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FINANCIAL RISK AND ITS IMPACT ON NEW PURCHASING BEHAVIOR IN THE  
ONLINE RETAIL SETTING

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FINANCIAL RISK AND ITS IMPACT ON NEW PURCHASING BEHAVIOR IN THE  
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ABSTRACT

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This paper examines the effect of financial risk on perceptions of service quality and relationship-marketing quality in the online retail environment. Perceptions of financial risk were found to be negatively associated with service quality. In particular, a well-designed and attractive Web site was found to mitigate perceptions of financial risk during early trial-buy purchasing. Relationship-marketing quality was not affected by financial risk. This study adds to an enhanced understanding of how risk perceptions influence assessment of service quality and relationship-marketing quality. While the drivers of service quality and relationship-marketing quality have been examined extensively in the online setting, a surprising lack of research investigates the role of risk perceptions in the early stage, buy-trial purchasing behavior. This emerging area of research interest is deserving of more attention. Our findings provide valuable normative guidance to researchers interested in the affects of perceived risk (particularly financial risk) on new online shoppers, emphasizing the interdependency between Web site design and risk perceptions.

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## INTRODUCTION

Many authors have alluded to the transformational nature of the Internet (e.g., Porter 2001; Dutta & Segev 1999; Parasuraman & Zinkhan 2002) and, in particular, to the way that the Internet has revolutionized commerce and business (e.g., Coltman et al. 2001; Hoffman, Novak & Venkatesh 2004). One of the most significant indicators of this transformation has been the adoption of the online retail channel. For instance, a recent industry report reveals that online retail sales in the United States now exceed \$200 billion, with an annual growth rate of 17% (Forrester Research 2008). Though the online channel has matured to represent a real alternative to the traditional “bricks-and-mortar” channel and accounts for more than 10% of retail sales in mature markets such as the United States, the greatest inhibitor to consumer adoption of online shopping is still reported to be perceptions of risk (eMarketer 2007).

Despite persistent concerns regarding risk in the online retail context, there is a surprising lack of empirical research exploring the impact of risk on consumer behavior in online shopping. The small volume of literature considering the impact of perceived risk has focused mainly on either (i) non-economic forms of risk, such as privacy and performance, or (ii) the earlier stages in the buying process, such as information search and evaluation of alternatives. Such research highlights the need for vendor trust and the superior search capabilities of the Internet but fails to consider the role that financial risk plays in the purchase and post-purchase stages of the buying process.

This situation raises several questions. For instance, does the online retail context contain an inherent level of financial risk? If so, what role does financial risk tolerance play in converting lookers to buyers? This study will add to the literature in this important area by seeking to resolve these questions. Specifically, we will examine whether financial risk affects a

consumer's perception of the quality of an online shopping experience during the initial trial-buy process (purchase stage) or their receptiveness to a firm's relationship-marketing efforts that are intended to reassure the consumer about his or her purchase decision and encourage repeat visitation (post-purchase stage). A better understanding of these issues represents a pressing and immediate challenge and is critical for the continued growth of the online retail sector, particularly as online retail sets its sights on becoming a genuine alternative for the masses (Cases 2002; Tan 1999).

To address these questions, the remaining sections of this paper are organized as follows. The next section develops the background theory as it applies to an understanding of risk perceptions in the online retail context. This section will describe the conceptual model serving as the framework for investigating the influence of the financial risk on the key constructs of service quality and relationship-marketing quality. The third section presents the method employed to test the hypothesized relationships. The remaining sections of the paper form a discussion of the results and the implications of this work for academics and practitioners.

## BACKGROUND THEORY

Perceived risk has a rich history in the consumer behavior literature (Bauer 1960; Bettman 1973; Chaudhuri 1997; Cox 1967; Cunningham 1967) and has been shown to influence the purchase decision-making process (Cunningham et al., 2005; Jacoby & Kaplan 1972; Laurent & Kapferer 1985; Mitchell 1999). A purchase decision involves risk when the outcome is uncertain and undesirable consequences may occur (Pollatsck & Tversky 1970; Rapoport & Wallsten 1972; MacCrimmon & Wehrung 1986). Kogan and Wallach (1964) were among the first to describe this two-dimensional nature of risk, asserting that while there is always the prospect of danger,

there must be at least some possibility of avoidance—otherwise there is no risk. Cunningham et al. (2005) assert that though there have been many proposed refinements to the definition of risk (see, for example, the literature on expected value and utility: Cunningham 1967; Bonoma & Johnston 1979; Hauser & Urban 1979), the conception of perceived risk remains essentially unchanged. This research will adopt the definition proffered by Stone and Winter (1987), who describe perceived risk as a subjectively determined expectation of loss by the consumer.

It has been suggested that perceived risk is ameliorated during the early stages of the consumer purchasing process (Zeithaml & Bitner 2003; Cox 1967; Dowling & Staelin 1994; Murray 1991; Murray & Schlater 1990). Described in terms of five distinct stages—need recognition, information search, alternative evaluation, purchase, and post-purchase—there is an assumption that perceptions of risk are addressed during the first three stages of the consumer purchasing process. To use popular marketing terminology, it is assumed to be unlikely that a risky alternative would progress from the consumer's consideration set to his or her evoked set of possible options for trial.

However, the purchase and post-purchase stages of the buying process also contain some degree of risk. For example, there is uncertainty when consumers decide to trial-buy a new product. Consumers must deal with the uncertainty of switching to a new product in an existing consumption category or of introducing a new product in a new consumption category. There is the risk that the product will not perform as expected, and the consumer may experience a social or psychological risk when switching brands. These risks also vary depending on the type of purchase, with irregular and costly purchases (e.g., a laptop computer) considered to carry a higher level of inherent risk than regular or inexpensive purchases (e.g., a book).

The perception of risk is also thought to vary in different settings. For instance, the influence of perceived risk is believed to be greater for services (Guseman 1981; Murray 1991; Murray & Schlater 1990). Services are generally intangible, non-standardized, sold without guarantees (usually), and need to be experienced before they can be assessed (Cunningham et al. 2005). Although retail services themselves have tangible components (e.g., products, people, and stores), the service component is variable and intangible. While consumers may anticipate a certain degree of service quality because of prior experience, personal information sources, or research conducted during the pre-purchase stages (Murray 1991; Murray & Schlater 1990), each new shopping experience varies and carries some degree of uncertainty and risk.

As online shopping continues to increase in volume, there is a need for research that evaluates the role of perceived risk in the latter stages of the consumer purchasing process and, in particular, to clearly demonstrate the impact of perceived risk on perceptions of the purchase or post-purchase experiences. Our research addresses these needs (see Figure 1).

--- insert Figure 1 here ---

While the majority of research on perceived risk has focused on traditional purchasing situations, an emerging body of literature considers perceived risk within the online context. This research has found that perceived risk is a significant factor affecting whether consumers will adopt electronic commerce (Vijayarathy & Jones 2000). It has also been reported that perceptions of risk are negatively correlated with how often a consumer buys online and the whether a consumer will make the jump from being an Internet browser to an Internet shopper (Forsythe & Shi 2003; Miyazaki & Fernandez 2001). In this regard, Donthu and Garcia (1999) assert that risk aversion plays a critical role in this transition. Other research has highlighted that perceived risk in the online channel is mitigated by technological experience (Dillon & Reif 2004), frequency

of use (Pires et al. 2004), and the type and value of products purchased (Doolin et al. 2005).

Table 1 provides a summary of the key literature related to risk perceptions in the online environment.

--- insert Table 1 here ---

In accordance with the literature presented in Table 1 and the discussion that will ensue, a conceptual model is presented that considers how financial risk affects the key constructs of service quality and relationship-marketing quality. While a more detailed discussion of the methods employed will follow later, it is noteworthy that an additional construct, “institutional risk,” has been included in the model to control for the possibility that the findings are an artifact of retailer choice. The interplay between these variables is depicted in the conceptual model shown in Figure 2.

--- insert Figure 2 here ---

### *Financial Risk in Online Shopping*

Perceived risk has most often been operationalized as a multidimensional construct comprising physical, financial, psychological, time, performance, and social risks (Roselius 1971; Jacoby & Kaplan 1972). However, this operationalization lacks conceptual logic. If perceived risk is a reflective, multidimensional construct as suggested by this operationalization, then it should follow that a change in perceived risk should result in a corresponding change in perceptions of all of the sub-dimensions. This is clearly not always the case. Not all products or services carry all of the constituent types of risk. Certain products and services carry higher levels of some risk dimensions, but may be unaffected by other types of risk (Greatorex & Mitchell 1993). As only high levels of perceived risk affect consumer purchasing behavior (Cox 1967; Dowling & Staelin



1994), we believe that it is better to consider that, instead of a single higher-order concept of risk with multiple dimensions, there are actually many different types of risk (some of which are represented by the original dimensions). Against this backdrop, the present research has chosen to focus on financial risk and, to a lesser extent, institutional risk.

Financial risk is defined as the degree of uncertainty that a consumer is willing to accept when making a financial transaction (Grable 2000). In the e-commerce environment, purchasing by consumers has thus far been dominated by products that carry lower levels of financial risk—such as books, music, clothing, and travel (Kiang & Chi 2001). In addition to lower costs, these products are well understood and usually entail less information searching by consumers, resulting in lower levels of perceived financial risk (Bart et al. 2005). This suggests that online consumers may have lower levels of financial risk tolerance as they seem resistant to engage in transactions with higher levels of perceived financial risk.

A possible explanation for this concern about financial risk is the prospect of an enhanced level of price sensitivity among online consumers. However, empirical research has demonstrated that online retailers who offer lower prices do not attract more business (Lee-Kelley et al. 2003; Brynjolfsson & Kahin 2000); indeed, it has been shown that price sensitivity among online consumers is actually less than it is among offline consumers (Degeratu et al. 2000). In this regard, Reichheld and Schefter (2000) concluded that, although price provides an indicator of financial risk, greater consideration needs to be given to the nexus between price and other service and relational factors.

Institutional risk, on the other hand, refers to the extent to which exchange uncertainty is the result of retailer-specific differences in the way that they protect the consumer against security and operational problems (Grabner-Krauter 2002). Prior research has largely failed to examine

the impact of retailer differences, and in particular, whether these differences account for variances in the impact of perceived risk on consumer behavior in the online marketplace. It is perhaps noteworthy that the only identified study that has examined the impact of firm differences on financial risk (price sensitivity) in online retail (Cao & Gruca 2004) found that firm-level heterogeneity accounted for 93% of the variance in their model.

By controlling for retailer differences when measuring the impact of financial risk on service quality (SQ) and relationship-marketing quality (RMQ) in the online retail context, this study will add to the growing chorus calling for greater consideration of between-subject effects.

#### *Impact on Service Quality*

Service quality is assessed positively when a customer's expectations of a service are exceeded by his or her perceptions of the service actually delivered (Grönroos 1984). Quality is the outcome of effective service delivery, and it is influenced by a number of distinctive properties including (i) the relative intangibility of services, (ii) the heterogeneity of services, and (iii) the inseparability of service creation and consumption (Parasuraman et al. 1985). These characteristics contribute to the belief that perceived risk is greater for services (Guseman 1981; Murray 1991; Murray & Schlater 1990). Likewise, Forsythe and Shi (2003) add that the characteristics of the online environment also increase perceptions of risk and, in particular, to the difficulty that online shoppers face in judging service quality. This inherent uncertainty could possibly explain why Cao and Gruca (2004) failed to identify a significant relationship between a measure of financial risk (price sensitivity) and service quality (as measured by satisfaction with product information, product selection, ease of use, and Web site performance).

Strategies observed in the literature for reducing the impact of financial risk on service quality in online shopping include (i) providing detailed product information (Ha 2002), (ii) publishing

privacy and security policies (Miyazaki & Fernandez 2000), and (iii) associating with reputable brands and payment services (Kim & Montalto 2002). These strategies confirm the applicability of previous retail service quality conceptualizations (Dabholkar et al. 1996; 2000) wherein service quality is achieved by providing superior service along five underlying dimensions: (i) physical aspects, (ii) reliability, (iii) personal interaction, (iv) problem-solving, and (v) policy. This is noteworthy given that Keating et al. (2003) have demonstrated empirically that Dabholkar's conceptions of retail service quality are directly applicable to the online retail setting.

However, the complexity of these requirements also introduces a degree of variability to service delivery in the online retail context. When combined with the vast differences in financial risk associated with different shopping episodes as well as retailer heterogeneity, we propose that, in the online retail context,

H1: (a) Perceptions of service quality (SQ) will vary with different levels of financial risk, and (b) this variation will be affected by different retailers.

### *Impact on Relationship-Marketing Quality*

The term "relationship-marketing quality" refers to the consumer's perception of the effectiveness of the relationship-marketing tactics used by a particular retailer. These tactics are intended to remove uncertainty, enhance a consumer's belief that a retailer will behave reliably, and reinforce the consumer's positive service evaluations. In a practical sense, these tactics are reflected in (i) the effort shown by a retailer, (ii) the value and understanding exhibited, (iii) the quality of communication, and (iv) the confidence that the consumer has in the retailer.

Jarvenpaa et al. (1999) have demonstrated that such tactics can reduce financial risk perceptions and increase a consumer's willingness to trial-buy.

The logic behind this association is simple. By increasing a consumer's experience, prior research has demonstrated that financial risk perceptions will decrease (Heijden et al. 2003; Doolin et al. 2005). As the primary aim of relationship marketing is to increase the frequency and volume of consumption, it follows that variance in the quality of the relationship-marketing effort may be related to an observable difference in the financial risk perceptions. This assumption is consistent with the findings of Cao and Gruca (2004), who found that as post-purchase satisfaction, and accordingly future purchase intentions, increased for the three largest online book retailers, so too did the customer's tolerance for financial risk. Furthermore, as it is foreseeable that different online retailers will exhibit different levels of relationship-marketing competency, we hypothesize the following:

H2: (a) Perceptions of relationship-marketing quality (RMQ) will vary with different levels of financial risk, and (b) this variation will be affected by different retailers.

## METHOD

The present research used an experimental design to examine the direct and indirect effects of the independent variable (financial risk) and control variable (institution risk) on the dependent variables (SQ and RMQ) in the online retail context. The experiment used a 2x2 factorial design to examine the impact of high and low levels of perceived financial risk between two online retailers. The main advantage of such an experimental design is that it enables us to infer causal relationships between the two dependent variables and the independent and control variables. As

the independent and control variables are captured as part of the experimental design rather than approximated via measurement scales, this approach is also considered to be more accurate.

While such methods are common within disciplines such as psychology, they have nevertheless been used previously to study the impact of consumer behavior generally (Martin & Marshall 1999) and to investigate risk in the online retail context in particular (Pires et al. 2004; Tan 1999).

### *Administration*

A sample of 143 regular Internet users from a large Australian University was invited to participate in the experiment. None of the participants had previously visited or shopped with either of the online retailers. As the goal of this research was to examine consumer behavior in the trial-buy stage of a simulated purchase situation, the use of a student sample does not hinder the objectives of this research. This sampling strategy also has some distinct advantages, as it enables us to control for demographic variance. Prior research has shown that financial risk tolerance is sensitive to age (Palsson 1996), gender (Grable 2000), education (Haliassos & Bertaut 1995), income (Bernheim et al. 2001), and marital status (Roszkowski, et al. 1993). The characteristics of the student sample impose a further restriction on the experiment that enables us to control for these differences, obtaining a sample that is relatively homogenous (young, gender balanced, educated, low-income, and single).

Another key sampling consideration was to ensure that we obtained a sufficiently large sample of participants to facilitate analysis of the factors. In this regard, Hair et al. (2006) suggest that approximately 20 respondents per cell are required. This would require a sample size of at least 80 (for a 2x2 factorial matrix of four cells) for the present study. From the original sample of 143

persons, 108 people participated in the experiment—resulting in a response rate of approximately 76%, which exceeded the desired response rate of 56% (based on 80 people).

The respondents were randomly allocated into one of two groups. Each respondent completed two surveys in the following combinations: (i) Group 1: Retailer A (low-risk purchase) and Retailer B (high-risk purchase) and (ii) Group 2: Retailer A (high-risk purchase) and Retailer B (low-risk purchase). Prior research has characterized high- and low-risk products in terms of price, frequency of purchase, complexity of the decision-making required, and accordingly, the required amount of information searching (Ueltschy, Krampf & Yannopoulos 2004; Mitchell 1999; Zikmund & Scott 1977). A high-risk product would, relatively speaking, be more expensive and less frequently purchased and would require a complex information search and decision-making process. Using this taxonomy, we selected a laptop computer (~\$2000) as representing a high financial risk and a book (~\$20) as representing a low financial risk. The two retailers selected were both comparable, well-known national electronics retailers with both online and offline retail operations. The number of respondents in each cell group is shown in Table 2.

--- insert Table 2 here ---

The respondents in both groups were provided with a simulated purchase scenario that they were required to complete over a one-hour period. It is noteworthy to mention that the use of experimental designs with hypothetical purchase situations is an acceptable and common method for evaluating financial risk (Barsky et al. 1997; Holt & Laury 2002; 2005; Harrison et al. 2005). Participants from Group 1 were required to browse, find, and purchase (i) a laptop computer from retailer A and (ii) a book on information technology from retailer B. The participants in Group 2 were provided with the reverse scenario—that is, they were required to browse, find,

and purchase (i) a laptop computer from retailer B and (ii) a book on information technology from retailer A. After completing their hypothetical purchases, the participants were asked to complete an online survey about their perceptions of SQ and RMQ.

### *Measures*

With regard to SQ, several scales have been used in previous research. The retail service quality scale of Dabholkar et al. (1996) was chosen for use in the present study because it reflects the particular nuances of service delivery in the online retail context (see prior discussion). The scale also had the added benefit of enabling SQ to be decomposed into its constituent dimensions for a more granular level of analysis if needed. Minor modifications were made to the wording of some items to account for contextual differences associated with online shopping. The prior operationalization of the retail service quality scale in the online retail setting by Keating et al. (2003) guided this modification.

To measure relationship-marketing quality, the authors adapted a scale that they had previously developed and validated (citation removed intentionally to avoid identifying authors). This instrument was developed from an extensive exploratory investigation, and it incorporates many of the drivers of relationship-marketing effectiveness identified in previous research in this field (Morgan & Hunt 1994; Crosby et al. 1990; Gummesson 1994). The scale has been tested, replicated, and refined in a variety of contexts over a six-year period, resulting in a reduction in the number of dimensions and items (while maintaining an acceptable degree of reliability and validity). Once again, minor modifications were made to the wording of some items to account for contextual differences.

Definitions of the sub-dimensions for each of the scales have been provided in Appendix A for reference, with the items and associated statistics presented in Appendix B. All scales were measured using 5-point Likert scales anchored with 'strongly disagree' and 'strongly agree'.

Preliminary analysis was undertaken to assess the dimensionality, convergent validity, and the discriminant validity of the two measurement scales. Principle component analysis confirmed that all items loading only on their intended construct with factor loadings exceeding the 0.5 recommendation (Palant 2001; Tabachnick & Fidell 1996). Confirmatory factor analysis was conducted in AMOS to further examine the dimensionality of the scales. In line with the recommendations of Churchill (1979), the constructs were observed to be strongly correlated providing evidence of convergent validity ( $r = 0.626, p > 0.01$ ). To check the discriminant validity of the SQ and RMQ constructs, a comparison was made between the fit statistics of the preferred CFA model in which the covariance between the constructs was allowed to estimate freely and an alternative model in which the covariance was fixed at 1 (Bagozzi et al. 1991). Discriminant validity was demonstrated by the finding that the original CFA model had superior fit statistics to the model in which the covariance estimate was fixed ( $\Delta\chi^2 = 42.195, 1df, p < 0.05$ ).

Finally, an examination of scale reliability was also undertaken to examine the internal consistency of the combined scales and the sub-dimensions. All of the scales exhibited adequate reliability according to Nunnally's (1968) recommendations, with Cronbach's alpha statistics ranging from 0.6 to 0.9. This analysis supported the use of the SQ and RMQ scales, providing the grounds for more detailed analysis of the hypotheses.



## ANALYSIS OF FINDINGS

The relationship between financial risk, institution risk, and SQ and RMQ was examined using a two-way multivariate analysis of variance (MANOVA)—a technique that provides for consideration of the main and interaction effects of multiple antecedent variables on multiple dependent variables. Our analysis investigated the influence of financial risk (independent variable) and institution risk (control variable) on SQ and RMQ. The levels of the independent and control variables were as follows:

- Financial risk: two treatment levels—(i) low perceived financial risk (book; value approximately \$20) and (ii) high perceived financial risk (laptop computer; value approximately \$2000).
- Institution risk: two treatment levels—(i) Harris Technology and (ii) the Strathfield Group.

The dependent variable was based on combined versions of the SQ and RMQ measurement scales introduced earlier. Preliminary assumption testing was undertaken, and no violations were noted. The Levene's test for univariate homogeneity of variance across the groups was nonsignificant (SQ=0.47, RMQ=0.54), the Box's M test for equality of the covariance matrices shows a nonsignificant value (0.12), and the Bartlett's test for sphericity revealed a sufficient degree of intercorrelation between the two dependent variables (0.00). The results of the analysis are thus summarized in Table 3.

--- insert Table 3 here ---

From this analysis, we can see that there was a medium-sized multivariate main effect with respect to the independent variable of financial risk ( $F(2,103) = 3.01$ ;  $p = 0.05$ ;  $\eta^2=0.06$ ). This suggests that there was a statistical significant difference in financial risk perceptions across the dependent variables. However, there were no identified multivariate main effects for either institution risk or the interaction between these two forms of perceived risk. When the results of the dependent variables were considered separately, the only difference to reach statistical significance was for financial risk and SQ ( $F(1,104) = 5.47$ ;  $p = 0.02$ ;  $\eta^2=0.05$ ). This effect was at the high end of the low range. As such, we conclude that there is support for H1a, but not for H1b, H2a, or H2b.

#### Post Hoc Analysis

In view of the finding that financial risk only accounted for a modest change in SQ and no change in RMQ, we decided to conduct a follow-up examination of the relationship between financial risk, institutional risk, and the dimensions of SQ and RMQ to determine whether any aspect of these constructs were particularly sensitive to perceived risk. This was achieved by conducting a separate two-way ANOVA for each of the ten constituent dimensions.

Consideration was given to using a MANOVA; however, an examination of the resulting variance–covariance matrix revealed a violation of the assumption of equivalence of variance across the dependent variables. The key results of this analysis are summarized in Table 4.

--- insert Table 4 here ---

We can see that there was a medium-sized univariate main effect observed for the dimension of physical aspects with financial risk ( $F(1,104) = 6.91$ ;  $p = 0.01$ ;  $\eta^2 = 0.06$ ) and institution risk

( $F(1,104) = 6.11$ ;  $p = 0.02$ ;  $\eta^2 = 0.06$ ). However, no other significant effects were observed for any other combination of the independent and control variables and the other nine dimensions of SQ and RMQ.

## DISCUSSION AND CONCLUSIONS

It was expected that the level of SQ would be affected by changes in the level of financial risk in the e-marketplace and that this variation would be sensitive to the choice of retailer. Our findings only partially supported this proposition. Based on the multivariate component of the MANOVA, we can see that, while financial risk did account for variation in the levels of service quality perceptions, this change did not vary significantly across retailers. The descriptive statistics associated with this analysis indicated that lower levels of financial risk were associated with higher levels of SQ, but little difference between the two retailers. This suggested that SQ was sensitive to financial risk, and that respondents were likely to have higher service expectations in riskier transactions.

When we drilled a little deeper and examined the influence of financial and institution risk on the sub-components of SQ, we observed that the majority of this variance was being captured in the physical aspects of the retailer's Web site. That is, the visual appeal of the Web site and how easy it was to navigate the Web site and find products. Interestingly, despite controlling for institutional risk by selecting retailers of similar size, length of market presence, and a comparative product ranges, we still observed a statistically significant difference for the physical aspects across the institutions. The descriptive statistics associated with the analysis indicated that retailers with higher quality physical aspects were associated with lower levels of financial risk and that this difference varied across retailers. This finding concurs with that of

McKnight et al. (2002), who found that the physical aspects of a Web site (i.e., Web site quality) had the greatest affect on consumer willingness to engage in online shopping during the early stages of the purchasing process. The observation that this association is sensitive to retailer choice also reaffirms the strategic value of investing in the tangible aspects of the Web site design as a way to achieve competitive advantage. Coincidentally, the finding also provides further support for examining respondent heterogeneity, suggesting that many of the findings reported in the literature that aggregate firms could be erroneous.

Our findings suggest that, in the absence of experience, consumers use Web site-related features as the main indicator of financial risk in new “trial-buy” purchasing situations. In this way, Web site design acts like a branding proxy to establish credibility and build trust. Leading online retailers such as Amazon recognize the importance of branding as a means of conveying credibility. As one of the best-known online brands, Amazon partners with well-established retailers such as Target, Toys R Us, and Weightwatchers to alleviate risk perceptions and to create a point of difference in an increasingly cluttered marketplace. Accordingly, it seems that the old adage of “looking cheap” has progressed to Web site design; a decision not to invest in the physical attributes of a site may not only affect aesthetics and SQ perceptions but may also lessen consumer confidence and increase perceptions of financial risk.

Lack of support for other SQ drivers, such as reliability, personal interaction, problem solving, and policy, is most likely due to the focus on new exchange encounters. For example, we acknowledge that it may be difficult for consumers to assess reliability based on a single encounter or to evaluate problem solving if you have not had a problem. Likewise, the importance of RMQ and its drivers may also be more obvious as the relationship progresses, and consequently, the consumer is better able to assess the genuineness of the retailer’s relationship-

marketing actions. We believe that this is more plausible than to suggest that the perceptions of RMQ are immune to changes in financial risk in the online context or that the pre-existence of a good relationship will not mollify perceptions of financial risk.

### *Limitations and Future Research*

As with all research, the present study has limitations that should be taken into account when interpreting the results. First, the choice of a research design has the potential to limit the generalizability and validity of the findings. The use of an experimental design, a hypothetical purchase scenario, and a small convenience sample can all act to limit the applicability of the findings. However, these designs also carry benefits, as they enable us to draw stronger conclusions by experimentally controlling and eliminating potential noise in our findings. Likewise, the adaptation of previously validated scales carries some risk of misspecification; however, this was minimized by careful scale selection and refinement. In any case, the use of previously validated scales in a new context does have benefits in terms of methodological theory development.

Despite these minor and unavoidable limitations, the research strategy employed for this study is considered appropriate. Future research should build on this study by investigating whether these findings extend to real purchase situations. Likewise, the present study could be expanded to include additional variables and different methods. Internal factors such as psychographics and demographics could be examined, as could external factors such as defensive marketing tactics of competitors, Web site quality, and the activities of other members of the supply chain.

Methodological changes that we recommend for future studies include the use of a cross-sectional or longitudinal design to examine how the structural relationships between SQ, RMQ, and financial risk vary over time. The research could also be replicated using a different sample and/or an increased number of purchase scenarios, as this would be particularly valuable in helping us understand how financial risk varies in different retail settings. Likewise, a comparative study investigating differences in perceptions of financial risk between the online and offline contexts would make a valuable contribution.

## Appendix A: Scale Dimensions

SQ Dimension	Definition
Physical aspects	These reflect the tangibility of the service encounter. It reflects the importance of the physical appearance and layout of the retail environment. In the online setting, this can be further expanded to consider the effectiveness of the Web site design.
Reliability	The need to perform reliably is a key service requirement. This links to the customer's desire for credible and dependable service, suggesting that it is usually manifest in the retailer's ability to meet service expectations consistently. In the online retail environment, reliability is viewed as a means of reducing risk perceptions and uncertainty and can be conceptualized in terms of keeping promises and high levels of service performance.
Personal interaction	Similar to empathy, personal interaction builds on the basic requirement for courteous and helpful service to include the need to inspire a connection at the interpersonal level. The dimension also reflects the ability of strong interpersonal relationships to reduce post-purchase dissonance. While Web interaction is not necessarily interpersonal, it can be personalized with claims that the channel can afford greater levels of customization and responsiveness.
Problem solving	This dimension addresses the retailer's ability to respond to uncertainty in the service delivery process when it occurs. Customer service quality perceptions have been shown to be sensitive to service recovery actions, requiring that due consideration be given to handling of returns, exchanges, and complaints. These issues apply equally to the online retail environment, where failure to identify, isolate, and resolve service delivery problems will influence purchase experiences and post-purchase intentions.
Policy	Business operating policies can have a significant impact of service quality perceptions, and they are influenced by the relevance and transparency of a retail firm's operational policies. They further assert that careful attention is needed regarding issues such as equity and fairness. In online retail, this dimension is viewed as particularly important for reducing perceptions of risk in the information search phase of the purchasing process. As such, effective policies relating to security, pricing, assortment, and accessibility are necessary.
RMQ Dimension	Definition
Confidence	This dimension captures the extent to which a customer can rely upon the relationship-marketing activities of a retailer.
Effort	Effort is conceptualized as the amount of effort made by a firm to meet the customers' needs. Effort is viewed as a strong indicator of a retailer's commitment to the customer. In the online environment, this can be interpreted as whether the relative effort expended by the retailer in areas such as personalization exceeds that provided by other online retailers.
Value	Similar to effort, value is an evaluation of how much the retailer appreciates the customer's patronage. In online retail, this can be demonstrated through proactive service recovery and customized service offerings that reflect a desire to exceed the customer's expectations.

Understanding	This dimension measures the knowledge gained by the retailer regarding the customers and their particular needs. Special considerations in the online setting extend to the storage and use of this information.
Communication	The exchange of information is a valued and necessary requirement for the development of any lasting attachment. Communication in the online environment, as with other contexts, needs to meet the needs of both the receiver and the sender, and it should be timely and relevant.

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## Appendix B: Scale items and key statistics

Scale and items	Mean	SD	Factor loadings	Cronbach Alpha
<u>Combined SQ scale (SQ)</u>	3.2	0.4	n/a	0.8
Physical Aspects (PAsp)				
The retailer's website is visually appealing.	3.1	1.1	0.7	0.8
The site design makes it easy to find what I want.	2.8	1.2	0.9	
The site design makes it easy to move around.	3.2	1.1	0.9	
The site design makes navigation quick.	3.0	1.2	0.9	
Reliability (Rel)				
When the retailer promises to do something by a certain time, they will do so.	3.1	0.5	0.6	0.7
The retailer performs the service right the first time.	3.1	0.6	0.8	
The retailer has the products I want, when I want them.	3.2	0.8	0.8	
This retailer provides error free transactions and records.	3.2	0.6	0.8	
Personal interaction (PInt)				
The retailer's site has all the information I need to answer my questions.	3.1	0.8	0.6	0.8
The retailer's site seldom has technical problems.	3.1	1.0	0.7	
The information provided by the retailer is accurate.	3.1	0.6	0.7	
It is easy to contact the retailer.	3.3	0.7	0.7	
The retailer responds promptly to my requests.	3.5	0.8	0.7	
The communication from the retailer is personalised.	2.9	0.8	0.7	
The customer service is courteous and helpful.	3.1	0.6	0.5	
Problem solving (PSol)				
The retailer willingly handles returns and exchanges.	3.1	0.7	0.9	0.6

When a customer has a problem, the retailer shows a sincere interest in solving it.	3.1	0.5	0.7	
Complaints are handled quickly and effectively.	3.1	0.4	0.7	
Policy (Pol)				
The retailer offers high quality merchandise.	3.9	0.8	0.5	0.7
The retailer has a competitive pricing policy.	3.3	0.8	0.9	
The retailer accepts most major credit cards.	3.8	0.8	0.7	
The retailer offers good security for my financial and personal details.	3.5	0.8	0.5	
<u>Combined RMQ scale (RMQ)</u>	2.9	0.6	n/a	0.9
Confidence (Conf)				
I have complete confidence in the retailer to behave ethically.	2.9	0.9	0.9	0.8
I trust the retailer totally.	2.8	1.0	0.9	
Effort (Eff)				
The retailer goes out of their way to do their best for me.	2.9	0.8	0.8	0.7
I receive personal attention from the retailer.	2.8	0.9	0.9	
Value (Val)				
The retailer makes me feel important.	2.7	0.9	0.9	0.8
The retailer values my business.	3.0	0.9	0.9	
Understanding (Und)				
The retailer makes me feel important.	2.9	0.9	0.9	0.8
The retailer values my business.	2.9	1.0	0.9	
Communication (Com)				
The retailer keeps me informed.	3.0	0.8	0.9	0.6
The communication I receive from the retailer is timely and relevant.	3.1	0.7	0.8	

Figure 1: Focus within Buying Process

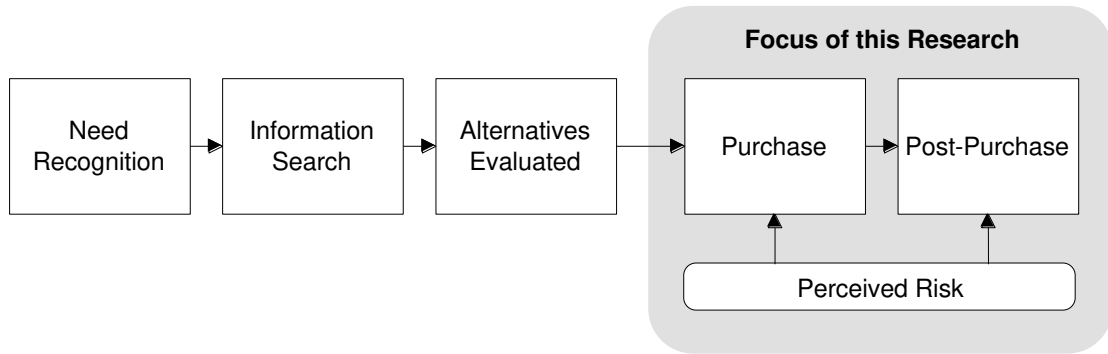


Figure 2: Conceptual model for research

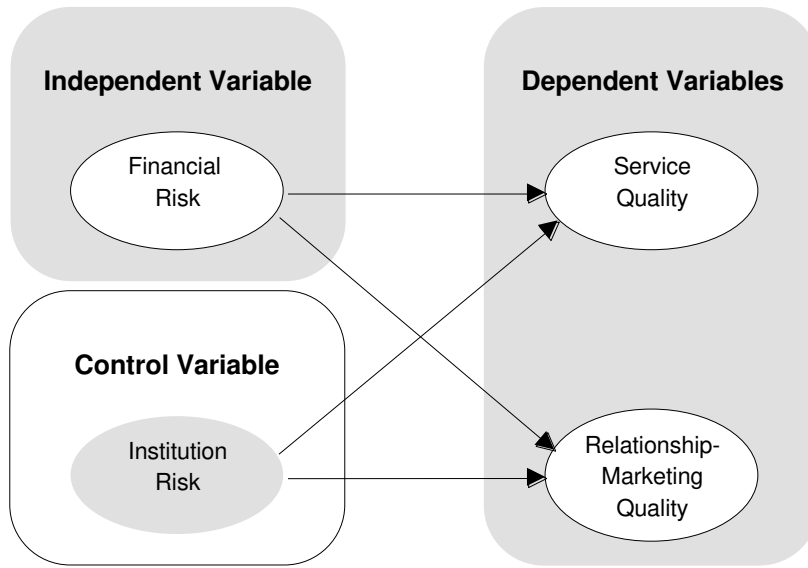


Table 1: Chronological summary of literature

Author (year)	Interpretation of Perceived Risk	Consequences	Products	Results
Jarvenpaa, Tractinsky, & Vitale (1999)	Perceived risk associated with a buyer's willingness to purchase from an online seller.	Negative outcomes based on risk, potential for loss, and negative situation from the decision to purchase a product from the online seller.	Books	Higher trust in online seller decreased the perceived risk, which increased a buyer's willingness to purchase online.
Tan (1999)	Perceived risk associated with Internet shopping behavior.	Negative outcomes based on product performance risk (i.e., inability to inspect product) and economic risk (i.e., inability to compare price or quality of similar products, making a poor purchase decision).	Inkjet printer, watch, and blank videocassette	Factors found to reduce perceptions of risk included expert endorsement, branding, and warranties.
Miyazaki & Fernandez (2000)	Perceived risk associated with privacy and security disclosures and purchase intentions.	Negative outcomes based on general risk toward the online purchasing (i.e., how risky it is to purchase products online).	Seventeen consumer products including books, clothing, computer, cosmetic, foods, hygienic, music, sporting goods, toys, and electronics	Prevalence of privacy and security statements was not related to perceived risk. However, percentage of privacy and security statements in a category was positively related to category-purchase intention.

Miyazaki & Fernandez (2001)	Perceived risk associated with Internet experience, concerns regarding the privacy and security of online purchases, and rate of online purchasing.	Negative outcomes based on general risk toward the online purchasing (e.g., purchasing products online is safe or risky).	Web site's features (privacy and security practices)	Perceived risk of conducting online purchases was negatively related to the rate of online purchasing. Concern about system security was negatively related to the rate of online purchasing.
Ha (2002)	Perceived risk associated with online pre-purchase information (i.e., brand, word-of mouth communication, customized information) and a brand purchase online by the consumer.	Negative outcomes based on the expectation of possible loss when products do not meet expectations, negative effect on consumer image and privacy, financial risk, and search costs.	Online auctions	The results show that customized information and word-of-mouth communication influence consumers' perceptions of risk.
Kim & Montalto (2002)	Perceived risk toward the use of online technology by consumers.	Negative outcomes based on privacy invasion.	Web site's features (privacy practices)	Perceived risk of privacy invasion significantly reduced the probability of use of online technology.
Liebermann & Stashevsky (2002)	Perceived risk is conceptualized in terms of technological, financial, social, personal, and performance risks.	Direct association with shopping and Internet usage behavior.	No specific products specified	Two main risks observed to affect shopping behavior were financial risk and privacy risk.
Forsythe & Shi (2003)	Perceived risk in online retail is conceptualized in terms of product, financial, psychological, and convenience risks.	Negative outcomes influence online shopping behavior.	No specific products specified	As financial, psychological, and convenience risk decreased, browsers were more likely to become shoppers. Lack of tangibility with online shopping made it difficult to assess product risk.

Heijden, Verhagen, & Creemers (2003)	Perceived risk associated with attitude toward online purchasing and buyer's intention to purchase online.	Negative outcomes based on risk, potential for loss, and negative situation from the decision to purchase online.	Compact discs	Reduced perceived risk and increased trust and attitude toward online purchasing, which increased a buyer's intention to purchase online.
Chen & Dubinsky (2004)	Perceived risk associated with online retailer reputation, product quality, and price.	Negative outcomes will influence customer value perceptions and future intentions.	None specified	Perceptions of risk were associated with higher prices and lower product quality. Risk did not directly affect customer value.
Dillon & Reif (2004)	Perceived risk associated with the online purchasing decision.	Negative outcomes based on personal risk (e.g. credit card security), privacy loss, and product performance risk (e.g. a product fails to meet expectations).	Textbooks.	Consumer risk and shopping experience perceptions influenced experienced online purchasing decision more than customer service.
Pires, Stanton, & Eckford (2004)	Perceived risk associated with the frequency of online purchasing.	Negative outcomes from a potential loss from the purchase of a brand based on the overall risk (i.e., the likelihood that purchase of the item will result in general risk of the consumer).	Insurance, travel, mobile phone, and toaster	Differences in perceived risk were associated with whether the intended purchase was a good or service and whether it was a high- or low-involvement product.

Doolin, Dillon, Thompson, & Corner (2005)	Perceived risk associated with the amount and frequency of online purchase made.	Negative outcomes based on product performance risk (i.e., inability to inspect product), economic risk (i.e., inability to compare price or quality of similar products, making a poor purchase decision), security risk (i.e., credit card abuse security), and privacy risk (i.e., compromising personal information).	Twenty consumer products including books, computer software, travel and accommodation, movies and music, clothing, gifts, toys	Perceived risk was negatively related to the amount and frequency of online purchasing.
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Source: (citation removed intentionally to avoid identifying authors).



Table 2: Respondents by group

	Low risk	High risk	Total
Retailer A	30	20	50
Retailer B	30	28	58
Total	60	48	108

Table 3: Results of the MANOVA  
 Multivariate tests (Wilk's Lambda)

Financial Risk			Institution Risk			Interaction		
F stat	Sig.	Eta <sup>2</sup>	F stat	Sig.	Eta <sup>2</sup>	F stat	Sig.	Eta <sup>2</sup>
<u>3.01</u>	<u>0.05</u>	<u>0.06</u>	1.81	0.17	n/a	0.03	0.25	n/a

Dimension	Financial Risk			Institution Risk			Interaction		
	F stat	Sig.	Eta <sup>2</sup>	F stat	Sig.	Eta <sup>2</sup>	F stat	Sig.	Eta <sup>2</sup>
SQ	<u>5.47</u>	<u>0.02</u>	<u>0.05</u>	3.04	0.08	n/a	2.48	0.12	n/a
RMQ	0.32	0.57	n/a	0.06	0.80	n/a	0.10	0.76	n/a

Table 4: Two-Way ANOVAs for dimensions

Univariate tests (Between-subject effects)

Dimension	Levene's test	Financial Risk			Institution Risk			Interaction		
		F stat	Sig.	Eta <sup>2</sup>	F stat	Sig.	Eta <sup>2</sup>	F stat	Sig.	Eta <sup>2</sup>
PAsp	0.39	<u>6.91</u>	<u>0.01</u>	<u>0.06</u>	<u>6.11</u>	<u>0.02</u>	<u>0.06</u>	1.56	0.22	n/a
Rel	0.01	3.34	0.07	n/a	1.73	0.19	n/a	0.04	0.85	n/a
PInt	0.51	1.19	0.28	n/a	1.99	0.16	n/a	0.16	0.69	n/a
PSol	0.58	0.57	0.45	n/a	0.58	0.45	n/a	0.50	0.48	n/a
Pol	0.46	0.32	0.57	n/a	0.06	0.80	n/a	0.10	0.76	n/a
Conf	0.30	0.40	0.53	n/a	0.01	0.91	n/a	1.00	0.32	n/a
Eff	0.12	0.01	0.92	n/a	0.39	0.54	n/a	0.24	0.63	n/a
Val	0.32	0.10	0.75	n/a	0.01	0.95	n/a	0.61	0.44	n/a
Und	0.89	0.26	0.61	n/a	0.28	0.60	n/a	0.63	0.43	n/a
Com	0.03	0.78	0.38	n/a	1.04	0.31	n/a	0.39	0.54	n/a

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