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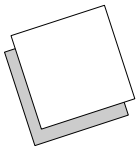

Typology of online shoppers

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Abstract *This article aims to examine the online buying behavior among a group of Internet users. Based on a sample of over 3,700 Internet users, this study explores their information-seeking patterns as well as their motivations and concerns for online shopping. Factor analysis and cluster analysis were used to classify the respondents into six types of online shoppers. Coupled with their demographic information and actual buying behavior, it was possible to constitute a distinct profile for each of the segments. Discriminant analysis was also conducted to seek out the important attitudinal variables that differentiated the various clusters of online shoppers. The implications of such classification are also discussed.*

1. Introduction

A growing phenomenon

Online shopping has been a growing phenomenon all over the world, especially among countries with well-developed infrastructure for marketing activities over the Internet. According to a study from International Data Corp (IDC), more than 600 million people will have accessed the Internet globally by the end of 2002 and spent more than US$1 trillion buying goods and services online (*Straits Time*, 2002). The same report also noted that global spending on e-commerce exceeded US$600 billion in 2001, an increase of 68 percent over 2000. Several reasons contribute to its continued growth. The development of more advanced technology has facilitated smoother surfing on the Internet. People can now access the Internet through not only from PCs, but also from Web TVs, PalmPilots and mobile phone. With better navigation software and search engines, more people are finding it easier and convenient to become members of the Internet community. Changes in the lifestyles are also making consumers more prepared to go online shopping. For example, according to a report written by Lewis (2001), GartnerGe forecasted worldwide online holiday-season sales of more than US$25 billion in 2001. Instead of spending time doing shopping activities physically, consumers are finding it easier and more pleasant to shop online during the festive season. People are now buying many types of goods and services on the Internet. With the growing trend of buying online, an increasing number of companies are also finding it advantageous to join the bandwagon and offer their consumers the convenience of shopping online. Otherwise, they will find themselves losing sales to their many counterparts who are aggressively moving in that direction.

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Online shopping is increasingly being accepted in Singapore as an alternative for visiting traditional bricks-and-mortar stores. It has the infrastructure for development in this direction. According to statistics released by the Inforcomm Development Authority of Singapore, about 59 percent of the households in Singapore possessed a computer and 42 percent were Internet connected in 1999. This computer ownership figure was higher than those of the USA (53 percent), Canada (56 percent), Australia (47 percent) and the UK (41 percent) as reported by Ernst and Young (2000). Similarly, the 42 percent of households that were Internet connected was also higher, when compared to the USA (34 percent), Canada (39 percent), Australia (22 percent) and the UK (29 percent). Technowledge Asia (www.oneknowledge) also estimated that number of Internet users in Singapore to be close to 0.9 million. A survey of 3,912 respondents conducted by the same company noted that 31 percent of them had bought online. The comparative figures were 43 percent for Hong Kong, 34 percent for Taiwan and 24 percent for Malaysia. It is evident that online buying is also gaining importance in other parts of Asia.

Profiles of shoppers in Asia

Despite the importance of Internet shopping, very few studies have examined the profiles of these shoppers in Asia. With the increasing importance of online sales and the growing number of shoppers patronizing online stores, it is imperative for marketers, online or offline, to develop a better understanding of the Internet surfers and shoppers. In addition, it is also crucial to better comprehend their attitudes, pattern of information acquisition and purchase decision-making process. Only through this understanding will marketers be able to develop strategies and tactics to attract and maintain these customers.

Specifically, this research will attempt to provide a holistic view of these online users and shoppers. Their demographics, psychographics, information acquisition patterns, shopping experience and level of satisfaction and dissatisfaction with online shopping will be examined in detail. Finally, an online shopper typology will be developed.

2. Review of past works

Many studies have attempted to study the socio-economic characteristics of Internet users and shoppers. According to studies carried out by Technowledge Asia in 1999 and 2000, cybershoppers in the four Asian regions (Singapore, Hong Kong, Taiwan and Malaysia) were found to be mainly males, in the age group of 26 to 35 years and better educated, as is shown in Table I. This profile is not very different from that discovered by Donthu and Garcia (1999) who concluded that Internet shoppers in the USA were "mainly males with above-average education, income, and occupation".

Five types of convenience

Many reasons were given for people buying online. In a study conducted by Darian (1987) on in-home shoppers, he found that there were five types of convenience that in-home shoppers were after:

(1) reduction in shopping time;

(2) timing flexibility;

(3) saving of physical effort;

(4) saving of aggravation; and

(5) the opportunity to engage in impulse buying or directly responding to an advertisement.

Characteristics	Singapore	Taiwan	Hong Kong	Malaysia
Age				
16-25	27	28	25	26
26-35	45	50	42	44
Above 35	22	15	29	26
Gender				
Male	73	84	85	82
Female	25	16	15	17
Education				
Graduate	43	50	44	46
PostGra./Professional	20	18	24	17
Marital status				
Single	56	69	57	48
Married	43	31	43	52
Size of sample (*n*)	3,912	3,459	1,199	1,155
Percentage (online shoppers)	31	34	43	24
Year of study	2000	1999	1999	1999

Source: www.oneknowledge.com

Table I. Profiles of online shoppers in selected Asian countries

As Internet shopping is another form of in-home shopping, one would expect the Internet shoppers to perceive the same set of benefits. This is confirmed by Technowledge's (1999) finding that the top reasons given for shopping online were convenience, unique merchandise and competitive prices. According to CATALOG AGE's Consumer Shopping Survey (Chiger, 2001), about 67 percent of the online shoppers agreed that convenience was the main reason they had bought via the Internet and 41 percent mentioned price as another factor.

Wary of shopping online

In spite of the convenience of Internet shopping, consumers are still wary of shopping online. According to Bhatnagar *et al*. (2000), consumers may not be buying due to the risks associated with Internet shopping, such as the possibility of credit card fraud, the inability to touch or feel something before buying it and the problems with returning products that fail to meet expectations. The risks to Internet consumers are greatest when the product is technologically complex, ego-related or the price is high. In Asia, as mentioned by the Wee and Ramachandra (2000) study, the reasons cited for not buying online were similar – lack of security, lack of physical contact, uncertainty about product quality and distrust of retailer. It is therefore obvious that establishing consumer trust or feeling of security is an integral part for successful online marketing. In the traditional brick-and-mortar world, consumers would examine a merchant's size and reputation in assessing the degree to which they could trust the vendor. Trust level may therefore affect consumers' willingness to purchase and their propensity to return to the site (Lynch *et al*., 2001). In addition, they also found Web site quality and affect also affected consumers' purchase behavior.

Consumers' level of trust toward an online merchant may be affected by prior attitude they may have toward the brand associated with that merchant. It was found that a positive attitude toward a company's brand predisposes a positive attitude towards the company's advertisement (Brown and Stayman, 1992; MacKenzie *et al*., 1986). One can, therefore, infer that this positive attitude would encourage online visit and purchase. A study by Donthu and Garcia (1999) concluded that brand consciousness was higher among

Internet shoppers than non shoppers, although the difference was not statistically significant. Results of a PricewaterhouseCoopers report showed further support that consumers tend to buy from trusted retailers (Welling, 2000). The report stated that ''80 percent of consumers who have shopped for clothing online within the past six months do so at sites operated by a traditional store or catalogue retailer, and one-third of online consumers say they shopped for clothing at sites operated by a manufacturer whose products they were already familiar with'' (Welling, 2000). In general, shoppers were found to prefer to shop at Websites affiliated with well-known brands or from Websites that they already have purchase histories with.

Balabanis and Reynolds (2001) also examined the influence of existing brand attitudes on the attitudes of online shoppers and confirmed that the influence was significant. Similarly, Harvin (2000) suggested that consumers were more comfortable with companies that have strong offline brands that they already were familiar with and trusted. It is therefore evident that the possession of a strong offline brand would enable online marketers to compete more effectively (Auton, 2000; McWilliam, 2000).

Examining typology

Another interesting way to studying Internet shoppers was to examine their typology. Donthu and Garcia (1999) were one of the first to examine the significant differences between Internet shoppers and non-shoppers. They found the two groups to differ significantly in terms of age, income, importance of convenience, risk aversion, impulsiveness, variety-seeking propensity, attitude toward direct marketing and attitude toward advertising. Media Matrix and McKinsey (Hamilton, 2000) also examine online shopper typology. In that study, online consumers were classified into six categories described as follows:

(1) *The simplifiers* – these Net users are impatient but lucrative. They spend just seven hours a month online yet account for half of all Internet transactions.

(2) *The surfers* – these are consummate browsers and spend 32 percent time online. They look at four times more pages than other users.

(3) *The connectors* – they are new to the Internet and less likely to shop. They also prefer brick-and-mortar brands they know.

(4) *Bargain shoppers* – these are consumers who look out for bargains and enjoy finding good deals.

(5) *The routine followers* – these are termed information addicts who frequent the Internet mainly for information.

(6) *The sportsters* – these are sport enthusiasts and enjoy visiting sports and entertainment sites.

The authors further suggested various ways of more effectively reaching these different groups of online shoppers.

However, very few studies were mounted in Asia to examine the typology of online shoppers, although they as a group have become increasingly important in online retailing. This study therefore aims to close this gap and attempt to provide a holistic view of this group of shoppers in terms of their psychographics, demographics as well as their shopping behavior and level of satisfaction with their online shopping experience.

3. Research methodology

Commercial sponsors

As the main focus of the study was to examine the attitudes and behavior of online shoppers, it was decided that the respondents would be people who would at least surf the Net. A commercial company was approached to host the questionnaire on its Web site. The company was also requested to seek commercial sponsors to provide attractive prizes to encourage Net surfers to participate in the survey. Five lucky participants of the survey would stand to win for themselves each a state-of-the-art Portable Zappee MP3 Player (16Mb) with built-in digital tuning stereo FM radio. The questionnaire was hosted for one month from 4 September to 3 October 2000. In addition, an e-mail newsletter was sent out on 8 September and an advertisement placed in a local free newspaper (called *Streats*) on 19 September, to invite more participants. By the end of the survey period, a total of 3,712 usable responses were recorded.

The survey questionnaire was divided into three sections. There were 24 questions in Section I, investigating the respondents' information-seeking patterns when buying online regarding issues such as branding, sales promotion, preference for retail versus online store and so on. The scale used to measure these responses was Likert-based with 1 signifying ''Strongly disagree'' and 5 denoting ''Strongly agree''. The first part of Section II was to examine if they had bought anything online over the last 12 months and, if so, what did they buy. The remaining questions asked about their level of satisfaction about online shopping, and if they intended to buy again and their willingness to recommend to their friends and relatives to buy online. The level of satisfaction was gauged using a Likert scale with 1 indicating ''Very dissatisfied'' and 5 being ''Very satisfied''. In addition, their pattern of online search for information was also examined and if such search resulted in any actual purchase. In Section III, questions asking for respondents' opinions on the inhibitors of online shopping were included. The Likert scale was also used with 1 measuring ''Strongly disagree'' and 5 ''Strongly agree''. Finally, Section IV was devoted to basic demographic information that would be used for classification purposes.

Strictly confidential

The respondents were also assured that all responses were kept strictly confidential and no unsolicited marketing material would be directed to them as a result of the survey. Procedures were also put in to prevent respondents from submitting more than one entry and employees of the commercial company hosting the research would also be excluded from taking part in the survey.

4. Results

4.1 Profile of the sample

A total of 3,172 responses were recorded. However, not all respondents provided complete answers to each and every question. As shown in Table II, almost two out of three were males (65.7 percent). The majority of the respondents were singles and only 30 percent of the respondents were married. A great majority of them were in the age group of 20 to 24 years (32 percent). The next group was comprised of respondents who were in the age group of 25-29 years (28.5 percent). Next in line were those aged 30 to 34 years (13.9 percent). Only a small 2 percent of the respondents were aged 50 and over. Educationally, the biggest group belonged to respondents with a bachelor degree (44.9 percent). Respondents who had junior college or polytechnic qualifications were the next big group (34.8 percent). Those with secondary school or postgraduate qualifications had almost the same proportion, each with 9.9 percent and 10.1 percent, respectively.

Characteristics	No.	Percent
Gender		
Male	2,067	65.7
Female	1,079	34.3
Total	3,146	100.0
Marital status		
Single	2,178	69.6
Married	930	29.7
Divorced/widowed	23	0.7
Total	3,131	100.0
Age		
15-19	293	9.3
20-24	1,008	32.0
25-29	899	28.5
30-34	439	13.9
35-39	232	7.4
40-44	142	4.5
45-49	77	2.4
50-54	46	1.5
55-65	16	0.5
Total	3,152	100.0
Education		
Primary	11	0.3
Secondary/Voc.	312	9.9
JT/Polytechnic	1,093	34.8
University	1,413	44.9
Postgraduate	316	10.1
Total	3,145	100.0
Residence		
Singapore	2,983	94.0
Others	189	6.0
Total	3,172	100.0

Table II. Demographic profile of respondents

4.2 Aggregate level behavioral profile of Web users

Six factors

Based on the response to the 24 questions on their online attitude and behaviour, including information acquisition, decision process and influence of marketing mix, factor analysis, using the principal component method, was applied. The statements were reduced into six factors. The loadings of the rotated factors and the communalities are listed in Table III. Factor 1 is labelled as brand comparison. This indicates a tendency to collect a big amount of information to compare product features, prices and brands both online and offline. Factor 2 is labelled as online shopping. This is the inclination to prefer online shopping, go for online auction and engage in ''impulse purchase''. Factor 3 is called deal proneness. This is a predisposition that favors sales promotion, being very price-sensitive and preference to buy well-known brands online. Factor 4 is termed information seeking. This indicates a liking to navigate for information, and heavy use of search engine and bookmark to access e-tailing sites. Factor 5 is called ad orientation. This is a show of propensity to click on a banner ad and pay more attention to the banner ad. Factor 6 is labelled as offline shopping. This is a fondness to browse for information online but make purchase offline for high-ticket items such as computer and automobile. The six factors account for 45 percent of the total variance.

Shopping information acquisition	1	2	3	4	5	6	Communality
I actively evaluate a larger number of brands when shopping in a traditional retail environment	*72**	9	3	–5	–5	2	0.527492
I do an overall comparison of different brands before I decide my most preferred brand	*66**	–14	–1	18	11	9	0.503162
I prefer to look at a larger variety of brands in online shopping	*66**	3	31	3	0	1	0.534249
I first pick a product feature and then compare each brand on that product feature	*58**	–5	8	10	21	8	0.401005
I tend to tradeoff the strengths and weaknesses of a brand before deciding the brand	*52**	7	–6	–4	–4	10	0.293539
I do more brand price comparisons than in a traditional retail environment	*50**	9	*41**	22	–11	1	0.483303
I find it easier to identify and eliminate brands online	*46**	18	9	6	7	–2	0.263124
I am more likely to make an ''impulse purchase''	–1	*66**	10	–4	10	–2	0.460703
I prefer to buy from an online store, compared to a firm which has both physical and online stores	6	*66**	7	–14	3	3	0.463193
I would prefer to buy music CDs from an online store, rather than from a traditional store	5	*49**	2	14	8	–4	0.267173
I like participating in online auctions	13	*49**	–2	5	12	–3	0.277585
I am more price sensitive compared to that in a traditional retail environment	21	–5	*72**	6	–6	–3	0.565879
I react more to sales promotions compared to that in a traditional retail environment	11	8	*67**	–9	11	–1	0.489243
I prefer to buy well-known brands in online shopping	–4	6	*49**	28	–9	24	0.387499
I only consider the single most important feature when selecting the brand	1	8	*48**	–7	24	1	0.301760

(continued)

Table III. Rotated loadings for shopping information acquisition

Shopping information acquisition	1	2	3	4	5	6	Communality
I use the same search engine (for example, Lycos) on a regular basis	1	16	1	*69**	–11	4	0.520282
I am a frequent user of bookmarks for accessing my favorite Web sites	8	7	–7	*68**	–3	–5	0.485850
I prefer looking at photos/ images compared to purely text-based messages	9	27	11	*43**	24	10	0.342564
I often click a banner ad when visiting a site	3	11	8	–4	*82**	1	0.688004
I pay more attention to online ads compared to TV ads	11	30	3	–2	*71**	–4	0.613813
I would prefer to browse a brand of automobile online and make the actual purchase in a traditional store	12	–3	–1	13	4	*76**	0.606614
I would prefer to browse a brand of computer online and make the actual purchase in a traditional store	11	–4	8	–4	–3	*82**	0.688063
I will reject a brand if it does not meet my minimum acceptable level	18	–29	12	38	7	15	0.300792
I would prefer to buy from an online store rather than switch to another store which offers short-term promotional campaign	0	30	20	21	26	16	0.272460
Eigenvalue	3.48	2.14	1.44	1.33	1.24	1.13	10.737349

Notes: Shopping information acquisition patterns:
F1 Brand Comparison: collect big amount of information and compare product features, prices, and brand names both online and offline
F2 Online Shopping: prefer online shopping, participate in online auction and make impulse purchase
F3 Deal Proneness: deal prone, very sensitive to price, react to sales promotion and buy only well-known brands when online
F4 Information Seeking: information navigating, heavy use of search engine and bookmark to access e-tailing sites
F5 Ad Orientation: click banner ad often, pay more attention to banner ad
F6 Offline Shopping: browse information online but make actual purchase offline for high ticket products such as computer and automobile

Table III.

4.3 Behavior-based market segmentation

The factor scores from the above six factors were used to conduct clustering analysis to identify market segments based on Web users' behavior. Six clusters, each with 646, 309, 626, 155, 796, and 265 respondents, respectively, were obtained by K-means clustering method. Determination of number of clusters is based on the examination of scree plots in cubic

clustering criterion (CCC) and *F*-statistics from two, three, four, five, six and seven cluster solution derived from K-means cluster analysis (Milligan and Cooper, 1985; Reynolds and Beatty, 1999). The labelling of each cluster is by examining the centroid means of factor scores.

Three-cluster validation strategies

Wedel and Kamakura (2000) suggested three cluster validation strategies, relative, internal, and external criteria. Relative criteria involve the comparison of two cluster structures. The internal validation check on two randomly split-half samples by multiple-group factor analysis indicates five to seven clusters as the optimal solution. Internal criteria assess the fit between the cluster structure and the values and lifestyles (VALS) scores. A canonical discriminant analysis between six clusters and VALS factor is performed. The result indicates that the input factor scores are valid discriminators among clusters (Table IV).

4.4 Description of clusters

The six clusters of online surfers and shoppers are described below. The radar diagrams (Figures 1-6) are drawn based on information contained in

Clusters	On-Off shopper	Comparative shopper	Traditional shopper	Dual shopper	e-Laggard	Information surfer	*F* Value[a]
Cluster size *n* (%)	309 (11.0)	796 (28.5)	265 (9.5)	626 (22.4)	155 (5.5)	646 (23.1)	
F1 Brand comparison	–1.250	0.575	–0.544	0.395	–1.083	–0.011	364.17*
F2 Online-shopping	0.049	–0.274	–0.292	0.317	–0.152	0.163	35.43*
F3 Deal proneness	0.278	0.501	–0.074	–1.037	–0.876	0.495	404.78*
F4 Information seeking	0.606	–0.135	–1.616	0.122	0.036	0.412	282.50*
F5 Ad orientation	–0.646	–0.589	0.068	–0.043	–0.080	1.068	386.96*
F6 Offline shopping	0.690	–0.323	0.424	0.284	–1.663	0.019	207.18*

Notes: [a]Canonical Discriminant Analysis: Wilks' Lambda = 0.0884; *F*-value=309.85 (d.f. = 30; $p = 0.001$); * $p < 0.0001$

Table IV. Cluster centroids from K-means clustering analysis

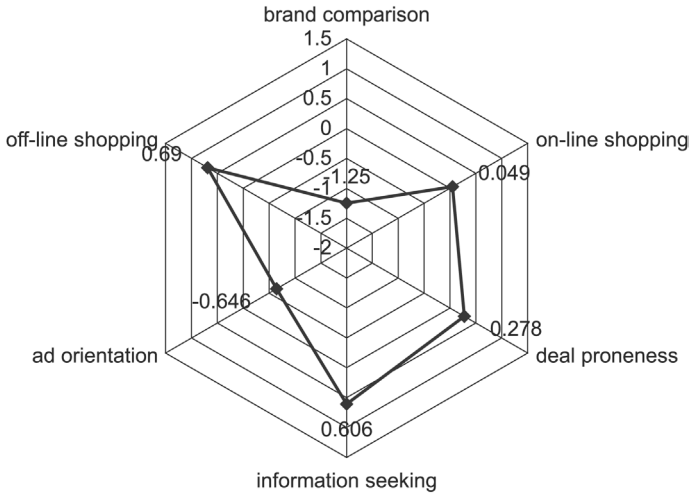

Figure 1. On-off shopper

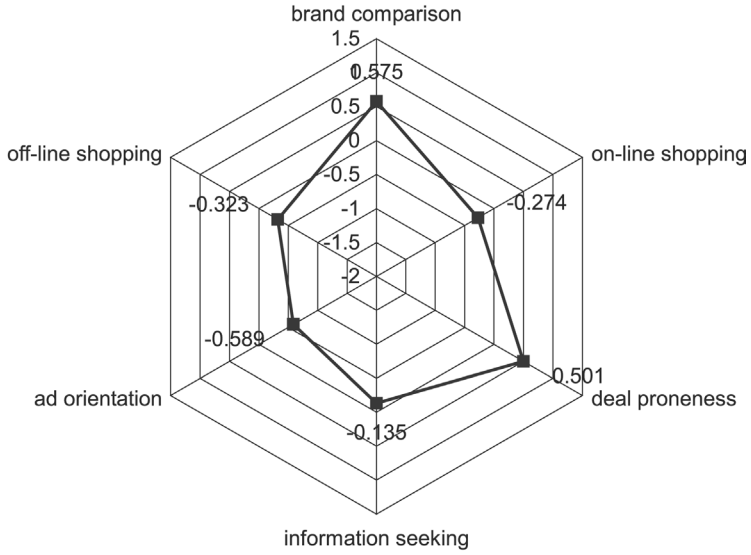

Figure 2. Comparative shopper

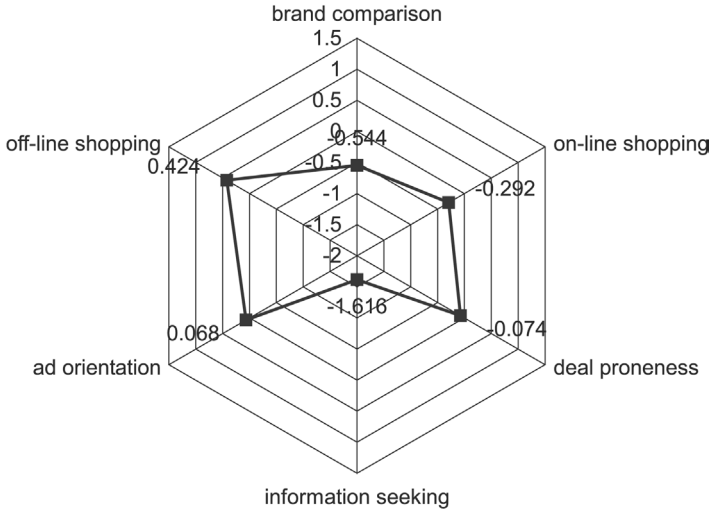

Figure 3. Traditional shopper

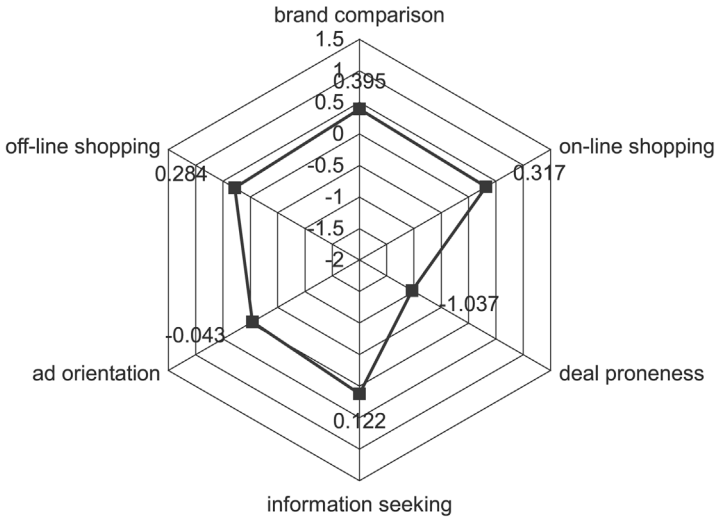

Figure 4. Dual shopper

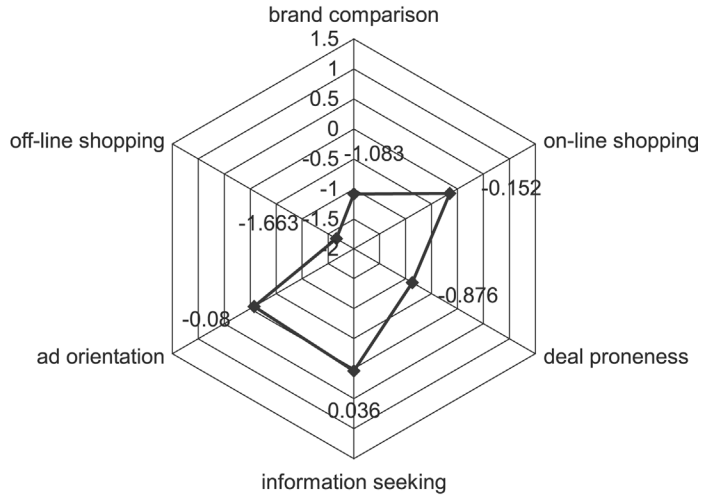

Figure 5. e-Laggard

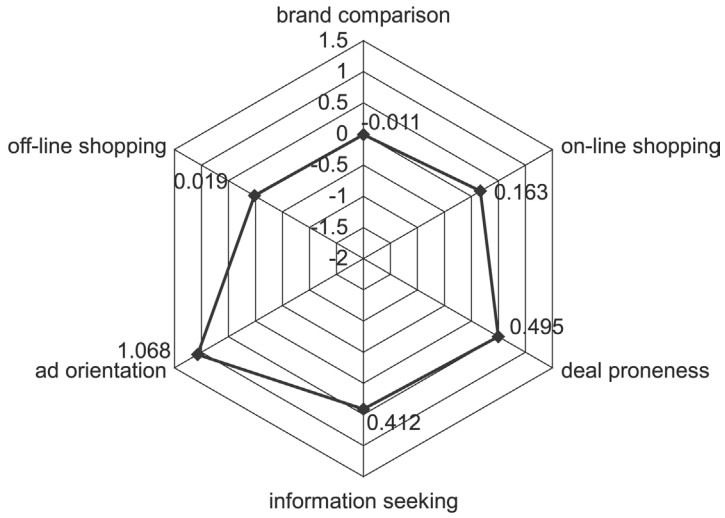

Figure 6. Information surfer

Table IV and show the shopping and information gathering characteristics of these clusters graphically.

(1) *On-off shopper*. On-off shoppers are those who like to surf the Internet and collect online information but prefer to shop offline. They enjoy looking for advertisements, are frequent users of bookmarks and use the same search engine on a regular basis. They are experienced in surfing and often look out for best deals. Demographically, a person in this segment is likely to be single and in the younger age group of 15 to 24 years. An Offline on-off shopper is equally likely to be a male or female.

(2) *Comparison shopper*. Comparison shoppers are those who compare product features, prices and brands before making purchase decisions. They also actively look out for promotional offers. In terms of age, this group has a slightly higher percentage of respondents in the age group of 25-29 years, although the gender distribution is very similar to the overall sample.

(3) *Traditional shopper*. Traditional shoppers are those who buy from brick-and-mortar store. They do not surf the Internet for comparative

information, neither do they look for bargains over the Internet. Although they may come from all different age groups, a higher proportion of this group of shoppers is around 40 to 49 years old (11 percent compared to 7 percent of the total sample).

(4) *Dual shopper*. Dual shoppers are more likely to be single, male and in the younger age group of 15 to 24 years. They like to compare brands and product features. They also rely on the Internet for information gathering. However, they are not particularly deal prone.

(5) *e-Laggard*. An e-Laggard is slightly more likely to be a female (37 percent versus 34 percent for the whole sample) and in the older age group of 35 years and above (20 percent versus 16 percent for the whole sample). He or she has lower interest in seeking information from the Internet. Only 7 percent of the e-Laggards could be considered to possess a high level of navigation expertise, the second lowest group after the traditional shoppers (4.5 percent).

(6) *Information surfer*. An information surfer is more likely to be married (43 percent compared to 30 percent for the whole sample). Only about 31 percent of them are in the age group 15-24 years, compared to 41 percent of the sample. He or she loves banner ads and clicks on them often. An information surfer also looks out for promotional offers. He or she has good navigation expertise and online purchase experience.

4.5 Relationship between the demographic and behavioural profiles of the segments

Table V shows the demographic and behavioural characteristics of the various clusters, including gender, age, marital status, online experience, and navigation expertise. It is also noted that the Chi-square tests were all significant for the different demographic and behavioural observations.

Gender distributions

In terms of gender for the total sample, almost two out of three were males. This percentage distribution was very close to those of the Traditional shoppers and information surfers. However, the gender distributions for the other clusters were quite different. For instance, there were almost equal percentages of males and females for the on-off shoppers, whereas there were higher percentages of males for both comparative shoppers and dual shoppers. When the distributions of age groups in different clusters were examined, it was noted that a shopper could come from any age group. However, a higher percentage of the traditional shoppers (13.8 percent) and information surfers (12.7 percent) were found to be older (aged 40 years and above), when compared with the whole sample (8.9 percent). In terms of marital status for the total sample, the majority of them were single (70 percent). As for the different clusters, the on-off shoppers had the highest percentage of single (78 percent), whereas the information surfers had a much lower percentage of single (56 percent).

Table V also shows the distribution of the ''navigation expertise'' of members in the various clusters. Navigation expertise is defined based on respondents' replies to the question on ''When you are searching for information online, on the average, what percentage of time do you actually find the information that you are looking for?''. Based on their responses, the sample of respondents was divided into five groups:

(1) low – 22.6 percent;

(2) medium low – 22.9 percent;

	On-off shopper $N = 309$	Comparative shopper $N = 796$	Traditional shopper $N = 265$	Dual shopper $N = 626$	e-Laggard $N = 155$	Information surfer $N = 646$	X^2 value $Pr > X^2$
Gender							48.51 (<0.001)
Female	*49.03*	28.91	35.11	28.94	37.09	35.20	
Male	50.97	*71.09*	64.89	*71.06*	62.91	64.80	
Age							109.50 (< 0.001)
15-19	9.71	8.33	9.96	*11.54*	8.50	8.07	
20-24	*38.51*	31.44	31.03	*36.70*	33.33	22.67	
25-29	28.48	*32.20*	28.74	25.80	26.80	28.73	
30-34	13.27	14.39	11.11	13.46	11.11	*16.61*	
35-39	5.83	6.44	5.36	6.41	10.46	*11.18*	
40-44	1.94	4.04	*7.66*	3.04	5.23	*5.43*	
45-49	1.29	1.89	3.45	1.76	1.31	4.66	
50-54	0.65	0.63	1.92	1.12	1.96	2.33	
55-65	0.32	0.63	0.77	0.16	1.31	0.31	
Marital							77.51 (< 0.001)
Married	20.59	26.79	31.68	25.60	30.00	*42.95*	
Single	*78.43*	72.32	68.32	73.59	70.00	56.11	
Navigation expertise							53.41 (< 0.001)
Low	21.04	22.36	*34.72*	17.25	25.16	22.60	
M. Low	23.30	23.37	25.28	24.28	20.65	22.91	
Medium	23.95	24.37	22.26	25.08	*27.74*	25.08	
M. High	18.77	20.35	13.21	*22.84*	19.35	21.83	
High	*12.94*	9.55	4.53	10.54	7.10	7.59	
Purchase experience							101.42 (< 0.001)
None	30.74	33.42	*46.04*	26.52	36.13	26.01	
1 time	28.80	26.88	*29.06*	27.32	18.06	23.99	
2 times	22.65	18.09	15.47	19.97	20.65	20.90	
3 times	10.03	10.93	4.91	11.02	9.68	*15.48*	
4 times	2.91	4.90	2.64	6.55	4.52	6.35	
5 times	1.62	1.88	1.51	4.15	*6.45*	3.41	
6+	3.24	3.89	0.38	4.47	*4.52*	3.87	

Table V. Cluster profile based on demographic and behavioural characteristics

(3) medium – 25 percent;

(4) medium high – 21.1 percent;

(5) high – 7.6 percent.

"High expertise" in navigation

It was noted that the on-off shoppers had a higher percentage of ''high expertise'' in navigation compared to the total sample (12.9 percent versus 7.6 percent). The dual shoppers, with 10.5 percent of them considered as with ''high expertise'', was the next group of expert navigators. This group also had the lowest percentage of ''low expertise'' shoppers. On the contrary, the traditional shoppers were those with the lowest expertise in navigation. About 34.7 percent of them were considered to have low navigation expertise, compared to only 22.6 percent for the total sample.

The purchase experience of the various clusters in Table V is computed based on their responses to the question on ''Have you bought any of the following products/services online during the last 12 months?''. To simplify

the classification, the answers were quoted as the number of times a purchase was made, irrespective of the types of products/services bought and the amount spent. The distribution was divided into seven groups:

(1) none – 26 percent;

(2) once – 23.4 percent;

(3) two times – 20.9 percent;

(4) three times – 15.5 percent;

(5) four times – 6.4 percent;

(6) five times – 3.4 percent;

(7) six times or more – 3.9 percent.

It was noted that the traditional shoppers were the least experienced in terms of number of purchases made. About 46 percent of them had not made a single purchase over the last 12 months. On the contrary, the dual shoppers and information surfers were the more experienced. Only about 26 percent of them had not made any purchases during the same period. However, the e-Laggards had a higher percentage of people buying more frequently, i.e. five or more times. A closer examination of the data indicated that the number of this category of shoppers was only ten, out of a total of 155. This could be a result of the existence of outliers.

4.6 Relationship of online shopping attitudes with segment identity

Stepwise discriminant analysis

The next step of the data analysis was to examine if online shopping attitude such as the Web as a source of information, trust, convenience, time-saving and so on were significant in differentiating the various segments identified. Using stepwise discriminant analysis and treating the various attitudes as independent variables, it was determined that nine out of these 12 variables were significant. For instance, Web advertisement as a useful source of information for online shopping was found to be highly significant in discriminating the six market segments. Similarly, absence of salespersons, warranties, saving on cost, difficulty in locating products on the Web and security concerns were found to be important discriminators. This is shown in Table VI.

5. Conclusion

Holistic view

Past studies on cyber-shopping have often concentrated on different dimensions of consumer behavior, i.e. gender, age, social group, user versus non-user, reasons for buying and not buying online, goods and services purchased, patterns of expenditures and so on. This paper attempts to provide a holistic view of Internet users and shoppers by examining not only their demographic make-up but also their psychographics, navigation expertise, shopping experience and so forth. In addition, these shoppers were further classified into different groups, each with different demographic and psychographic characteristics. The various clusters also exhibited significant differences in terms of their navigation expertise and purchase experience. This information can be usefully employed by online and offline retailers to develop different marketing programs aiming at each of the segments. For instance, the on-off shoppers prefer seeking information online but make purchases offline. This group of shoppers would be more attracted to buy from well-established brick-and-mortar stores with good Websites for information seeking. On the other hand, the traditional shoppers would favour buying offline and show interest in online information seeking. The

Attitude towards online shopping	*F* Statistics	Pr > *F*
Web advertisements provide me with useful information for my online shopping	49.14	< 0.0001
Whenever I need to find information, my first choice is to go to the Internet	17.74	< 0.0001
I like to buy online because there is no pressure from salespersons	9.183	< 0.0001
Uncertainty about warranties is a major concern for me when buying online	5.10	0.0001
Buying online saves me money	4.39	0.0006
It is difficult to locate products on the Web	3.64	0.0028
Buying online lacks the feel of security	2.88	0.0132
It is convenient to buy online	2.357	0.0381
I dislike the fact that buying online does not allow me to touch and feel the products before purchase	1.92	0.0881
You never know if you are getting the intended products when you buy online	N.S.	
Buying online saves time	N.S.	
I like to go shopping in traditional shopping malls whenever I have free time	N.S.	

Table VI. Stepwise discriminant analysis of online shopping attitude on cluster groupings

dual shoppers would engage in both types of shopping. It is therefore important for marketers to identify the specific segments of shoppers they want to target and devise price and promotional strategies accordingly.

Pertinent issues for marketers

It is also observed that different groups of shoppers differ significantly in their online shopping attitudes. Some find online information very useful while others view such information as of lesser importance. They also view the assistance provided by salespeople differently. Some find the presence of salespeople as pressurising and prefer to go without such help, thus finding buying online as more preferable. The clusters also differ in views about the physical products, including issues such as warranty, security, ability to feel and touch, and so on. All these are pertinent issues for marketers to examine carefully in order to meet the needs and wants of online consumers more appropriately.

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

Executive summary and implications for managers and executives

Improving targeting and segmentation on-line

E-commerce is sneaking up on us all. After the disasters of the "dotcom revolution", where millions of dollars were thrown at Internet start-up businesses with little in the way of sustainable business plans, we have taken our eye off the ball. While we have been looking at good old-fashioned bricks and mortar businesses, e-commerce has continued its seemingly inexorable growth. Keng, Tang and Ghose report that e-commerce grew 68 per cent from 2001 to 2002, exceeding $600 billion.

This growth in e-commerce is not being driven by "sexy" start-ups or trendy business models but by ordinary businesses responding to the existence of on-line demand. If there are consumers out there who want to buy online, we will make it possible for them to do so. This trend is set to continue as more people get connected and those who are already connected expand their horizons.

Nevertheless, we must not lose sight of the fact that the success of e-commerce is, in the main, coming from businesses operating adaptations of traditional business models rather than some of the more far-fetched models dreamt up during the late 1990s. Moreover, these traditionalists are combining offline marketing expertise with the sophistication and flexibility offered by online communication. In truth, online marketing relies on the same fundamentals as offline marketing – the "new paradigm" remains somewhat hazy and, in the main, mythological.

Online marketing demands more sophistication

So far most online marketers have used pretty basic marketing techniques eschewing complex and sophisticated segmentation and targeting. Such a simple approach has served these marketers well as it has enabled them to hone the techniques and technologies of e-commerce without worrying too much about the possibilities offered by online communications.

All this will have to change. In a fast-moving marketing place (and the rate of change in e-commerce matched its rate of growth) marketers need to transfer the techniques applied offline and especially segmentation and targeting. These fundamentals of direct marketing when combined with the power of the Internet and modern computing technology can deliver less costly targeting and segmentation than has been possible in the offline world. We will finally begin to see e-commerce delivering on its promise as the nearest thing to real "one-to-one" marketing.

To achieve this improved targeting segmentation marketers will need the basic tools and these remain to be put in place. Keng et al. *take us another step towards this situation by developing a typology for on-line buyers/users that links behaviour to demographics. This is important since demographics are easy to identify and use for targeted communications and segmented selling whereas behavioural characteristics are more difficult.*

It's all kids online isn't it?

The rate of adoption for the Internet appears to be levelling off. This reflects the somewhat rocky state of the world's economy at present and the normal profile of innovation adoption. The result appears to be (and this is no surprise) that Internet access and use is disproportionately from younger people (i.e. those under 45). Even accepting that Keng et al.*'s research used*

a self-selected sample, it seems that the over 50s are few and far between online – over 60 per cent of the sample are aged between 20 and 29 with just 2 per cent over 50.

For many of these older people, the Internet has little or no appeal – its image, profile and the goods or information on offer reflect the younger age of the typical user. But we would be wrong to characterise Internet users as ''kids'' especially given the high levels of education (and associated income) that these users enjoy. Nor should we seek to adopt the intensive, flickering and disjointed approach sop beloved by many online designers. In the final analysis, simplicity and ease-of-use and understanding will always win (even if you do not win the award for best looking Web site).

Regardless of how we choose to present our case on-line, we need to understand the things that motivate the Internet user and Keng et al. *'s typology helps us here.*

Information, comparison, convenience and brands

In some ways we can see how a combination of factors – the access to information, the ability to easily compare, the convenience of not having to go down to the mall and the use of familiar brands – drive e-commerce. These positives are complemented by a set of negatives – concerns about privacy, security issues such as credit card fraud (something that never occurs off line of course!) and the inability to touch and feel the goods.

The task of the online trader is to accentuate the positives of buying online (convenience, ease-of-use, choice, etc.) while reducing or removing the negatives (guarantees about privacy, robust security and no quibble returns policies). It is at this point that we can begin to look at how we identify target groups based on Internet usage. The aim here is to achieve the following:

- *Increased numbers of the right visitors – fewer ''timewasters, who will visit but never buy and more people who will buy.*
- *Where we have offline options to direct individuals down the most profitable route.*
- *Access to information that does not get in the way of making a sale*

It is worth noting that capacity issues become less of a problem where we operate a two-level system. What matters is that there are no barriers to the individual who wishes to buy – as many can look as we like but the ''salespeople'' (virtual or real) concentrate only on the likely buyer.

E-commerce will become more and more significant (at present it remains a tiny part of total retail sales worldwide) and, as it does, the successful e-retailers will be those who recognise the need to segment and target carefully. For these people Keng et al.*'s typology represents an important tool and the basis for further developments of targeting and segmentation.*

(A précis of the article ''Typology of online shoppers''. Supplied by Marketing Consultants for Emerald.)