumers rely on their own experiences or comments from friends and families, so called 'soft data' to make a judgment. Collecting information through human contacts is relatively costly and time consuming. Also, consumers usually have limited networks while trying to gather information for experience products. The Internet provides a broader resource base for virtual human contact, and people are no longer restricted by their personal networks. Since the Internet provides a forum to gain more personal information from online consumer networks (Armstrong & Hagel, 1996; Ferguson, 1997; Klein, 1998; Senecal & Nantel, 2001), online information sources from other consumers become important for experience products. Rha (2002) found that consumers who searched for experience products' information ranked the information from other consumers to be more important; whereas for search products, consumers tended to rank retail sources to be more important. By the same token, neutral product evaluation information is more important for experience products than for search products because consumers can relatively easily make a quality comparison based on 'hard data'. The cost of searching for neutral product evaluation through the Internet is less than in the real world. Therefore, online sources containing "neutral" assessments, such as web articles from consumer product reports, may be even more important for the consumers of experience products.

- H1: Product type will have an effect on the perceived importance of different information sources on the Internet.
- H1a: Online information sources from other consumers are more important to consumers when searching for experience products' information.
- H1b: Online information sources from retailers/manufacturers are more important to consumers when searching for search products' information.
- H1c: Online neutral sources are more important to consumers when searching for experience products' information.

### *Extent of Usage of Information Sources*

Rha (2002) argued that the usage frequency of information source on the Internet would not be different for search and experience products. However, the perceived benefits of collecting online information for search and experience products are different because gathering information for experience products in the real world is more difficult. Thus, this study proposes that consumers of experience products will not only perceive online information sources to be more important but also use the overall information sources online more extensively. Their online information search behavior will be more frequent than those of consumers of search products. Hence:

- H2: Overall, consumers tend to use online information sources more frequently for experience products than for search products.

Based upon the rationale of H1 and the attitude-behavior linkage, the extent of usage of the different sources of information available on the Internet should differ by product types. That is, the consumers of experience products will more frequently use online information sources from consumers and neutral sources, and rely less on retailer sources. However, the consumers of search products will more frequently use online information sources from retailers.

- H3: Product type will have an effect on the extent of consumers' usage of different information sources available on the Internet.
- H3a: Consumers tend to use online information sources from other consumers more frequently when searching for experience products' information.
- H3b: Consumers tend to use online retailer/manufacturer information sources more frequently

when searching for search products' information.

H3c: Consumers tend to use online neutral information sources more frequently when searching for experience products' information.

The primary focus of this study is the effects of product type on the online information search. However, other variables, such as perceived usefulness and ease-of-use of the Internet, have been proven to be strongly tied to the usages of information technology or information system. Also, previous research suggested that market mavenism and offline information usage were related to different kinds of information search behavior (Feick & Price, 1987; Putrev & Lord, 2001; Ratchford, Talukdar, & Lee, 2001). These variables contributed to the explanation of variances of the usage frequency of information sources on the Internet. The variables were classified as Internet and search variables respectively (Rha 2002).

#### *Internet Variables*

Perceived usefulness and perceived ease-of-use are two constructs that are often studied in technology acceptance theory. In the Technology Acceptance Model, the existence of the antecedents (external variables) and consequences (attitude, intention, and actual usage) of perceived ease-of-use and perceived usefulness were investigated. The results showed that perceived usefulness had stronger direct and indirect influences on behavioral intention, while perceived ease-of-use had weaker influences on attitude (Davis, Bagozzi, & Warshaw, 1989). Venkatesh and Davis (2000) mentioned that perceived usefulness was consistently a strong determinant of usage intentions while perceived ease-of-use exhibited a less consistent effect on intention across studies. When consumers search for information on the Internet, they hope that more information will help to make a wiser purchase decision. Therefore, how consumers perceive the Internet in providing practical value will be important to their usage of the Internet. In recent research, the relationship of perceived usefulness with intent to purchase has been confirmed (Lederer, Maupin, Sena, & Zhang, 2000). Direct influence of perceived ease-of-use on behavior and indirect influence via perceived usefulness were found in different research contexts (Lederer et al., 2000). Because few studies used the Internet in their research applications, the following hypotheses will further verify these relationships in the Internet context.

H4: The perceived usefulness of the Internet as a source of information is positively related to the extent of consumers' usage of various information sources on the Internet.

H5: The perceived ease of Internet use is positively related to the extent of consumers' usage of various information sources on the Internet.

#### *Search Variables*

Feick and Price (1987) called interpersonal influencers 'mavens' and defined them as 'individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information' (Feick & Price, 1987, p. 85). In their results, the market mavens expressed more information-seeking behavior than other consumers. Since the market mavens are active information seekers, once they are capable of surfing the Internet, they are expected to have higher motivation to seek information online as well. Therefore, market mavenism is expected to relate to more frequent usage of online information.

H6: Market mavenism is positively related to the extent of consumers' usage of various information sources on the Internet.

Studies of offline information source usage indicated that the amount of information seeking across different sources was not necessarily mutually compensated (Putrev & Lord, 2001; Ratchford et al., 2001). The implication is that consumers tend to accumulate the total amount of information searched. More information collected from one new information source does not necessarily reduce the efforts put into other existing sources. Rha (2002) found a positive relationship between online and offline information usage. This positive relationship verifies that the amount of offline information search is not reduced in step

with the availability of extra information on the Internet. Thus, this study also expects to observe a positive relationship between offline and online information usage:

H7: The usage of offline information sources is positively related to the extent of consumers' usage of various information sources on the Internet.

## Methods

Athletic shoes, mobile phone, travel package, and dinner at a new restaurant were selected as the representative products for this study through a pretest. Travel package and dinner were also used in Rha's study (2002). An electronic questionnaire was designed for these four products and distributed through e-mail.

### *Pretest*

The purpose of the pretest was to select appropriate research products to represent search and experience products. A panel of seven consumer behavior and marketing researchers listed 16 potential products according to Klein's (1998) definition of search and experience products. A questionnaire was then administered to 24 graduate students in business to further hone the choice of products. The first part of the questionnaire was multiple choice and asked respondents to characterize the 16 products as either search products or experience products. The second part asked opinions about the ease of evaluating the quality of candidate products on a 10-point scale. Athletic shoes and mobile phone were voted the most representative products for the search good category; while a travel package and dinner at a new restaurant were chosen as the experience products. The average score for the ease of quality evaluation for athletic shoes, mobile phone, travel package, and dinner at a new restaurant were 2.71 (SD=2.17), 3.21 (SD=2.27), 7.40 (SD=2.11), and 6.71 (SD=2.58), respectively. Respondents assessed search products as easier to evaluate than experience products.

### *Data Collection*

A web-based self-administered questionnaire was designed in order to collect data for the testing of hypotheses. The sample frame was the mailing list of all students, faculty, and staff at a major university in Taipei. An invitation letter was sent via email with a website link at the end of June 2002. The total number of e-mail addresses in the mailing list was 21,070, of which 18,867 were students. The samples of faculty and staff were included to help counteract the homogeneity of student samples. After three waves of email contacts, 1,837 responses were received for a response rate of 8.72%. Multiple submissions can be a potential problem in website survey (Schmidt, 1997; Smith & Leigh, 1997). Therefore, the email addresses provided by the respondents were used to verify and eliminate potential repeat answers. After screening, there were 1,355 valid responses, with 669 samples of search products and 686 of experience products.

### *Questionnaire and Measures*

The questionnaire was designed based on Rha (2002) and contained three sections. The first section addressed the respondents' consideration of purchase, actual purchase behavior, and online purchase of the target products in the past twelve months. Using the consumers' stated consideration of purchase (multiple answers were allowed), one of the four tested products was selected for the next section of questions. If the respondent had never considered buying any one of the four products, the program would lead the respondent directly to the third section.

The second section of the questionnaire examined respondents' information search activities regarding the focal product, including the measurements of product knowledge, purchase experiences, perceived risks, evaluations of the Internet as an information source, perceived importance, and extent of usages of information sources. The third section of the questionnaire contained the none-product specific measurements of mavenism, perceived usefulness of the Internet, perceived ease-of-use of the Internet, the Internet related experience and behavior, and demographic variables.

*Dependent variables.* Three dependent variables were measured in this study, representing the extent of usage of various information sources and perceived importance of information sources on the Internet. Ten information sources were evaluated, comprising of six major online and four traditional information sources. The six online information sources were classified into three categories, from retailers and manufacturers (i.e., Web ads, retailers' or manufacturers' websites), from other consumers (i.e., other consumers' opinion or trial results, grading by other consumers, and discussion with other consumers), and neutral sources (i.e., web articles). These online information sources were identified from prior research (Bickart & Schindler, 2001; Dellaert, 1999, 2000; Hoffman & Novak, 1996; Laura, 1995; Ratchford et al., 2001; Rodgers & Thorson, 2000; Senecal & Nantel, 2001; Ward & Lee, 2000). The four traditional offline information sources were 'discuss with friends or family,' 'ads on newspapers, magazines, TV or

radio,' 'store visit or discuss with sales people,' and 'magazine articles.'

The measures of usage frequency were rated as follows: 'never heard,' 'never use,' '1–2 times,' '3–4 times,' and '5 times and above.' They were scored from one for 'never heard' or 'never use' to four for '5 times and above'. The Cronbach's  $\alpha$  of the extent of usage of information sources from consumers, and retailers and manufacturers were .80 and .66, respectively. Five-point Likert-type scales were used to measure perceived importance items as in previous studies (Bruner, 1988; Newman & Staelin, 1972; Westbrook & Fornell, 1979). These items were combined into three categories: 'from consumers,' 'from retailers or manufacturers,' and 'neutral sources' for the regression analysis.

*Independent variables.* Two Internet variables (i.e., perceived usefulness of the Internet and perceived ease-of-use of the Internet), two search variables (i.e., market mavenism and use of offline information sources) and the product types (i.e., search and experience products) were the independent variables. Two items to measure perceived usefulness of the Internet were adopted from Hammond et al. (1998) with Cronbach's  $\alpha$  value at .67. The two-item scale of perceived ease-of-use of the Internet with  $\alpha = .80$  was adopted and modified from Davis (1989). The measures of market mavenism were adopted from the scale developed by Feick & Price (1987) with Cronbach's  $\alpha$  value at .80. Use of offline information sources was the mean of the usage of all the items of traditional information sources and the Cronbach's  $\alpha$  value was .60. The product type variable was coded as identified in the pretest.

*Control variables.* Others factors, which were not the foci of this study but may influence the extent of information usage on the Internet, were considered as control variables. Three Internet variables (i.e., Internet usage experience, access to Internet at home, and daily online hours), four search variables (i.e., product purchase experience, perceived risk, prior product knowledge, and product importance), and demographic variables were measured as control variables for the regression models. The measurements of these variables were adopted and modified from past research (Arndt, 1967; Arora, 1993; Beatty & Smith, 1987; Chaudhuri, 1997; Jacoby & Kaplan, 1972; Mittal, 1989; Murray & Schlacter, 1990; Smith & Park, 1992). The Cronbach's  $\alpha$  of these control variables ranged from .67 to .85.

## Results

The objective of this study was to explore the importance of the Internet as a new information source with respect to the extent of usage by consumers of different product types. First of all, the perceived importance of online and traditional information sources for the search products vs. experience products were compared by t tests. Simple statistics of mean, standard deviation, and rank for each information source by product groups were presented in Table 1. The results showed that two traditional information sources, 'discussion with friends and family' and 'magazine articles,' and two Internet information sources, 'other consumers' opinions' and 'other consumers' ratings', were perceived to be important by respondents for both product groups. Respondents also perceived 'store visit and discussion with sales personnel' as an important information source for search products. 'Web article' was an information source for experience products.

Comparing the importance of all the Internet information sources between search and experience products, it was found that all the online information sources from other consumers were more important for experience products than search products, whether tested by t-test or ranking (see Table 1). The online neutral source was also significantly more important for experience products than search products. Hypotheses H1a and H1c were therefore both supported. However, while retailers' and manufacturers' websites were perceived to be more important for search products, web ads were not considered to be different for both search and experience products. Therefore, H1b was partially supported. The results indicated that consumers put different weights on available online information sources according to product types. For search products, information regarding specific product attributes was preferred. Information from the retailer/manufacturer websites usually belonged in this category. For experience products, the information from consumers' online and neutral sources better met consumers' needs.

Mean, standard deviation, rank, and t-test result for the usage of each information source by product types were presented in Table 2. The significance pattern was similar to what was shown in Table 1, but with moderately different rankings. For both product types, discussions with friends or family were still the number one way of collecting information. However, the second most-frequently used information source for search products was ads on traditional media. These two information sources were relatively easy to access for consumers. According to the rankings, the overall usage rate of online information sources was

slightly higher for experience products than for search products. Hypothesis H2 was supported with t value 2.67 ( $p = .04$ ).

**TABLE 1**

**Perceived Importance of Different Information Source by Product Types**

Information sources and hypotheses	Search products			Experience products			<i>t</i> tests
	Mean	<i>SD</i>	Rank	Mean	<i>SD</i>	Rank	
<i>Online information sources:</i>							
From other consumers (H1a)							
Consumers' opinions	3.42	.98	3	3.80	.85	2	7.60**
Consumers' ratings	3.37	.92	4	3.70	.84	3	6.87**
Consumer discussions	2.98	.95	8	3.38	.96	6	7.80**
From retailers and manufacturers (H1b)							
Web ads	2.46	.82	9	2.47	.85	10	.27
Retailer/manufacturer websites	3.17	.90	7	3.02	.89	9	-2.92**
Neutral Source (H1c)							
Web articles	3.20	.87	6	3.58	.78	5	8.51**
<i>Traditional information sources:</i>							
Discussions with friends or family	3.90	.84	1	4.07	.75	1	3.77**
Newspaper/magazine/TV/Radio ads	3.32	.78	5	3.30	.79	7	-.56
Store visits or discussions with sales personnel	3.72	.91	2	3.16	.98	8	-10.72**
Magazine articles	3.37	.83	4	3.62	.72	4	5.85**

\*\* $p < .01$ .

**TABLE 2**

**Usage of Different Information Source by Product Types**

Information sources and hypotheses	Search products			Experience products			<i>t</i> -tests
	Mean	<i>SD</i>	Rank	Mean	<i>SD</i>	Rank	
<i>Online information sources</i>							
From other consumers (H3a)							
Consumers' opinions	2.12	1.10	4	2.59	1.08	2	7.86**
Consumers' ratings	2.01	1.06	7	2.31	1.04	6	5.25**
Consumer discussions	1.64	.96	9	2.01	1.08	7	6.53**
From retailers and manufacturers (H3b)							
Web ads	1.63	.90	10	1.60	.83	9	-.65
Retailer/manufacturer websites	2.06	.97	6	1.89	.93	8	-3.24**
Neutral source (H3c)							
Web articles	2.01	1.02	7	2.42	1.02	3	7.28**
<i>Traditional information sources</i>							
Discussions with friends or family	2.71	.97	1	2.83	.96	1	2.32*
Newspaper/magazine/TV/radio ads	2.61	.99	2	2.36	.98	5	-4.65**
Store visits or discussions with sales personnel	2.32	.92	3	1.58	.80	10	-15.62**
Magazine articles	2.09	.93	5	2.37	.97	4	5.45**

\**p* < .05, \*\**p* < .01.

Although online information was used more frequently overall for experience products than for search products, the usage rates still varied across different types of online information sources. Respondents used more online information sources from other consumers and more neutral online information sources for experience products than for search products, as expected in hypothesis H3a and H3c.

All were significant at the  $\alpha = .01$  level. On the other hand, respondents visited the retailer/manufacturer websites more frequently when searching information for search products than for experience products. H3b was partially supported because there was no difference in web ads.

Next, multiple regression analysis was used to assess what determined the usage of different information sources. The objective of this part of the study was to understand the determinants of the usage of various online information sources. The correlation coefficients of all independent variables were first examined and all were under 0.3, except for those between 'age' and 'hours in paid employment', 'knowledge' and 'mavenism', and 'perceived usefulness of the Internet' and 'perceived ease-of-use of the Internet', which ranged from 0.42 to 0.53. Therefore, further diagnostic test of VIF in regression was necessary to check for multicollinearity. The VIF values of these variables were all below 1.51 indicating that there was no serious multicollinearity (Gujarati, 1995).

The results of the four multivariate regression models were presented in Table 3, for usage of overall online information sources, then separated into information 'from consumers,' 'from retailers or manufacturers,' and 'neutral sources.' F values were all significant at the  $\alpha = 0.01$  level, and adjusted R<sub>2</sub> ranged from 0.20 to 0.33. Product type (i.e., search products = 0; experience products = 1) was significant in three models with



positive coefficients, which supported hypotheses H2, H3a and H3c that the usage of all online information, online information from consumers, and online neutral sources were more frequent for experience products than for search products. Product type had a negative effect in Model 3 as expected, but not significant. The results indicated that product type was related to information search behavior on the Internet. When consumers search for experience products' information, they tended to use online information sources more frequently, especially relying on those from the consumers and neutral sources.

The Internet-related variables, perceived usefulness and ease-of-use of the Internet, were positive and significant at the  $\alpha = .01$  level in all four models. H4 and H5 were fully supported. The higher the perceived usefulness and ease-of-use of the Internet, the more frequently consumers used online information sources. These results corresponded to empirical results from the literature (Davis et al., 1989; Lederer et al., 2000; Rha, 2002).

In Model 1, market mavenism was positively related to the usage of all online information sources, a finding that supported hypothesis H6 ( $b = .08, p < .05$ ). Market mavens tended to use the online information sources more frequently. The extent of usage of offline information sources was also significant in Model 1 ( $b = .34, p < .01$ ). Thus H7 was supported: the more the offline information usage, the more the online information usage. Consumers' information search behavior through online vs. traditional sources was not compensated, but accumulated. The results reflected the findings in the literature (Putrev & Lord, 2001; Ratchford et al., 2001; Rha, 2002).

There were some interesting findings regarding the relationships between control variables and online information usage. Younger consumers tended to use more Internet information, except for on-line information from retailers. However, older consumers relied more upon online retailers' or manufacturers' information. The Internet usage experience was positively related to the usage of all kinds of online information across four regression models, whereas the purchase experience was negatively related to these information sources. Product knowledge and perceived risk were also positively related to two out of three types of online information usages, indicating that information demands were different for consumers with different product knowledge and risk perception. Product involvement was significantly and positively related to the use of online information from retailers or manufacturers.

**TABLE 3**

**Comparison of Four Multiple Regression Models with Different Online Information Sources as Independent Variables**

Independent variable	Dependent variable							
	Model 1: All online information sources		Model 2: From other consumers		Model 3: From retailers and manufacturers		Model 4: Neutral sources	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Product type	0.24	6.99**	0.38	8.26**	-0.08	-1.90	0.45	8.96**
<i>Internet variables</i>								
Perceived usefulness of the Internet	0.19	6.92**	0.23	6.10**	0.14	4.14**	0.22	5.39**
Perceived ease-of-use of the Internet	0.13	5.47**	0.15	4.67**	0.06	1.98*	0.23	6.58**
<i>Search variables</i>								
Market mavenism	0.08	2.25*	0.08	1.83	0.07	1.79	0.07	1.36
Use of offline information sources	0.34	13.23**	0.27	7.81**	0.34	11.18**	0.56	15.21**
<i>Control variables</i>								
Age	-0.01	-3.49**	-0.02	-5.12**	0.01	2.39*	-0.02	-4.06**
Gender	-0.04	-1.02	-0.08	-1.60	0.00	.09	0.01	.10
Hours in paid employment	0.02	1.21	0.02	.99	0.02	1.24	0.00	.09
Access at home	-0.03	-0.47	-0.04	-.63	0.03	.41	-0.07	-.88
Daily online hours	0.01	1.90	0.01	2.25*	0.00	.29	0.00	1.16
Income	0.00	.06	0.00	.09	0.00	-.22	0.00	.22
Internet usage experience	0.09	3.95**	0.10	3.16**	0.06	2.03*	0.15	4.38**
Product knowledge	0.12	4.50**	0.18	5.02**	0.04	1.28	0.10	2.62**
Product involvement	0.01	.37	-0.01	-.35	0.06	2.29*	-0.04	-1.23
Purchase experience	-0.08	-6.04**	-0.06	-3.65**	-0.10	-6.58**	-0.08	-4.13**
Perceived risk	0.08	2.96**	0.08	2.07*	0.10	2.99**	0.07	1.70
Constant	-1.14	-5.87	-0.95	-3.66	-1.07	-4.66	-1.94	-6.90

*Note:* Model 1:  $F = 39.03$ ,  $R^2 = 0.33$ ; Model 2:  $F = 27.42$ ,  $R^2 = 0.25$ ; Model 3:  $F = 20.48$ ,  $R^2 = 0.20$ ; Model 4:  $F = 38.03$ ,  $R^2 = 0.32$ .  
All  $F$  values were significant at  $p < .01$ , \* $p < .05$ , \*\* $p < .01$ .

**Discussion and Conclusion**

This study explored the extent of online information usage for different product types. In the process, the determinants of the usage of various online information sources were investigated. A web-based online survey was conducted to collect the data.

The results indicated that the type of product was indeed one of the important influences on the perceived

importance and extent of online information usage. While searching for information about experience products, consumers perceived online information to be more important, especially online information from other consumers (e.g., consumer grading, consumer opinion, and discussion with other consumers) and neutral sources (e.g., web articles). Consumers acquire more information for quality judgments, such as other's recommendations for experience products (Nelson, 1970, 1981). This corresponded to the concept of Klein (1998) that interactive media, such as the Internet could possibly transform traditional experience products into search products because the information of 'experiencing' is available and abundant online. When consumers need information about search products, they can rely on online information sources from retailers/manufacturers to satisfy their requirements.

The study also showed the importance of other factors on the usage frequency of online information sources. Perceived usefulness and ease-of-use of the Internet explained a lot of the frequency of online information use. These two concepts are related to the acceptance of technology systems, of which the Internet is a subset. The extent of offline information usage was positively correlated to the usage of online information. Search behavior across different information sources is cumulative rather than compensated. The function of the Internet as an information source does not replace the traditional offline sources, but adds valuable information.

According to the results of this study, marketers of experience products should value the importance of the Internet and provide more online information for consumers. The best way might be to create a discussion room for consumers to exchange experiences and to invite neutral input (Armstrong & Hagel, 1996). Perceived usefulness and ease-of-use are important. Marketers should take these into consideration for the design of user-friendly web sites. Marketers also have to recognize the fact that online information is accumulated with other information searched by consumers, thus traditional information sources cannot be neglected.

The sample frame used in this study, students, staff and faculty in the university, may not be well representative of general Internet users. These institute-related consumers may use the Internet more frequently than average Internet users due to the easy and free access of the Internet. In spite of this limitation, this study contributes to the understanding of consumer information search behavior on the Internet. The taxonomy of product categories in this study provides insightful results for future research to consider. The next step would be to study the mechanism of transforming experience products to search products in consumers' perceptions via the Internet, possibly by an experimental design.

High vs. low involvement would be another important phenomenon to consider in the study of pattern and amount of information search. When consumers are highly involved with a product category, they constantly collect information about the product (Bei & Widdows, 1999). Since highly involved consumers are interested in all kinds of information regarding a product, the Internet would be a vital complementary information channel. However, for low involved consumers, the purpose of information search is to facilitate decision-making, and online information may compensate the traditional information sources. This would be another interesting direction for the study of consumers' online information search.

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