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AN INVESTIGATION OF UNIVERSITY STUDENTS' ON-LINE SHOPPING BEHAVIOR

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Abstract

A recent survey of e-marketers found that although university students comprise 25% to 30% of all web users, they are the most elusive target group to market. To add to research focusing on the on-line shopping behavior of these students, an empirical study was conducted to determine whether there is a relationship between university students' computing behavior and their intentions to shop on-line. Survey data was collected on five independent variables associated with computer experience, on-line behavior and shopping preferences. Findings indicate that students' computing profile is a good predictor of their intention to shop on-line. Marketers concerned with on-line shopping may see their best results when targeting these students. This paper provides limited experimental evidence to help marketers target and keep their economically invaluable customers. It is also the first article to study university students' online shopping behavior specifically.

Keywords: E-commerce, on-line shopping, Internet shopping, college students, consumer shopping behavior

Introduction and Background

The transition to e-commerce is well underway. A report released in 1998 predicted that e-commerce would reach a trillion dollars worldwide within the next seven years (Bikson and Anderson, 1998). Virtual-world experiences are expected to outstrip real-world experiences for most people by 2025 and future generations will obtain their life experience from the virtual world, as opposed to the real world (Westmacott, 1999).

There is no commonly accepted definition for e-commerce. A narrow definition limits e-commerce to that which occurs via the World Wide Web (web), while a broad definition goes beyond the web to include radio, telephones, multimedia kiosks, and video catalogs (Peterson, 1997). Additionally, e-commerce can be divided into two major segments: business-to-business and business-to-consumer.

Including both the business-to-business and business-to-consumer markets, Forrester Research estimates that web-based e-commerce transactions will grow to \$327 billion by 2002 (Ma, 1999). Jupiter Communication, an e-commerce consulting firm, estimated that shopping revenue generated from the web-based business-to-consumer market segment for U.S. consumers was approximately \$707 million in 1997, but predicted it to reach nearly \$37.5 billion by 2002 (Hoffman, Novak, and Peralta, 1999).

Considering that the web is computer-based, it is not surprising that computer products rank high, along with travel and financial services, as products and services comprising a majority of web-based computer purchases. In order of decreasing monetary value, real estate, computer accessories, computer software, travel services, audio/stereo/electronics, and financial services account for the largest dollar value of web consumer purchases (Cameron, 1997).

One common lesson about web-based e-commerce is that success comes to those who know how to service consumers' shopping in better ways. For example, on the first day of its business in 1995, Amazon.com offered more than a million titles for sale. Compare this to the largest physical bookstores that stock around 100,000 titles (Ma, 1999).

A recent survey of e-marketers found that although university students comprise 25% to 30% of all web users, they are the most elusive target group in which to market (Gannon, 1999). Very little is known about the characteristics and buying habits of these students, although their buying potential is significant. The status of Electronic Commerce Customer Relationship Management (ECCRM) research was investigated by Romano (Romano, 2000). However there has not been any empirical study done focusing on university students, although it is assumed that many subjects were university students for a number of empirical studies. Given the increasing importance of web-based e-commerce and the sizable university student web population, the empirical study reported on in this paper attempts to shed some light on several characteristics of students who purchase products and services on-line. This study is confined to investigating e-commerce within the business-to-consumer market as it occurs over the web.

Theoretical Model and Hypotheses

Specifically, the purpose of this study is to determine whether there is a relationship between university students' computing behavior and their intentions to shop on-line. The theoretical model is based on the scant amount of research in this area, and is presented in Figure 1. The model includes five independent variables that are hypothesized to directly influence shopping conducted via the web. These variables are: the level of experience using other media for shopping, the amount of time spent on-line, the level of experience using computer technology, the level of experience using web tools, and the concern for security risks associated with on-line shopping.

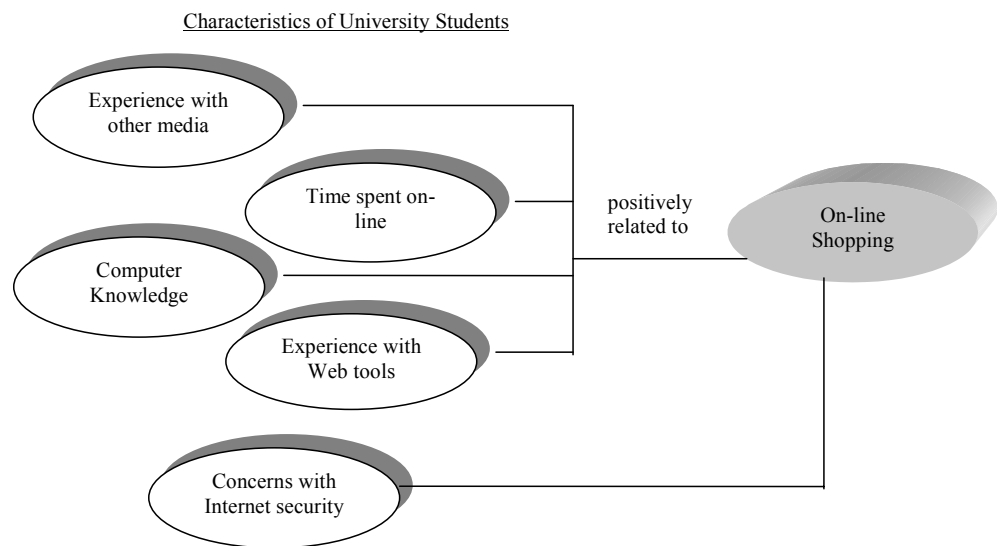


Figure 1. Theoretical Model

It is expected that students who have shopped using other media such as catalogs, a home shopping channel, multimedia CD-ROM or interactive television will be more likely to shop on-line. Therefore, we hypothesize that:

H1: Students who spend more time using other media for shopping will shop more on the web.

It is expected that shopping on-line is a function of the amount of time that students spend on-line. Therefore, we hypothesize:

H2: Students who spend more time on-line will shop more on the web.

It is anticipated that students with a higher level of experience using computers will be more likely to shop on-line due to an increased comfort-level with technology. Thus, it is hypothesized that:

H3: Students with more computer experience will shop more on the web.

Similarly, it is expected that students with more experience using web tools such as a history list and bookmarks, search engines, downloading files, and creating web sites will be more likely to shop on-line. It is hypothesized that:

H4: Students with more experience using web tools will shop more on the web.

Finally, it is expected that students concerned about the security risks associated with web-commerce will shop less on the web.

H5: Students with more concerns about web security will shop less on-line.

Methodology

The sample for this study consisted of university students with various technology backgrounds. A six-page survey was developed to capture data regarding student background characteristics and the intent to purchase products or services via the web within the next 12 months. It was decided to focus on intent to purchase rather than actual purchases so that the varying purchasing power of students in the sample would not confound the results.

The survey was distributed to seventy-five students attending a branch campus of a major university. Students were drawn from the Information Systems, Computer Science, Business Administration, and Engineering Technology Programs. Students from these programs were selected randomly.

Data Collection Method and Sample Demographics

A survey packet with a one-page cover letter, which briefly described the importance and the reasons for the survey, a two-page consent form, and a six-page questionnaire were developed and distributed to seventy-five students by the first author. Of the original 75 surveys, 71 were returned. However, only 64 were usable (Seven had to be discarded due to incompleteness). Fifty-six percent of the student sample was between the ages of 21 and 25. The second largest group was between the ages of 26 and 30, and comprised 23 % of the sample. Male students accounted for approximately 53 % of the sample population while female students accounted for 47 %. Eighty-four percent of the students were working on an undergraduate degree, while the remaining 16 % were in master’s degree programs. The students were distributed across these programs as follows: 37 % in business, 39 % in information systems, 18 % in engineering, and 6 % in other.

Findings

For most questions, a five-point Likert scale was used to evaluate the respondents’ responses regarding each question. Different formats were used for five-point Likert scales depending on the characteristics of each question. Two to six questions were used for each variable. Pearson Correlation statistics for the grouped variables and the Cronbach Alpha test for the interim consistency reliability were used for the new variables developed.

A correlation analysis was run to detect significant associations between the independent and dependent variables. The correlation results are contained in Table 1. Statistical findings are presented below for each independent variable.

Other media: Although there was a positive correlation between those students who used other media for shopping and students who indicated that they intend to shop on the web within the next 12 months, it was not significant. Therefore, Hypothesis H1 was not supported.

Time on-line: There was a significant positive correlation between students who spent more time on-line and those who intend to shop on-line, providing support for hypothesis H2.

Computer experience: There was a significant positive correlation between students with more computer experience and intentions regarding future on-line shopping, supporting hypothesis H3.

Experience with on-line tools: There was a significant positive correlation between students who have experience using web tools and intentions regarding future on-line shopping. Hypothesis H4 was supported.

Internet security: There was a negative significant correlation between students’ concern for web security and intentions for future web shopping. Hypothesis 5 was supported.

Table 1. Correlations of Independent Variables with Intention to Shop

Characteristics	Other Media	Time On-line	Computer Knowledge	Experience with On-line Tools	Internet Security
Intention to Shop On-line	0.206	0.311**	0.285*	0.413***	0.569***

***significant at the .001 level

**significant at the .01 level

*significant at the .05 level

Conclusion and Future Research

The results of this study indicate that students' current computing profile is a good predictor of their intention to shop on-line in the near future (within the next 12 months). Specifically, students who intend to shop on-line within the next 12 months are those that:

- spend more time on-line
- have a higher degree of computer experience
- have more experience using web tools.

Additionally, students who have a higher concern for web security are less likely to shop on-line. However, the degree to which students use media such as television and catalog for shopping is not a good predictor of future on-line shopping behavior.

This study indicates that when marketing to university students, marketers may see their best results when they target students who are comfortable using computers and on-line tools and spend a fair amount of time on-line (i.e., at least five hours per week). A further study is needed with a large group of subjects from different locations.

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