

The Internet Shopping Process: An Empirical Model, Research Findings, and Financial Implications

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Abstract

Thanks to the tremendous growth of e-commerce, the U.S. economy has gone through rapid facelift. New start-up companies and existing retail power players compete for market position in the new millennium. Traditional retailers engage in business model reengineering to keep up with the changes in how customers acquire goods and services. How to attract on-line shoppers to their sites has become a fundamental task for Internet marketers. The present study examines how on-line shoppers perceive their on-line shopping experience in a major metropolitan area. An Internet shopping model, implications, and future research directions are offered.

1. Introduction

The explosion of e-commerce has dramatically changed the landscape of the U.S. economy. The combined monetary value for Internet-related businesses is expected to grow to around \$1.4 trillion by 2003. In the business-to-business sector, Internet technology facilitates numerous infrastructure changes in information exchange and procurement and distribution process. While the business sector accounts for most of the value of Internet commerce (estimated at \$1.3 trillion by 2003), rapid growth in the consumer sector propels traditional retailers to tap into this vast, yet unpredictable, business domain. In 2001, Web retail sales accounted for approximately 2% of total US retail sales. Although the U.S. economy have suffered significant decline since early 2001, the Internet sector continues to expand.

The fast development of the Internet infrastructure introduces new opportunities that are rarely seen in recent world economy. With assistance from the latest advancement in internet technology, on-line marketers rush to establish positions in newly identified niches and to acquire new competitive advantages. One distinct advantage for Internet marketers is the ability to reach a large number of consumers scattering around in various geographic locations, including hard-to-reach areas, in a matter of minutes or hours. Another advantage is its attractiveness to younger generations that are heavily sought after by many marketers, such as Pepsi, McDonald's, and major advertisers. Media spending on the Internet have been estimated to reach \$20 billion by the year of 2001. Adding Internet advertising to the

promotional mix has become a common strategy used by major advertising agencies and marketers. It has been reported that banner advertising on web pages is as effective as typical TV commercials. With more than 50% of the U.S. population are on-line in 2002, marketers have to contemplate how to connect with on-line users effectively and efficiently.

The dramatic growth in e-commerce also introduces new challenges in customer services. More consumers lodge complaints with various consumer agencies. The most common types of complaints concerned Internet marketers include refund and billing disputes, product return policies, defective products, inadequate infrastructure, and poor customer services. Consequently, an ensuing managerial issue is how to evaluate the quality of the consumer's on-line shopping experience. In the long run, on-line marketers who are able to maintain competitive advantage by providing superior shopping experience are more likely to prosper in the newly emerging marketing channel.

The present study examines consumers' on-line shopping experience based on various criteria and explores the determinants of customer satisfaction with on-line purchases. The results provide directions for future research for marketing researchers and managerial implications for on-line marketers. The following issues are examined:

- ? How do on-line shoppers describe their on-line shopping experience?
- ? What are the fundamental dimensions of the quality of one's on-line shopping experience?
- ? How do the underlying dimensions influence on-line shoppers' satisfaction?
- ? What are the financial consequences?
- ? Is there a common model of on-line shopping experience?

In-depth interviews were conducted with thirty-five consumers, who had purchased at least once from the Net in the past 12 months, from a major western metropolitan area to gain insight on consumers' perceptions and evaluation of their Internet shopping experience. Consumers were asked to elaborate on the following questions:

- ? past on-line purchases;
- ? reasons for buying from the Internet;
- ? self-described on-line shopping experience;

- ? intention for repeat purchase;
- ? issues and concerns for on-line purchases.

The results indicated that consumers bought a wide variety of products from the Net. Books, music CDs, airline tickets, computers, and computer peripherals and supplies were the most frequently mentioned products. When asked why shopped from the Internet, price and convenience were the two main reasons. In addition, respondents also mentioned it was fun to shop or browse on the Internet. For some hard-to-find items, such as supplies and replacement parts for out-of-date computer products, the Internet was the most efficient source. A few consumers also liked the large selection of products offered by Internet marketers.

A questionnaire was developed based on the results from the in-depth interviews. The questionnaire was revised and validated based on a pretest with a few experienced on-line shoppers. Prospective on-line shoppers were selected and recruited using a cluster sampling procedure. Interviewers were instructed to contact and recruit a number of respondents in their assigned neighborhood through telephone inquiries. Respondents were requested for referrals for other potential on-line shoppers from the same neighborhood. Data collection was completed a week before the Christmas shopping season. The procedure yielded 306 valid responses.

2. Results

Seven common attributes, price, convenience, quality, variety, immediacy (immediate interactive response), hard-to-find, and fun, were identified from in-depth interviews. Respondents were asked to choose the primary reason for shopping on-line and rank all listed reasons. Convenience was the most frequently chosen reason for shopping on-line, followed by price. When asked to rank all of the attributes, price was ranked as the most important factor, followed closely by convenience. Price and convenience were clearly the two main reasons that respondents chose to shop from the Internet.

Respondents' shopping experience was measured by a variety of items based on the findings from in-depth interviews. An overall satisfaction rating of 4.34 on a five-point scale (5=very satisfied) indicated a high level of satisfaction. Among all respondents, 87.1% indicated that they were satisfied or very satisfied with their on-line shopping experience. On various experience items, convenience-related items, such as ease of transaction and overall convenience, received high favorable ratings. While respondents generally believed that on-line transactions were of good value (with an average rating of 4.10), the relative cost comparison with those transactions made in regular stores was not as favorable as expected (an average of 3.89). In fact, 29% of respondents rated regular stores as less costly. Furthermore, most respondents considered shopping on-line was not as

secure as shopping at regular stores. It indicated a general security concern for on-line transactions. Their responses to follow-up questions on respondents' concern over a list of factors validated this result. Security, privacy, and fraud were the most concerned by the respondents.

To identify the underlying influential factors that determined one's overall satisfaction with on-line transactions, regression analyses were performed with overall satisfaction on each of the experience items respectively. The results indicate that twelve items have significant influence on overall satisfaction. Ease of transaction, comfort in transaction, and excitement were the top three factors that influenced customer satisfaction in the regression analysis. A stepwise regression was performed with customer satisfaction on the fourteen experience factors. The yielded regression model included three factors, ease of transaction, comfort in transaction, and excitement, with an R-square value of 0.47, consistent with the findings from simple regression analyses. Finally, on-line shoppers are more likely to shop more and pay more with merchants who provide superior shopping experience. The results indicate expected expenditure and profit margins increase with the level of positive experience. Overall, positive on-line shopping experience correlates with financial returns.

Overall, 70.5% of respondents indicated that they are very likely or likely to purchase from the Net again in the next six months. The results show strong increase across all product categories among respondents. Books, Music CDs and tapes, and airline tickets have the highest interest level. Overall, respondents anticipate making more purchases from the Internet in the next six months.

The results validate the findings from in-depth interviews. Three clusters of factors were identified. One cluster is related to Internet connection and quality of hardware and software. The second cluster is related to on-line interactive shopping experience. The third cluster is post-order fulfillment and service. They are named ***Interactivity, transactional experience, and fulfillment and service***, respectively.

Interactivity factors determine the quality of interactive exchange between a shopper and a vendor's web site. It encompasses connection factors of consumers, ISPs, and e-tailers. The quality of personal computers used by a consumer and the speed of adopted connection methods as well as connection quality and website quality of both ISPs and e-tailers are identified as important factors.

Transactional experience factors are those involved in the on-line transactional process. A factor analysis reveals a factor structure with five common factors of value, assurance, entertainment, convenience, and evaluation.

Fulfillment and service factors are integral part of e-tailing as vendors have to rely on reliable shipping agents and superior service personnel to deliver high-quality on-line shopping experience. E-tailers who are able to offer efficient fulfillment and worry-free

services, such as convenient return and exchange policies, are more likely to proper than many hit-and-run on-line marketers who offer little service and warranty.

Factor analysis was employed to estimate the three components of on-line shopping experience: interactivity, transaction, and fulfillment. An overall interactivity measure was obtained via a single factor analysis, which explains 42% of the total variance. Similarly, two single factor solutions were obtained, explaining 39% of the total variation of the transaction factors and 45% of the total variation of the fulfillment factors, respectively. The single factor solutions were used in the subsequent analysis in testing the individual effects of interactivity, transaction, and fulfillment.

Regression analyses were employed to examine the effects of the interactivity, transaction, and fulfillment factors on the overall satisfaction. First, effects of the interactivity, transaction, and fulfillment factors were estimated separately by single regression analysis. The results indicate that transaction has the greatest effect among the three factors, while all three factors show a significant effect ($p < 0.01$ for all three factors; see Table 1). When all three factors were included in a multiple regression model, only transaction and interactivity have a significant effect. This finding indicates a strong correlation among the three factors. The multiple regression model explains 31% of the total variation in overall satisfaction.

Table 1: The Effects of Interactivity, Transaction, and Fulfillment

Dependent Variable:	Overall Satisfaction			
Independent Variables:	?	?	?	?
<i>Interactivity</i>	0.425 ^a	0.218 ^a	---	---
<i>Transaction</i>	0.524 ^a	0.423 ^a	---	---
<i>Value</i>	---	---	0.463 ^a	0.199 ^a
<i>Convenience</i>	---	---	0.473 ^a	0.227 ^a
<i>Assurance</i>	---	---	0.382 ^a	0.038
<i>Evaluation</i>	---	---	0.422 ^a	0.163 ^b
<i>Entertainment</i>	---	---	0.324 ^a	0.025
<i>Fulfillment</i>	0.411 ^a	-0.008	---	---
R-square	---	0.310	---	0.290
n	306	306	306	306

*Standardized beta coefficients based on single regression analysis

**Standardized beta coefficients based on multiple regression analysis

a. $p < 0.01$

b. $p < 0.05$

Further analyses were conducted to examine the effects of the five transaction components on on-line shopping experience. Again, individual effects of the five components were estimated using simple regression analyses. All standardized betas are significant at the 0.01 level. As expected, convenience has the greatest effect, closely followed by value. When all five components were

included in a multiple regression model, only the convenience, value, and evaluation factors have a significant effect. The results suggest a strong correlation among the five components of the transaction factor.

2.1 Financial Implications

The final research question is how does one's overall satisfaction with the on-line shopping experience affect a company's performance based on anticipated financial returns. Respondents show unambiguous willingness to shop more frequently and pay a higher price in exchange for higher level of satisfaction. When group respondents based on their level of satisfaction, on average, respondents in the high satisfaction group indicate the willingness to pay a 14% premium than those in the low satisfaction group. In addition, respondents in high satisfaction group will purchase 2.5 times more frequently. Assuming a 20% profit margin, such high satisfaction will translate into a potential increase in profitability by 4.25 times for an on-line marketer who is able to provide high level of satisfaction.

3. Discussion

On-line shoppers from a major metropolitan area reported a high level of overall satisfaction and strong intention to repeat on-line purchases. Although convenience and price were rated as the two most important factors and security as the greatest concern for on-line transactions, the fun factor (excitement in on-line shopping) had the strongest simple effect on overall satisfaction. Ease of transaction and comfort in transaction were the other two significant determinants of satisfaction. Security had little marginal effect on one's overall satisfaction with on-line purchases. On-line merchants who offer superior shopping experience are likely to reap significant financial benefits because shoppers are willing to pay more and shop more frequently.

A model of the consumer on-line shopping process is proposed based on the findings. It is a general model that applies to most on-line shopping. Future research needs to address the fitness of the model and how this model can be used to predict customer satisfaction. The measurement issue on the quality of on-line shopping transactions or experience and how one's shopping experience and various factors determine future patronage are also important future research issues.

The Figure: NetShop - A Model of On-line Shopping Experience

