

## Perceived risk agents in e-commerce environments

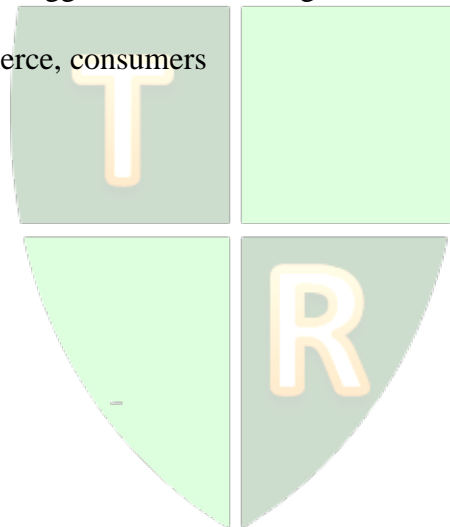
C. Michael Powell  
University of North Georgia

Christopher A. Conca  
Mount Olive College

### Abstract

During the past three decades, the growth of e-commerce has presented marketers with many new arenas for research and application. Certainly e-commerce has become a significant portion of the world economy and in particular the consumer sector. As previous literature has consistently considered perceived risk as a major factor consumer purchase decisions, this research identifies several major components of consumer perceived risk (PR) and their normative implications in the e-commerce environment. Moreover, normative suggestions concerning those factors are provided.

Keywords: perceived risk, e-commerce, consumers



Copyright statement: Authors retain the copyright to the manuscripts published in AABRI journals. Please see the AABRI Copyright Policy at <http://www.aabri.com/copyright.html>

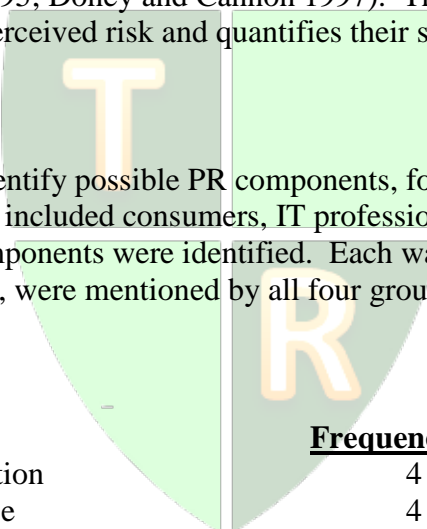
## INTRODUCTION

As the centrality of perceived risk in consumer purchase decisions has been supported in study after study (Bauer 1960; Cox and Rich 1964; Wilkie 1986; Eastlick 1993; Powell 1994; Chaudhuri 2015, Chiu 2014), perceived risk is well established as an important construct in e-commerce. In the seminal study of perceived risk and Internet purchasing behavior, Powell (1995) created a causal model based on the Theory of Reasoned Action (Fishbein and Azjen 1975). This model strongly suggested the centrality of perceived risk in on-line shopping behaviors. Although perceived risk has long been associated with trust (Nepomuceno, 2014; Detsuch 1958) the two constructs are not identical (Durkheim 1933; Fukuyama 1995). Wang (2001) investigated the level of cue-based trust in an e-commerce environment and found "that lack of trust is one of the main barriers preventing consumers from purchasing from an e-retailer" (p.287). Using the traditional components of trust such as performance, social, financial, physical, psychological, time risk, and adding security and privacy Wang (2001) presented a compelling case for the significant position of trust and therefore PR in purchase decisions. However, he did not attempt to quantify these or other emerging dimensions of perceived risk within e-commerce. Certain scholars suggest that trust, dyadic or holistic, is only one important component of perceived risk (McAllister 1993, 1995; Doney and Cannon 1997). Therefore, this study investigates several additional components of perceived risk and quantifies their significance to the consumer.

## METHODOLOGY

As an exploratory step to identify possible PR components, four focus groups were planned and conducted. Sixty-three participants included consumers, IT professionals, students, faculty and staff. Therein, the following possible components were identified. Each was mentioned by at least two of the groups and several, as detailed later, were mentioned by all four groups.

### Potential Components Identified:



<u>Dimension</u>	<u>Frequency of Mention</u>
1. Company reputation	4
2. Previous purchase	4
3. Return Policy/Guarantees	4
4. Product knowledge	4
5. Word of mouth	3
6. Brand	4
7. Brick & mortar (street address)	2
8. Toll free number	2
9. Net longevity	2
10. Payment options	2
11. Delivery options	2
12. Security seals	2

Subsequently, the demographic variables suggested as being influential in several studies (Powell 1995; Lueg 2002) of age, income, education, computer knowledge and gender were included on each questionnaire.

As recommended by Spector (1992) each construct was defined through placement within the nomological net created by previous research (Prancer, George, and Gebotys 1992; Gillette, 1970; Shimp and bearden, 1982; Brucks, 1985; Raju, Lonial, and Mangold 1995). Since reputation and word-of-mouth appear to be multidimensional constructs, several questions were used to assess each of these sub-dimensions. The final questionnaire of twenty-five items, including the five demographic items, was pre-tested with a convenience sample of 161 self-described Internet users. One question was removed as a result of the pre-test. Principal axis factor analysis, scree plots, and parallel analysis were used to investigate unidimensionality and item groupings. Following, the multi-item construct items were separated and through an orthogonal rotation factor analysis were found to consistently indicate the existence of each factor. Loadings within the resulting matrix ranged from .46 to .84 suggesting that the items represented the factor. Cronbach's Alpha for this pilot study was .91. This finding indicates an acceptable level of reliability on this measure.

Recalling the purpose of our research to identify and quantify the relative effects of each factor on perceived risk as a whole. The instrument asks each subject to rate the importance to their purchase decision of each item on a ten point scale ranging from zero (0) Not Important to ten (10) Very Important. Except for computer knowledge, scale from zero (0) No Experience to ten (10) Very Experienced, the other five demographic items were simply recorded.

The second sample consisted of 184 Internet users from four different college disciplines including history, nursing, business and chemistry. Since each subject including students, faculty and staff was a volunteer without compensation this must be considered a convenience sample.

## RESULTS

### Ranked by Mean of Responses

<u>Item</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>Range</u>
1. Previous Purchase	9.4	0.76	8.2-10
2. Return Policy/Guarantee (2)	9.1	0.67	8.2-10
3. Company Reputation (3)	8.6	1.4	6.4-10
4. Product Knowledge	8.4	2.1	5.8-10
5. Brand	7.8	2.1	4.7-9.1
6. Toll-free Number	7.3	1.8	3.6-9.1
7. Payment Options	6.7	2.6	3.8-9.0
8. Brick & Mortar (3)	6.5	2.3	1.3-7.2
9. Word-of Mouth	5.1	3.4	2.9-8.6
10 Delivery Options	4.1	2.3	1.4-8.9
11. Net Longevity	3.9	1.7	0.0-7.2
12. Security Seals	2.1	0.94	0-4.6

## DISCUSSION

These results tend to strongly support previous research (Beneke 2013; Powell 1995; Powell and Conca 2001; Cook and Luo 2002; Lueg 2002). However, these results also indicate new findings. It would appear that these factors can be ranked, and that their effects on perceived risk are unequal and measurable. Certainly, it would appear that consumers consider Return Policies, Previous Purchases,

Company Reputation, Product Knowledge and Product Quality to be very important in reducing perceived risk (Beneke 2013).

Return Policies are solely under the control of the company, therefore it is recommended that companies provide consumers with a lenient and comprehensive policy. Moreover, it would be most effective in reducing perceived risk to prominently feature this policy near the beginning of each shopper's journey through the Website. Though it may seem that companies have little or no control over Previous Purchases, this is not entirely true. There are methods to enhance the probability that first time shoppers repurchase from the site. First, companies might offer first time shoppers an incentive, a discount, an inexpensive item, or some other form of effective promotion to encourage that first purchase. Second, it would then be critical in generating repeat sales from the site for this first order to be processed professionally and expeditiously. Obviously, exceptional customer service is essential to ongoing customer retention and goodwill. Therefore, any difficulties with the delivery, service or returns on the first order must be treated with the greatest care. Prompt attention is absolutely necessary to overcome this negative experience. If the first shopping experience is positive then the likelihood of repeat sales will be increased.

Also important, Company Reputations must be considered. Although these reputations are long-term constructs that are difficult to create and maintain, it does appear that this is a matter of substantial concern for web merchants. Few marketing scholars doubt the value of a positive and enduring reputation for quality, service and customer orientation in any marketplace. Yet, many web-based companies are too new to have established such reputations. Perhaps during the process of creating that positive reputation these emerging companies would be well served to associate themselves with long standing and well regarded companies. Surely, other effective strategies will also be developed to assist in this effort.

Since research (Hermans, Shanahan, Ross-Woolridge, and Hartnell 2002) suggests that association of a well known brand with one not so well known does not materially assist the lesser known brand, than the strategy of association might not work in the case of brands (Nepomuceno 2014). Some objectives such as the creation of positive brand equity may simply require time.

However, adding a toll free number for customer service that is well manned and responsive is a relatively inexpensive and effective way to reduce perceived risk. As to Brick & Mortar, evidence indicates that the existence of a B&M location does reduce perceived risk. One study suggests that many Internet shoppers use the web to evaluate, compare, and then purchase at a B&M location (Lueg 2002).

Again, research by Hermans, Shanahan, Ross-Woolridge, and Hartnell (2002) indicates that restricted delivery options and their costs may cause consumers to form a negative opinion toward a product. In this is the case then it would behoove web merchants to allow some choice. Although the availability of rapid, even overnight, delivery is pervasive in today's marketplace, this should be accompanied by a low cost alternative. Evidence indicates that when customers are making a low cost purchase the delivery fees become increasingly important and a rapid delivery may not be important. However additional research is required to determine which methods would be preferred and at what price.

In contrast, the existence of a Security Seal and Net Longevity, appear to have little effect on perceptions of perceived risk. This finding does not support the work of Reddy and Iyer (2001), yet is partially supported by Cook and Luo (2002). Intriguingly, the minor effect of Word-of Mouth seems to be counter-intuitive and contradicts some anecdotal research in other marketing areas. There are indications that WOM influences site visit but has a lesser impact on actual purchases.

## LIMITATIONS

As the internet marketplace is in a state of constant flux, research into this area should be repeated on a continuing basis. In addition, this study must be replicated on a more representative sample to increase external validity. Although every precaution was taken to insure construct unidimensionality a broader study would be appropriate. Interestingly, it would be illuminating to investigate this relationship within a structural equation model leading to an expanded model of internet consumer purchasing behavior.

## REFERENCES

Bauer Raymond A. Consumer Behavior as Risk Taking. Proceedings of the American Marketing Association 1960; June: 389-398.

Beneke, Justin, et al. "The influence of perceived product quality, relative price and risk on customer value and willingness to buy: a study of private label merchandise." *Journal of Product & Brand Management* 22.3 (2013): 218-228.

Brucks, M. The Effect of Product Class Knowledge on Information Search Behavior. *Journal of Consumer Research* 1985; 12: 1-16.

Chaudhuri, Arjun. "Does Perceived Risk Mediate the Relationship of Product Involvement and Information Search?" *Proceedings of the 1999 Academy of Marketing Science (AMS) Annual Conference*. Springer International Publishing, 2015.

Chiu, Chao-Min, et al. "Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk." *Information Systems Journal* 24.1 (2014): 85-114.

Cook, David P. Luo, Wenhong. The Role of Third Party Seals in Internet Shopping. In: Proceedings of the Southeastern Institute for Operations Research and The Management Sciences. Amit J. Shah and Joanna Shore, eds., Frostburg State University Press. 2002.

Cox Donald F. Rich Stuart U. Perceived Risk and Consumer Decision Making-The case of telephone Shopping. *Journal of Marketing Research* 1964; 1(November): 32-9.

Deutsch, M. Trust and Suspicion. *Journal of Conflict Resolution* 1958; 2: 265-269.

Doney, Patricia M. Cannon, Joseph P. An Examination of Trust in Buyer Seller Relationships. *Journal of Marketing* 1997; 2(April): pp. 35-51.

Durkheim, E. *The Division of Labor in Society*. New York, NY; The Free Press, 1933.

Eastlick, Mary Ann. Predictors of Videotext Adoption. *Journal of Direct Marketing* 1993; 7 (Summer): 66-74.

Fishbein, Martin Ajzen, Icek. *Belief Attitude, Intention and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley, 1975.

Fukuyama, F. *Trust: The Social Virtues and The Creation of Prosperity*. New York, NY; The Free Press, 1995.

Gillette, Peter L. A Profile of Urban In-home Shoppers. *Journal of Marketing* 1970; 34(July): 40-5.

Hermans, Charles M Shanahan, Kevin J. Ross-Woolridge, Barbara Hartnell, Chad. Online Choice Restriction and Friction: Reversing the Positive Association between Trusted Brands and Unknown Products. In: *Marketing Advances in Pedagogy, Process, and Philosophy*. Beverly T. Venable, ed. Society for Marketing Advances Greenville, NC, 2002; pp. 177-8.

Lueg, Jason E. The Internet and Gender: Do Women and Men Differ in Purchase Behaviors and Motivations. In: *Marketing Advances in Pedagogy, Process, and Philosophy*. Beverly T. Venable, ed. Society for Marketing Advances Greenville, NC, 2002; pp. 35-8.

McAllister, Daniel J. *Dyadic Trust, Citizenship Behavior, and Performance: A Relational Analysis*. Unpublished Doctoral Dissertation, University of California, Irvine, CA, 1993.

Nepomuceno, Marcelo Vinhal, Michel Laroche, and Marie-Odile Richard. "How to reduce perceived risk when buying online: The interactions between intangibility, product knowledge, brand familiarity, privacy and security concerns." *Journal of Retailing and Consumer Services* 21.4 (2014): 619-629.

Powell, Curtis Michael. *Interactive Marketing Technologies: A Causal Analysis of Consumer Intentions*. Unpublished Doctoral Dissertation, Tampa, FL: The University of South Florida, 1995.

Powell, Curtis Michael. Conca, Chris. Controllable Attributes Affecting Commercial Website Effectiveness. In: *Proceedings of the Southeastern Institute for Operations Research and The Management Sciences*. Krishan Rana, ed., Virginia State University Press. 2001.

Powell, Curtis Michael. *Interactive Marketing Technologies: The Coming Revolution in Marketing*. *New Zealand Journal of Marketing Education* 1995, 4(November): 61-6.

Powell, Curtis Michael. Trust Development in Buyer-Seller relationships: An Investigative Theoretical Framework. *Marketing*. In: Brian T. England and Alan J. Bush, editors. *Advances in Theory and Thought*, Evansville, IN: University of Indiana Press, 1994. pp. 541-46.

Prancer, Mark S. George, Margo Gebotys, Robert J. Understanding and Predicting attitudes Toward Computers. *Computers in Human Behavior* 1992; 8: 211-22.

Raju, P.S. Lonial, S.C. Mangold, W.G. Differential effects of Subjective Knowledge, Objective Knowledge, and Usage Experience on Decision-Making: An Exploratory Investigation. *Journal of Consumer Psychology* 1995; 4: 153-180.

Redy, Allan C. Iyer, Rajesh. Ten Ways to Create and Maintain Killer E-commerce Websites. In:

Marketing Advances in Pedagogy, Process, and Philosophy. Tracy A. Suter, ed. Society for Marketing Advances, Stillwater, OK: 2001, pp.284-287.

Shimp, Terrance Bearden, William O. Warranty and Other Extrinsic Cue effects on Consumer's Risk Perceptions. Journal of Consumer research 1982; 9(June): 38-46.

Spector, Paul E. Summated Rating Scale Construction. Newbury Park, CA: sage Publications, Inc., 1992.

Wang, Sijun. Cue Based Trust in an Online Shopping Environment: Conceptualization and Propositions. In: Marketing Advances in Pedagogy, Process, and Philosophy. Tracy A. Suter, ed. Society for Marketing Advances, Stillwater, OK: 2001, pp.284-287.

Wilkie, William L. Consumer Behavior. New York, NY: John Wiley & Sons, 1986.

