

INFORMATION SEARCH AND PERCEIVED RISK: ARE THERE DIFFERENCES FOR IN-HOME VERSUS IN-STORE SHOPPERS?

DEE ANNE LARSON, *Mississippi University for Women*

BRIAN ENGELLAND, *Mississippi State University*

RONALD TAYLOR, *Mississippi State University*

A study involving houseware purchasers found no significant differences between in-store and in-home shoppers with respect to perceived risk experienced or information search conducted. However, when Internet, catalog, and retail shoppers were examined separately, a different picture emerged. Catalog shoppers experienced a significantly higher level of perceived risk than retail shoppers, and this difference masked the in-store vs. in-home analysis. Overall, the results suggest that consumers' perceptions of in-home shopping methods may be changing.

INTRODUCTION

Knowledge of information search is fundamental to understanding buyer behavior. In fact, it has a long history of interest in the consumer behavior literature (Howard and Sheth 1969; Engel, Blackwell and Kollat 1978) and is still a fertile area of research today. Consumers start searching for information when they recognize a need for which they have no predetermined buying solution. The extent of search is determined, in part, by the buyer's involvement with the purchase (Smith and Bristor 1994) resulting from risk perceptions (Cox and Rich 1964; Lutz and Reilly 1974). Indeed, perceived risk is a common thread for almost all aspects of the consumer decision making process (Bauer 1960). It has been associated with all of the stages of decision making: search for information, evaluation of alternatives, decision commitment, and even post-purchase evaluation. If fact, the amount of information search conducted during the buying process has been shown to play an important role in post-purchase activities such as cognitive dissonance (Mitchell 1994; Cummings and Venkatesan 1976).

A review of the marketing literature reveals the vast majority of research in the information search and perceived risk arenas focuses on the in-store retail shopping experience (Punj and Staelin 1983; Capon and Burke 1980; Ring, Shriber and Horton 1980; Murray 1991). Unfortunately, there has been little research devoted to these topics in the literature examining in-home purchase situations. This is surprising because of the recent growth of consumer shopping and buying activities that now take place in the home. In-home shopping offers consumers the convenience of purchasing products at the time and location of their choosing, which is very appealing to today's time-conscious consumer.

Accordingly, the objective of this study is to examine the differences that may exist between in-home and in-store shopping with respect to perceived risk and information search. It is anticipated that the findings of this study will begin to add a new dimension to the research already reported on product and store choice decisions, thereby giving retailers and marketers a richer understanding of shopping behavior.

For this study, in-home shoppers are classified as those consumers who purchase merchandise from their home via catalog or Internet retailing. These consumers purchase products via in-home shopping

methods for many reasons including convenience, lack of desirable stores in the area, and product variety. In-store shoppers are those consumers who travel to a physical location (i.e., a retail store) to purchase merchandise.

HYPOTHESIS DEVELOPMENT

In general, there are two types of information search: internal and external. Consumers involved in purchase decisions first engage in an internal search, an examination of information retained in memory (Murray 1991). External search, on the other hand, involves the acquisition of information from outside sources such as family, advertisements, and product literature (Beatty and Smith 1987).

Two aspects of external search that are of particular interest are benefits of search and search effort. Researchers have identified several benefits associated with search including choosing a product that best fits the person's needs, obtaining the lowest possible price, and a feeling of satisfaction with the purchase decision (Punj and Staelin 1983). External search effort is defined as the energy involved in obtaining information regarding the environment (Srinivasan and Ratchford 1991). Search effort begins when the consumer first deliberates the purchase and ends when the product/service is actually purchased (Srinivasan and Ratchford 1991). It is conceivable that both benefit of search and search effort may have distinctly different roles in the consumer decision making process of in-home and in-store shoppers. As such, we propose the following test hypotheses, all phrased in the null, non-directional format to facilitate two-tailed testing:

H₁: There is no difference in the benefit of information search perceived by consumers when purchasing products through in-home methods as opposed to buying the same products in a retail store.

H₂: There is no difference in the amount of information search effort exhibited by consumers when purchasing products through in-home methods as opposed to buying the same products in a retail store.

All consumers, be it in-home or in-store shoppers, go through a consumer decision making process when purchasing products. During this process, there is a certain amount of risk, or uncertainty, that may be perceived by the consumer (McCorkle 1990). Perceived risk is one area that has received a fair amount of interest in the in-home shopping arena (Cox and Rich 1964; McCorkle 1990; Jasper and Ouellette 1994; Korgaonkar 1982; Spence, Engel and Blackwell 1970; Festervand, Snyder and Tsalikis 1986), however, only three of these studies examined risk in relation to both in-home and in-store shopping (Cox and Rich 1964; Spence, Engel and Blackwell 1970; Festervand, Snyder and Tsalikis 1986). All three studies did conclude that the risk perceived in an in-home shopping situation is higher than in an in-store situation; nonetheless, it is important to note that no recent research has examined these relationships.

Given that direct marketing has been around for quite a while and is growing at such a fast pace, and with the advent of on-line shopping, it may be that consumers no longer experience the same level of perceived risk as when direct marketing first became popular. Technology has enabled marketers to present products in exciting new ways. Most consumers are no longer frightened or leery of purchasing products that cannot be immediately taken into possession. Thus, current knowledge regarding the perceived risk experienced by in-home shoppers is needed. Therefore, we propose the following test hypothesis:

H₃: There is no difference in the overall amount of risk perceived by consumers when purchasing products through in-home methods as opposed to buying the same products in a retail store.

RESEARCH METHODOLOGY

Measures for each of the constructs were selected from previously validated scales and include the Perceived Risk Scale (Booker 1984) and the Information Search Scale (Srinivasan and Ratchford 1991). The Perceived Risk scale is a 5 point Likert scale comprised of 7 questions, one for each type of

perceived risk and one for overall perceived risk. All six types of perceived risk come together to create the overall construct of perceived risk. The benefit of information search scale is a 7 point Likert scale comprised of 7 statements regarding the consumer's information search activities. The information search effort scale is a 5 point Likert scale comprised of 9 questions designed to probe the amount of effort the consumers' exerted during the information search process. A pilot study was conducted with a convenience sample of 300 undergraduate business students. This study allowed for an initial indication of the reliability of the measurement scales and the clarity of the questionnaire. In order to reach a variety of respondents, an assortment of courses were chosen. Also, in order to reach traditional and non-traditional students, surveys were distributed to day and night classes.

The preliminary analysis of the pilot included the computation of Cronbach Alpha for each measure used in the study to check for internal consistency reliability (Cronbach 1951). All of the alpha values were above the minimum value of 0.70 suggested by Nunnally (1967); therefore, all of the measures were included in the final questionnaire.

Data Collection

The sampling frame for this study consists of in-store, catalog, and Internet shoppers who purchased some form of housewares from a national retail chain within a week prior to the beginning of the data collection. The chain has over 1000 retail stores across the country, is a catalog merchant, and has a popular Internet retail site. With a customer base of over 60 million, the company was able to provide a list of customers that had recently purchased some form of housewares from their retail stores, catalog, or Web site. The data was then collected via a telephone interview conducted by a national research company using experienced interviewers. The telephone interviews were monitored on a random basis to ensure quality and a response rate of 32 percent was obtained.

At the beginning of each interview, the respondents were asked to indicate the shopping method (i.e., in-

store, catalog, or Internet) used for their most recent purchase. Once the most recent method of shopping was identified, all subsequent questions were asked with respect to that particular shopping mode. The data collection process resulted in 370 completed responses for the in-store group and 370 completed responses for the in-home group (i.e., catalog and Internet shoppers). This culminated in a total sample size of 740.

Measurement Assessment

The measures used in this study are previously validated scales that have been used for several subsequent studies, with varying degrees of validation. Construct validity cannot be established with a single study (Peter 1981), but rather is an ongoing process that requires investigation each time a measure is employed. Accordingly, validity assessment was conducted for this study, with the in-home and in-store data sets being tested separately.

A principal components factor analysis was performed as a preliminary check of the measurement quality of the scales. The factor analysis results indicated some item cross-loadings. Following computation of coefficient alpha for each scale and each data set, the decision was made to eliminate the offending items from the balance of the analysis. This action resulted in a clean factor structure and coefficient alpha values above the 0.70 guideline (Nunnally 1967) (see Table 1).

Hypothesis Tests

All variables held under the assumptions of linearity and homoscedasticity, however there was a small problem with normality. Data transformations resulted in only a minimal change. Because t-tests are robust under these conditions, and because samples were large, t-tests were employed to test the hypotheses.

In this study, the two different buying situations represent a treatment with two different levels (in-home and in-store shopping). Therefore, the buying situation is considered to be the independent

TABLE 1
Cronbach Alpha Results

Scale	Number of measures in the scale	Cronbach Alpha In-home	Cronbach Alpha In-store
Results Prior to Deletion of Poor Measures			
Benefit of Information Search	7	.84	.88
Information Search Effort	8	.73	.75
Perceived Risk	7	.66	.67
Results After Deletion of Poor Measures			
Benefit of Information Search	7	.84	.88
Information Search Effort	7	.76	.77
Perceived Risk	6	.74	.71

variable and the dependent variables are perceived risk, benefit of information search and information search effort. Selection of a significance level of .05 resulted in a *t*-value of -1.96 for the lower tail and +1.96 for the upper tail. The *t*-test results are presented in Table 2.

None of the hypotheses could be rejected. Therefore, consumers apparently do not experience higher levels of perceived risk for in-home purchases. In addition, there does not appear to be any difference between in-home and in-store shoppers with respect to information search effort or benefit of information search.

The findings of no difference between in-home and in-store shopping in relation to perceived risk and information search seemed a bit counterintuitive, especially since other researchers have reported findings to the contrary (Festervand, Snyder and Tsalikis 1986). Accordingly, further investigation was undertaken. A different picture emerged when the two broad categories were broken down into smaller subsets – Internet, catalog, and retail shoppers. Data obtained from an expanded sample of 375 Internet, 375 catalog and 375 retail shoppers was analyzed using a series of ANOVAs with the buying situation as the independent variable (three groups) and perceived risk, information search effort, and benefit of information search as the dependent variables.

As seen in Table 3, results show a significant difference between the three buying situations with respect to perceived risk. However, differences

between the three shopping modes were not significant at the $< .05$ level for information search effort or benefits of search.

In order to determine which shopping modes were significantly different with respect to the constructs of interest, a post-hoc analysis was performed using the Scheffe test. The results, as shown in Table 3, indicate no difference in benefits of information search or search effort among the three categories, but at the same time indicate that retail and catalog shoppers are significantly different for the perceived risk construct. With a mean score of 9.52 (Table 4), catalog shoppers experience more perceived risk than retail shoppers (mean = 8.66).

CONCLUSIONS

Prior to this study, there was a void in the literature concerning the concepts of perceived risk and information search as they relate to the differences between in-home and in-store shopping methods. Certainly, continuous efforts by many researchers in the field of marketing have enhanced our knowledge of these consumer buying process issues for in-store purchases. However, there has been a lack of studies examining these topics in the in-home shopping arena. Consequently, this study was designed to begin to fill the gap that exists in the in-home shopping literature.

Previous research indicated consumers perceive in-home shopping methods as significantly more risky than retail shopping (Festervand, Snyder and Tsalikis 1986; Korgaohkar 1982; Spence, Engel and

TABLE 2
T-Test Results

Variable	Mean <i>In-store</i>	Mean <i>In-home</i>	<i>t-value</i>	<i>p</i>	Results
Benefit of Information Search	47.52	45.75	1.09	.273	H1 Supported
Information Search Effort	17.20	17.06	0.26	.789	H2 Supported
Perceived Risk	8.59	9.02	-1.50	.132	H3 Supported

Note: In-store: n=370; In-home: n=370; df=738

TABLE 3
ANOVA and Scheffe Test Results Across Shopping Modes

	Anova	Scheffe Test			
	F-Ratio	p-level	Retail/ Catalog	Retail/ Internet	Catalog/ Internet
Benefit of Information Search	2.15	.116	NS	NS	NS
Information Search Effort	0.81	.440	NS	NS	NS
Perceived Risk	4.19	.015	NS	.660	.156

NS - Not statistically significant

TABLE 4
Mean Scores

	Retail	Catalog	Internet
Benefit of Information Search	47.06	45.28	47.00
Information Search Effort	17.14	17.46	17.82
Perceived Risk	8.66	9.52	8.93

Blackwell 1970; Cox and Rich 1964). The findings of this study cast some doubt on that finding. When examined as broad groups (in-home versus in-store), the results indicated that consumers do not view in-home shopping methods as a more risky form of shopping. While respondents did rate in-home shopping as slightly more risky than in-store shopping, the difference in mean scores is very small. In fact, the hypothesis testing procedure indicated the difference is not statistically significant.

When the groups were examined with respect to the specific type of shopping (i.e., retail, catalog, and

Internet), a slightly different finding emerged. A series of ANOVAs revealed that catalog shoppers do experience more perceived risk than retail shoppers. However, there is no difference between retail and Internet shoppers or Internet and catalog shoppers with respect to perceived risk. The finding that consumers view catalog, as opposed to retail shopping, as a more risky form shopping is not surprising in that other studies have ascertained similar results (Spence, Engel and Blackwell 1970; Festervand, Snyder and Tsalikis 1986). So, why do consumers feel that Internet shopping is not a risky form of shopping? Much has changed in the past 30 years. Most consumers are no longer frightened or

leery of purchasing products that cannot be immediately taken into possession. In addition, the industry is now beginning to see generational changes that are boosting the use of the web for e-commerce; individuals who grew up with computers are finding that doing their shopping online comes naturally. Furthermore, technology has enabled marketers to present products in exciting new ways. New techniques have made instant price comparisons possible, which serves to make online shopping cheaper, and often more entertaining. All of which have served to reduce the level of risk once associated with Internet purchases.

It should be mentioned that this study revealed an overall lack of perceived risk associated with shopping in general. Evidently, consumers feel very little risk when shopping via catalogs, Internet, or retail stores for houseware items. To evaluate perceived risk, consumers were asked to think about their latest houseware purchase. They were then asked a series of questions designed to evaluate the level of perceived risk associated with a particular buying situation. Due to the nature of the questioning process, the lack of perceived risk finding could have more to do with product category than the buying situation. It could be that consumers simply do not view housewares as a risky purchase, which leads to an important question. Is the lack of perceived risk a product-specific or a buying situation specific phenomenon?

This study did provide some support for the belief that perceived risk is a product-specific event. At the end of the questionnaire, far removed from the perceived risk scale, the respondents were asked how comfortable they were with making purchases over the Internet and through catalogs. Sixty-three percent of the in-home shoppers indicated they were not comfortable with purchasing products over the Internet and 94 percent indicated they were not comfortable with purchasing products through catalogs. Keep in mind these respondents also reported low levels of perceived risk associated with their previous purchase of a houseware item via an in-home shopping method. Since the respondents were obviously uncomfortable with purchasing products via the Internet or a catalog, but still

reported low levels of perceived risk associated with their most recent purchase, it appears perceived risk is a product-specific event.

Finally, it is conceivable that both benefit of search and search effort could have distinctly different roles in the consumer decision-making process of in-home and in-store shoppers. Because this study did not reveal any differences, the particular shopping mode seems to have little impact on the amount of effort an individual exerts toward gaining information about a purchase under consideration. In addition, the benefits of information search such as choosing a product that best fits the person's needs or obtaining the lowest possible price is not specific to any one type of shopping situation.

Understanding the consumer's decision making process is a key starting point in understanding any type of purchase. Different types of purchases generally result in slightly different types of decision making processes. This study contributes to the literature by clarifying some of the subtleties in information search and perceived risk relative to in-home and in-store purchases, thereby, giving retailers and marketers a richer understanding of shopping behavior.

REFERENCES

- Bauer, Raymond A. (1960), "Consumer Behavior as Risk Taking," in *Dynamic Marketing for a Changing World*, Robert Hancock, ed., Chicago: American Marketing Association, 87-98.
- Beatty, Sharon E. and Scott M. Smith (1987), "External Search Effort: an Investigation Across Several Product Categories," *Journal of Consumer Research*, 14 (June), 83-95.
- Booker, George (1984), "An Assessment of an Expanded Measure of Perceived Risk," in *Advances in Consumer Research*, Thomas C. Kinnear ed., Provo, UT: Association for Consumer Research, 11, 439-441.
- Capon, Noel and Marian Burke (1980), "Individual, Product Class, and Task-Related Factors in Consumer Information Processing," *Journal of Consumer Research*, 7 (December), 314-326.

- Cox, Donald F. and Stuart U. Rich (1964), "Perceived Risk and Consumer Decision Making: The Case of Telephone Shopping," *Journal of Marketing Research*, 1 (November), 32-39.
- Cronbach, L.J. (1951), "Coefficient Alpha and the Internal Structure of Tests," *Psychometrika*, 16, 297-334.
- Cummings, William H. and M. Venkatesan (1976), "Cognitive Dissonance and Consumer Behavior: A Review of the Evidence," *Journal of Marketing Research*, 13(August), 303-308.
- Engel, J.F., R. D. Blackwell and P.M. Kollat (1978), *Consumer Behavior*, 3rd ed., Holt, Rinehart and Winston, eds., New York, NY: 354-366.
- Festervand, Troy A., Don R. Snyder and John D. Tsalikis (1986), "Influence of Catalog vs. Store Shopping and Prior Satisfaction on Perceived Risk," *Academy of Marketing Science*, 14 (4), 28-36.
- Howard, J.A. and J.N. Sheth (1969), *The Theory of Buyer Behaviour*, John Wiley & Sons, New York, NY: 34-44.
- Jasper, Cynthia R. and Sara J. Ouellette (1994), "Consumers' Perception of Risk and the Purchase of Apparel from Catalogs," *Journal of Direct Marketing*, 8 (2), 24-36.
- Korgaonkar, Pradeep K. (1982), "Non-Store Retailing and Perceived Product Risk," in *An Assessment of Marketing Thought & Practice*, 48, 204-207.
- Lutz, Richard J. and Patrick J. Reilly (1974), "An Exploration of the Effects of Perceived Social and Performance Risk on Consumer Information Acquisition," in *Advances in Consumer Research*, Scott Ward and Peter Wright eds., Urbana, IL: Association for Consumer Research, 1, 393-404.
- McCorkle, Denny E. (1990), "The Role of Perceived Risk in Mail Order Catalog Shopping," *Journal of Direct Marketing*, 4(4), 26-35.
- Mitchell, V. W. (1994), "A Preliminary Investigation into Pre- and Post-purchase Risk Perception and Reduction," *European Journal of Marketing*, 28 (1), 56-71.
- Murray, Keith B. (1991), "A Test of Services Marketing Theory: Consumer Information Acquisition Activities," *Journal of Marketing*, 55 (January), 10-25.
- Nunnally, Jum C (1967), *Psychometric Theory*, New York: McGraw-Hill Book Company.
- Peter, J. Paul (1981), "Construct Validity: A Review of Basic Issues and Marketing Practices," *Journal of Marketing Research*, 18 (May), 133-145.
- Punj, Girish N. and Richard Staelin (1983), "A Model of Consumer Information Search Behavior for New Automobiles," *Journal of Consumer Research*, 9 (March), 366-380.
- Ring, A., M. Shriber and R.L. Horton (1980), "Some Effects of Perceived Risk on Consumer Information Processing," *Journal of the Academy of Marketing Science*, 8 (Summer), 255-263.
- Smith, J. Brock and Julia M. Bristor (1994), "Uncertainty Orientation: Explaining Differences in Purchase Involvement and External Search," *Psychology & Marketing*, 11 (6), 587-606.
- Spence, Homer E., James F. Engel, and Roger D. Blackwell (1970), "Perceived Risk in Mail-Order and Retail Store Buying," *Journal of Marketing Research*, Vol. 7 (August), 364-368.
- Srinivasan, Narasimhan and Brian T. Ratchford (1991), "An Empirical Test of a Model of External Search for Automobiles," *Journal of Consumer Research*, 18 (September), 233-242.