

INTERNET TRANSACTIONS: THE PERCEPTIONS OF CREDIT CARD RISK

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ABSTRACT

Two-thirds of all attempts to make purchases online result in a sale, usually because of the need to provide credit card information online. To determine if this was a factor for not buying online this study examined the perception of risk for using a credit card for a web based transactions. The survey indicated that males were more likely than females to purchase products online with 78.6% of males having purchased a product online compared to 72.9% of the females.

METHODOLOGY

The objective of this study was to determine the relationship of trust in online credit card use to the likelihood of online purchase. The study of 589 respondents from small and medium sized companies examined beliefs about shopping on the web for these younger consumers. The data was gathered from September 2000 to June 2001. Key marketing managers passed out the surveys with the authors and then they were collected an hour later at each company.

Shopping on the Internet is growing for all segments. According to a recent report by the Conference Board and NFO Worldwide, 34% of American households have made an online purchase in the past year-up 24% from last year (Allan 1999). Young adults (ages 25-34) represent the biggest online shopping groups, with 55% buying online this year. Consumers ages 35-44 represent the second most active market with 45% (Allan 1999).

While business has no problem with doing transactions online, consumers have some real reservations. Recent research has reported over two thirds of all shopping carts are abandoned on the Web during the shopping and transaction process for a variety of reasons (Yankovich 1998; BizReport 2000). That loss is adding up, according to a survey from A.T. Kearney. Internet businesses are cutting themselves out of \$6.1 billion in sales because

online shoppers shun invasive information requests and are wary of giving their credit card information online, among other factors (BizReport 2000).

The problem is that with encryption and secure socket layers experts believe that online credit card transactions are not at high risk (Durst 1999; Versign 2000) for many internet users, the perception is that the buying process is more risky than it is. BAI Global Inc, 85% of respondents in a July 2000 study said they did not feel comfortable using their cards on the net (Merrick 2000).

People are also afraid to buy because they are apprehensive about what will happen to personal information they give to the web site. Privacy issues are now being addressed by the U.S. Government, by European Governments and by a host of privacy organizations (Durst 1999; House 2000). In a UCLA Study on the Internet released in August 2000, Two thirds of the users and three quarters of non-users agreed with the statement, "People who go online put their privacy at risk." (UCLA 2000). To change surfers into buyers, the key element is developing payment systems that make online buyers feel secure. Security and Privacy have become two major issues for Internet marketers in order to change surfers into buyers.

Gen X Market a high growth target market for E-commerce

Two recent studies found that e-commerce spending among 18 to 24 year olds in the U.S. is four times the rate of e-commerce spending among all adults accounting for \$164 billion dollars per year according to the Nickelodeon Online/Harris Interactive Kid Pulse study and the MTV/Harris Interactive Youth Pulse Study (Harris 2000). The study found that the 13 to 24 year old group's spending pattern is affected by gender with 75% of females more likely to buy clothes versus 52% for males. Males are more likely to buy computer software (43% vs. 7%), stereo equipment (21% vs. 8%) and video games/systems (26% vs. 5%) (Harris 2000).

Opinion Research Corp International released a study April 12, 2000 of 1,014 households commissioned by the Round Table Group that found that "67 percent of Americans ages 18 to 24 live in households that use the internet to gather key information, compared to a nationwide average of just 46% who use the Internet for that purpose. Of those young adult users, 59% say that their household currently receives "useful information" from the Internet than from newspapers. Fifty three percent say that they receive more useful information from the Internet than from television" (Pastore 2000).

One important consumer benefit associated with marketing on the Web is the access to great amounts of dynamic information to support queries for consumer decision-making. Any information that is desired to be shared can now be made available in a simple, cheap, and universal manner (Pandora 1999). Every action or mouse click taken by the user establishes information that can be tracked and utilized for marketing purposes. Even inaction is a form of publishing in this instance as it shows a visitor is staying with a given Website.

When a consumer is asked to provide an e-mail address, the company can obtain age or location information. The site can provide an invisible cookie, or marker that identifies the visitor, so he or she can be known when he or she returns to the site. This information can give a marketer clues on why the shopping process is being abandoned (Pandora 1999).

RESULTS OF THE STUDY

There were 689 useable surveys returned. Females made up 290 of the respondents while there were 399 male respondents. This is consistent the work force composition of the tech oriented firms that were surveyed. The respondents were mostly young adults with 88.2% of the respondents in the 18-24 age range, 7.6% were in the age range of 25 to 34 and only 3.1% were over the age of 35. The percentage of the respondents that had shopped online was quite high, with 78.1% of all respondents indicating they have purchased a product online. This is much higher than the average population. The survey indicated that males were more likely than females to purchase products online with 78.6% of males having purchased a product online compared to 72.9% of the female. The difference was only significant at the .086 level, failing to meet the .05 level of significance, but does appear to

indicate there may be a gender difference in online purchases.

The main purpose of this study was to determine the relationship of trust in online credit card use to the likelihood of online purchase. Four questions were used to measure this relationship. The results obtained are shown below in Table 1 below.

TABLE 1

Q7 Have you ever purchased anything online?

	Composite Average/S.D.	Yes Average/S.D.	No Average/S.D.	Significance Direction Level
Q8	2.50/1.43	2.67/1.41	2.06 /1.36	+ .00
Q9	2.85/1.47	3.18/1.92	1.92/1.19	+ .00
Q14	3.07/1.53	3.25/1.54	2.59/1.22	+ .00
Q19	2.39/1.04	2.26/0.95	2.73/1.18	- .00

Question eight on the survey asked if respondents were concerned about using the credit card online. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant positive correlation at the .01 level of significance between concern for using a credit card online and having made an online purchase.

Question nine on the survey asked if respondents if they felt there was enough security on a website to make a purchase with a credit card. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant positive correlation at the .01 level of significance between concern for security on a website and making an online purchase.

Question fourteen was enlightening as it indicates that concern about credit card security extends beyond online purchases. Question fourteen on the survey asked if respondents felt that buying online with a credit card was as safe as giving their credit card over an 1-800 number to make a purchase. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant negative correlation at the .01 level of significance showing that individuals that had not made an online purchase were also concerned about giving their credit card number over the phone. This indicates that the behavior of individuals that failed to buy online due to concerns about credit card security are also concern about making phone purchases. This means that the problem is not restricted to e-commerce but also extends to direct marketing as well.

Question nineteen on the survey asked if respondents felt safer using an active server encrypted area for entering credit card information online. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant negative correlation at the .01 level of significance between having made an online purchase and the availability of an active server encrypted area. This indicates that individuals that have not purchased online are still concerned about sharing credit card information even when claims of high security are made on the website.

The apparent difference in online purchase rates by gender, although not at a high level of significance, was deemed important enough for analysis. Each of the four questions that were used to measure the level of concern for online use of credit cards was also analyzed to determine if a respondent's gender was a factor.

TABLE 2

Q2 Gender				
	Composite	Male	Female	Significance
	<i>Average/S.D.</i>	<i>Average/S.D.</i>	<i>Average/S.D.</i>	<i>Direction Level</i>
Q8	2.50/1.43	2.64/1.46	2.35/1.37	+ .01
Q9	2.85/1.47	3.00/1.51	2.68/1.34	+ .01
Q14	3.07/1.53	3.01/1.80	3.12/1.77	- .37
Q19	2.39/1.04	2.29/1.03	2.50/1.03	- .01

Question eight on the survey asked if respondents were concerned about using the credit card online. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant positive correlation at the .01 level of significance between concern for using a credit card online and an individual's gender, indicating females were more concerned than males about using credit cards online.

Question nine on the survey asked if respondents felt there was enough security on a website to make a purchase with a credit card. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant positive correlation at the .01 level of significance between concern for security on a website and gender. This also indicates that females are more concerned than males about security on a website when using credit cards.

Question fourteen was enlightening as it indicates that concern about credit card security extends beyond online purchases for individuals not making an online purchase. Question fourteen on the survey asked if respondents felt that buying online with a credit card was as safe as giving their credit card over an 1-800 number to make a purchase. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was no significant correlation based on gender over providing credit card information online or over a 1-800 number. This indicates that gender is not a factor in providing credit card information in direct marketing transactions.

Question nineteen on the survey asked if respondents felt safer using an active server encrypted area for entering credit card information online. This attitude was measured with a five-point scale from Strongly Agree to Strongly Disagree. The study determined that there was a significant negative correlation at the .01 level of significance between having made an online purchase and the availability of an active server encrypted area. This indicates that females are more concerned than males about sharing credit card information even when claims of high security are made on the website.

There is future research to be done in this area. Even though the U.S. provides 128-bit encryption, which protects credit card transactions, the perception of risk is still there for consumers despite education and awareness campaigns about the safety of online transactions. Emerging transaction methods such as smart cards, e-wallets, relationship cards, and biometric security online should provide consumers with more choices for doing transactions online. However, research will be needed to see if consumers see these new advertised "safer" methods of online transactions as safer for them.

SUMMARY

In summary, this study indicated that concern about credit card security is indeed a factor in not making online purchases. It also found that this concern extended beyond making purchases on a website to also making purchases on 1-800 numbers. This indicates this is a general concern about credit card use and not limited to e-commerce and perhaps it should be researched from a broader perspective involving other financial transactions performed at a distance. The study also found that females were more concerned than males about credit card use.

online. This may be an indicated that females are generally more risk adverse than males in financial transactions online and should be also be a focus of future research. Future research will explore why consumers are reluctant to use credit cards online when they routinely use them over the phone and through mail for purchases. It will also explore in more detail the difference between males and females in online purchase behavior.

The Web allows for a new form of marketing. It's not just about selling rather; it's about people choosing to buy. This new emphasis is not about mass marketing, it's about tailoring products and services to a market of one. Most importantly, the new focus is about empowering the consumer to make informed comparisons and decisions and giving them a variety of transaction options to facilitate the purchase decision.

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