



Web site satisfaction and purchase intentions

Impact of personality characteristics during initial web site visit

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Abstract

Purpose – A main focus in recent online consumer research has been on context specific trust, risk, and online buying experience. Despite the importance, their individual level “equivalents” – trust disposition, risk aversion, and technology readiness – have received limited attention. This research attempts to fill that gap by focussing on these crucial personality traits.

Design/methodology/approach – This research employs a survey-based method to test a theoretically grounded set of hypotheses. The measurement model is tested using SEM and the hypotheses are tested using regression techniques.

Findings – The personality characteristics are found to have significant moderating effects on online purchase intentions. Interestingly, provided the consumers are satisfied, risk aversion is found to increase the likelihood of purchase. Moreover, while technology readiness increases the likelihood of online purchase, dispositional trust is found not to have a similar effect.

Research limitations/implications – Significant full and quasi moderator effects of three hitherto untested personality traits on online purchase behaviour are found. Results show that risk aversion, trust disposition, and technology readiness are fundamental to online consumer behaviour literature.

Practical implications – The results suggest that to be successful, relatively unknown web-based service providers need to go beyond matching their large competitor and need to offer unique web sites to browsers. Results also indicate that personality traits pose both significant challenges as well as unexpected opportunities to online service providers in identifying inherently more loyal customers.

Originality/value – The paper identifies a set of hitherto untested personality traits that have fundamental relevance to online consumer behaviour. It also offers practical recommendations to relatively unknown online service providers on how to compete with their better known competitors. Results are generalisable to online service providers in a number of industries.

Keywords Electronic commerce, World wide web, Consumer behaviour, Consumer risk, Trust, Personality

Paper type Research paper

Introduction

Research on online customer behaviour suggests that web site satisfaction is fundamental to establish long-term relationships with customers and to ensure long-term profitability of online operations (Chiou and Shen, 2006). The first step in establishing this relationship is likely to occur during the initial transaction, defined as the initial experience with a new web-based service provider to make a commercial transaction. Since the web site is the primary medium available to persuade online customers during this initial visit, web site satisfaction is crucial for a successful transaction.

The rationale for specifically focusing on the initial transaction is twofold. First, the initial transaction is likely to be influenced primarily by the consumers' response to the web site, whereas subsequent transactions will be influenced by the actual delivery and consumption of the service relating to the initial transaction. In the absence of adequate delivery or order fulfillment, customers are unlikely to return to a web site irrespective of their perceptions of the web site. Second, acquisition costs are typically significantly higher than retention costs (Reichheld and Scheffer, 2000). As such, converting first time visitors into actual buyers is a major challenge for a web-based service provider. Therefore, differentiating the initial from subsequent transactions is crucial, and so is developing models that explain the initial transaction.

This study can be further differentiated from previous research as follows. Trust, risk, and attitude towards or experience with the online medium, are fundamental concepts in e-commerce. This is because they capture the main distinguishing feature of e-commerce that arises from the nature of the medium and the way consumers react to that medium (Ranaweera *et al.*, 2005). However, these concepts are often studied in the existing literature as contextual constructs (Shankar *et al.*, 2003; Harris and Goode, 2004). Although the importance of their individual level counterparts has been recognized, with a few exceptions (Keaveney and Parthasarathy, 2001; Cho, 2006), they have received little attention. In order to fill this gap in the literature, these concepts are examined from an individual or personal trait perspective, i.e. risk aversion *vis-à-vis* context specific risk perceptions; dispositional trust *vis-à-vis* web site trust; and inherent attitude towards the internet captured by technology readiness *vis-à-vis* online experience in a specific buying context.

This paper makes the following contributions to the field of online customer behaviour. First, the personality trait perspective *vis-à-vis* the contextual perspective adds to the existing literature by investigating the effects of a set of personality characteristics that are both fundamental to online buying behaviour, and complement the commonly studied contextual constructs. Second, by developing a model that captures the dynamics of the initial interaction, the paper draws attention to the fundamental importance of an initial transaction to e-commerce. The findings suggest ways for managers to develop improved web sites and web site metrics, and for researchers to further the understanding of how three key personality characteristics influence consumer behaviour in online environments.

Conceptual foundation

Traditionally, research has focused on personality characteristics based on the premise that customer groups displaying unique characteristics react differently to the same context (Mittal and Kamakura, 2001). Such different reactions have consistently been found in the way customers respond to innovations (Rogers, 1995). While the internet has moved beyond the early adopter stage, it is still a relatively new medium for commercial transactions. Its characteristics include the anonymity of the medium and inability to observe the other party, resulting in significant challenges to establishing trust; and requirement to divulge personal information to a non-physical firm and concerns about security and privacy, raising concerns about risk (Hoffman *et al.*, 1999). The impact of these characteristics could be accentuated by the customers' lack of technology readiness (Parasuraman, 2000). Literature on the adoption of innovative information services in general, and internet adoption in particular (Montoya-Weiss *et al.*, 2003),

supports such a proposition. It is therefore expected that these three customer characteristics will significantly impact purchase intentions, either directly or in combination with web site satisfaction.

Web site satisfaction

Based on Oliver (1999), we define web site satisfaction as the perception of pleasurable fulfillment of a web site experience. Customer satisfaction is of two types; service encounter satisfaction and overall customer satisfaction (Shankar *et al.*, 2003). Service encounter satisfaction is transaction specific whereas overall customer satisfaction is the cumulative effect of a set of service encounters or transactions with the service provider over a period of time (Bitner and Hubbert, 1994; Oliver, 1997). The encounter specific definition fits this research context since the focal construct is web site satisfaction during the initial visit.

Outcomes of web site satisfaction

An extensive body of literature is available on behavioural intentions in offline environments (Zeithaml, 2000). The common behavioural dimensions studied in the literature are purchase/repeat purchase intentions or actual purchase/repeat purchase behaviour; propensity to give word-of-mouth (WOM); price tolerance, and propensity to make additional purchases from the same source (Boulding *et al.*, 1993). The current research focuses on purchase intentions as the key outcome variable. During the initial visit to a web site, the biggest challenge that the service provider faces is to convert the visitor into a buyer. Also, purchase directly affects both revenue and profitability of the firm. Therefore, its importance as an outcome variable of interest is clear.

Previous research on the relationship between web site satisfaction and subsequent behavioural and attitudinal outcomes has found that overall satisfaction with online service encounters led to customer loyalty towards the service provider (Anderson and Srinivasan, 2003). Yen and Gwinner (2003) found that overall satisfaction with internet self-service technologies had a positive impact on behavioural intentions, specifically, on willingness to continue purchasing from the same service provider. Investigating outcomes of satisfaction, Shankar *et al.* (2003) found that overall satisfaction with online service encounters, which reflects a positive attitudinal disposition, led to loyalty towards the service provider. Purchase intent is a key loyalty dimension, and it is therefore likely that satisfaction with a web site will increase the likelihood of purchase. Therefore:

- H1.* As web site satisfaction increases there will be a corresponding increase in purchase intentions.

Effects of customer characteristics

Customer/personality characteristics have often been found to have moderating effects on customer behaviours (Dabholkar and Bagozzi, 2002). This study focuses on some direct effects of personality characteristics, as well as on the interactions between personality characteristics and web site satisfaction. Therefore, the interest in this study is mostly on quasi moderator effects acting on purchase intentions (Sharma *et al.*, 1981).

Trust disposition. Trust disposition can be divided into two components, individual and specific. The individual component is an attitudinal or affective component that reflects an overall view of the world, whereas the specific component is more

contextual and cognitive (Driscoll, 1978). Considerable effort has focused on understanding the role of context specific trust, labeled online trust (Shankar *et al.*, 2002). However, little attention has been paid in the online literature to individual level trust, which can have a strong impact on situations where consumers do not have prior experience (Grabner-Krauter and Kaluscha, 2003). This construct, which can be defined simply as the propensity to trust others (Mayer *et al.*, 1995), is based on the recognition that people develop generalized expectations about the trustworthiness of other people over the course of their lives.

A major reason for consumer concern towards purchasing online is that the context is characterized by a lack of face-to-face interactions, often with an unknown service provider (Grabner-Krauter and Kaluscha, 2003). In this setting, a customer's ability to trust the prospective service provider, captured by dispositional trust, could have a positive impact on subsequent behaviours. However, Ring and van de Ven (1994) argued that high-trust disposition does not mean blind faith; that consumers are unlikely to have positive intentions towards a web site because of their trust disposition alone, and will seek other cues to safeguard themselves. Therefore, mere positive trust disposition is unlikely to have a significant direct effect on positive behavioural outcomes. However, during the initial visit, customers are likely to use the web site as the primary source of such "safeguard" cues. Provided customers are satisfied with the web site, high-trust disposition is likely to increase the likelihood of a purchase, indicating a positive reinforcing effect:

H2. Trust disposition will moderate the relationship between web site satisfaction and purchase intentions, such that web site satisfaction will have a higher effect on purchase intentions when customers display higher dispositional trust.

Risk aversion. Risk aversion, the extent to which people feel threatened by ambiguous situations (Hofstede and Bond, 1984), is known to have different impacts on decision making across contexts. Although previous research has highlighted the need for studying risk aversion (Bao *et al.*, 2003), very little is known about its role in online buying behaviour. Cho (2006) examined risk aversion as a control variable in one path of their model, but did not examine its impact on behavioural outcomes. However, the study by Keaveney and Parthasarathy (2001) is an exception. They equated switching to a new service provider as analogous to a new purchase setting, and hypothesized that risk takers are more likely to switch service providers than others. Their rationale was that since the optimum stimulation level of an individual is positively related to both risk taking behaviour and switching behaviour (Raju, 1980), the latter two should also be positively correlated. Based on this rationale, risk-averse customers are less likely to purchase. While, Keaveney and Parthasarathy (2001) hypothesized a negative direct effect of risk aversion, they empirically found the opposite effect. More risk-averse consumers were found to have a greater propensity to switch. They found the results puzzling, and suggested further research. Given this lack of clarity pertaining to the direct effect of risk aversion, it is hypothesized that:

H3. Risk aversion will have an a-priori unknown effect on purchase intentions.

Keaveney and Parthasarathy nevertheless suggested that risk-averse customers' decision to switch stimulated increased information search, which led to a more sound

decision; one that they would be comfortable making. Shimp and Bearden (1982) had also noted the importance of information for risk-averse consumers. They found that highly risk-averse customers search for more information during purchase situations. This suggests that risk aversion is unlikely to inhibit purchase in the presence of adequate information. Where they find the information on the web site to be sufficient and consequently, are satisfied with the web site, risk-averse consumers may in fact be more willing to purchase, knowing that they are in a position to make a more informed decision. This notion that risk aversion can act in combination with web site satisfaction suggests that the effect of risk aversion is likely to be interactive, an effect which was implied, but not tested in the Keaveney and Parthasarathy (2001) study. Such a result would be consistent with their empirical findings as well as previous work by Shimp and Bearden (1982):

- H4.* Risk aversion will moderate the relationship between web site satisfaction and purchase intentions, such that web site satisfaction will have a greater effect on purchase intentions for customers who display higher risk aversion.

Technology readiness. The concept of technology readiness developed by Parasuraman (2000) focuses on predicting consumers' predisposition towards using new technology. It can be viewed as an overall state of mind resulting from a gestalt of mental enablers and inhibitors that collectively determine a person's disposition to use new technologies. The technology readiness construct is conceptualized as multi-dimensional, consisting of optimism, innovativeness, discomfort, and insecurity. The impact of technology readiness on purchase intentions and WOM in an online buying context has received limited attention in the literature. Similar constructs used in empirical research include inherent novelty seeking (Dabholkar and Bagozzi, 2002), and technology anxiety (Meuter *et al.*, 2003), in self-service technology settings. Some of the conceptual overlaps among these constructs assist in developing hypotheses relating to technology readiness.

While a self-service technology may differ from an online buying context, it is also similar to the extent that it is characterized by a technology interface and a user initiated buying process with no interaction with service personnel. Meuter *et al.* (2003) examined technology anxiety which reflects users' negative attitudes towards technology in adopting and using self-service technologies. The results showed that those with low-technology anxiety were more satisfied, and more likely to display loyalty behaviours. This suggests that technology readiness may have a positive impact on behavioural outcomes in general.

The conceptual underpinning for the technology readiness construct lies in the work by Rogers (1962) on the adoption of innovations according to which more technology ready customers are more willing to adopt new technologies and innovations. Based on this view, the more technology ready consumers are likely to have been the first to adopt the internet as a medium for commerce. Such consumers are also likely to continue making online purchases more than less technology ready segments, indicating a direct positive effect of technology readiness on purchase intentions. Therefore:

- H5.* As technology readiness increases, there will be a corresponding increase in purchase intentions.

Meuter *et al.* (2003) also found that, for a given level of satisfaction, those displaying low-technology anxiety (similar to high-technology readiness) were more likely to use

the self-service technology again. Therefore, for a given level of satisfaction, technology readiness is likely to enhance both propensity to repurchase as well as initial purchase intentions. Therefore, the combined effect of technology readiness and web site satisfaction on purchase intentions is likely to be one of positive reinforcement:

H6. Technology readiness will moderate the relationship between web site satisfaction and purchase intentions such that the effect of satisfaction on purchase intentions will be greater for those having higher levels of technology readiness.

Control variable – internet buying experience. Oliver (1997) argued that the way satisfaction is formed is when the emotion surrounding disconfirmed expectations is coupled with a consumer’s prior feelings about an experience. In the absence of prior experience with the same service provider, customers are likely to draw upon similar online experiences. Shankar *et al.* (2003) found that prior experience with a particular service provider would have a positive effect on subsequent interactions. Given the heterogeneous nature of our sample we therefore account for the effect of internet experience of the respondents when testing the hypotheses.

The conceptual model developed incorporating web site satisfaction, its outcome – purchase intentions, the set of personality characteristics having direct and/or interactive effects, as well as the control variable is shown in Figure 1.

Methodology

The model (Figure 1) was tested in a scenario-based setting, which enabled the separation of the online purchase from the subsequent service experience, via an online survey.

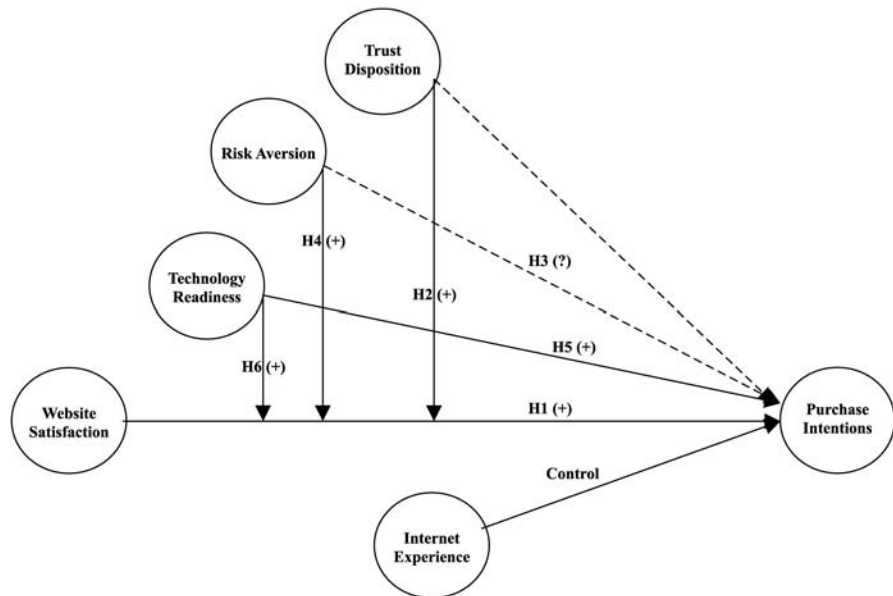


Figure 1.
Conceptual model

An actual web site of a vacation hotel in the Caribbean with an unknown brand was selected. Respondents were asked to assume that they had decided to go to the Caribbean Island of Antigua for a four-day vacation; that they would book their accommodation online; and that the price was within the range they had in mind. Once they had browsed through the web site for approximately 15 minutes until they were thoroughly familiar with what the hotel offered, they were asked to “decide” whether or not they would book that hotel, and then respond to the online questionnaire. Given that all the constructs used in the current research have been studied previously in multiple contexts, the items (seven-point Likert) used in the survey instrument were all based on previously validated scales. Each construct was measured using three items, except technology readiness, with four items, and the control variable, internet experience, with two. All the items selected had previously been used in multiple studies with high degrees of reliability and validity.

Customer satisfaction has been operationalized as both transaction specific, and cumulative (Rust and Oliver, 1994). The former fits the initial transaction context. Items were adapted from Cronin *et al.* (2000) to represent the evaluative and emotive aspects of the construct. The trust disposition scale was based on previous work by Grabner-Krautera and Kaluscha (2003). The risk aversion scale was based on the original scale developed by Raju (1980), and used subsequently by Keaveney and Parthasarathy (2001) and Bao *et al.* (2003). Given the counter-intuitive results pertaining to risk aversion found in previous research, we remained true to the original scales for consistency. As originally conceptualized, the technology readiness construct was considered to be multi-dimensional, and was measured using a battery of measures developed by Parasuraman (2000). One item was selected to measure each dimension, resulting in a four-item formative type scale. The original scale consisted of a sophisticated survey instrument designed specifically to capture technology readiness and had four to five items for each dimension. Owing to the complexity of that instrument, for the current study, we picked the item which best captured each of the four dimensions. This was done through a careful examination of the relevance of the item to the e-commerce setting as well as by taking into account the factor loadings associated with the original measure. Purchase intentions have often been conceptualized and operationalised as a dimension of customer loyalty in offline settings. We adapted the scale from Bansal and Taylor (2002), who had a similar conceptualisation. The control variable, internet experience was measured using a two item scale used by Shankar *et al.* (2003).

Given the e-commerce setting of the study, an online sample was selected for testing the model. The sample frame for the survey consisted of an e-mail database of the administrative staff of a large organization. The chosen sample frame enabled the capture of a set of respondents who are typical online consumers, who have access to the internet on a regular basis, and who display diverse personality characteristics. Given the stability of personality characteristics across contexts, this approach helps in generalizing the results to a broader population.

The sample frame was sent an e-mail requesting participation in the survey. To encourage participation, they were informed that respondents would be entered in a draw for ten prizes of \$100. Surveygold software was used to collect the data. The overall response rate of entirely complete responses was 19.7 per cent, resulting in a final sample of 170. Tests for non-respondent biases were non-significant. Specifically, the sample was split into two based on the response date, categorized as early and late respondents, and each construct was examined for significant differences in means.

Results were negative at the 0.05 level. In terms of general demographic characteristics, specifically age, gender, level of education, and income level, there was heterogeneity, as well as representativeness of the population likely to take a Caribbean vacation. The mean age of the respondent was 39 years (standard deviation of 14.3 years), and the mean family income was \$69,000 (standard deviation of \$ 31,815.56). In terms of education, 18 per cent had postgraduate degrees, 53 per cent had graduate degrees, 9 per cent had technical qualifications and the balance 20 per cent had high-school diplomas. Males consisted of 70 per cent of the sample (119) and 30 per cent (51) were females.

Data analysis

An initial examination of the data showed that no variable significantly violated the conditions of univariate normality. Levels of skewness and kurtosis were well within acceptable bounds. Next, SPSS was used to conduct exploratory factor analyses (principal component analysis, varimax rotation) and reliability analyses. Preliminary psychometric analyses were performed on the scales. For all constructs, uni-dimensional structure was found with exploratory principal component analysis. The reliabilities were well above the standards defined by Nunnally (1978). A confirmatory factor analysis was then performed on all the scales, using LISREL8 with ML estimation (Joreskog and Sorbom, 1993). For assessing model fit, three fit indices are reported. Since χ^2 is sensitive to sample size variations, $\chi^2/\text{degrees of freedom}$ (χ^2/df) is reported instead (Wheaton *et al.*, 1977). Additionally, a combinatorial rule involving the comparative fit index (CFI) and standardized root mean square residual (SRMR) was used to assess model fit (Bentler, 1990). Overall, model fit indices indicated that the measurement model was consistent with the data, with all the fit indices better than the recommended values (CFI = 0.98, SRMR = 0.047, χ^2/df = 2.01). As suggested by Bollen (1989), a scrutiny of factor loadings as well as the squared multiple correlations between the items and the constructs was done to further assess the validity of the measures. Discriminant validity was established by comparing alternative models where the reflective type independent constructs were first allowed to freely correlate, and then the inter-construct correlations were constrained to one. Results established discriminant validity at the highly significant 0.01 level (Appendix 1). Moreover, factor loadings of 0.60 are generally considered the minimal level at which convergent validity could be suggested (Bagozzi and Yi, 1988). For the squared multiple correlations, values above 0.40 are suggestive of a substantial shared variance with their hypothesized constructs (Taylor and Todd, 1995). All the measures displayed factor loadings and squared multiple correlations well above these recommended values (Appendix 2).

To ensure adequate statistical power regression analysis was undertaken to test the hypotheses. Mean scores for the latent constructs were used in the regression analysis. Table I shows the construct correlations for the variables of interest. The correlation coefficient between web site satisfaction and purchase intentions was seen to be very high ($r = 0.87$). This high correlation is likely to be partly due to the empirical setting of the study (Caribbean vacation scenario). It is also possible that common method variance has somewhat inflated the size of the coefficient. However, this is unlikely to have an impact on the analysis since the main focus of the analysis is not on assessing the predictive ability of web site satisfaction, but on the effects of the personality characteristics. These latter constructs are unlikely to have been affected by the

	Web site satisfaction	Trust disposition	Risk aversion	Tech readiness	Internet experience	Purchase intent
Web site satisfaction	1.00					
Trust disposition	0.05	1.00				
Risk aversion	0.10	-0.23**	1.00			
Tech readiness	-0.03	0.14	-0.20**	1.00		
Internet experience	-0.12	0.13	-0.15*	0.40**	1.00	
Purchase intent	0.87**	0.11	0.05	0.12	-0.02	1.00

Table I.
Construct correlations
(Pearson correlation
coefficients)

Notes: Correlation is significance at *0.05; **0.01; level (two-tailed), respectively

common method variance. The high correlation will also not bias the assessment of the presence of distinct regression slopes for different levels of the personality characteristics studied. Indeed, the high-correlation coefficient is likely to make the detection of significant moderating effects more difficult.

Regression analysis

In doing regression analysis, the procedure recommended by Irwin and McClellan (2001) was followed to avoid the common heuristics of moderated multiple regression models. Overall, regression results showed strong support for the hypothesized relationships. Table II gives a summary of the results.

Hypothesis	Relationship examined	Result
H1	As web site satisfaction increases there will be a corresponding increase in purchase intentions	Hypothesis supported
H2	Trust disposition will moderate the relationship between web site satisfaction and purchase intentions, such that web site satisfaction will have a higher effect on purchase intentions when customers display higher dispositional trust	Hypothesis supported
H3	Risk aversion will have an a-priori unknown effect on purchase intentions	No significant effect found
H4	Risk aversion will moderate the relationship between web site satisfaction and purchase intentions, such that web site satisfaction will have a greater effect on purchase intentions for customers who display higher risk aversion	Hypothesis supported
H5	As technology readiness increases, there will be a corresponding increase in purchase intentions	Hypothesis supported
H6	Technology readiness will moderate the relationship between web site satisfaction and purchase intentions such that the effect of satisfaction on purchase intentions will be greater for those having higher levels of technology readiness	Hypothesis supported

Table II.
Summary of results

The origin of each continuous independent variable was changed through mean centering. Next, three additional variables were created to capture the interactive effects between:

- (1) satisfaction and trust disposition;
- (2) satisfaction and risk aversions; and
- (3) satisfaction and technology readiness.

Whenever a product term was included, its components were also included irrespective of their relative significance. Furthermore, analysis was undertaken hierarchically to test for significant interaction effects over and above the main effects. Variance inflation factors were examined for all estimations to test for multicollinearity. The collinearity diagnostics were favorable confirming lack of any significant presence of multicollinearity. The resultant OLS regression model is shown in Table III and the overall test results for the model are shown in Table IV.

Overall, the model explained a high 80.7 per cent of the variance in purchase intentions. However, what is more striking was that the inclusion of each of the three moderating effects increased the R^2 value significantly (change in the F -statistic was significant at the 0.01 level). While the direct effect of web site satisfaction explained 74.9 per cent of the variance in the dependent variable, the inclusion of the personality

Independent variable	Dependent variable: purchase intentions β coefficient (t-value)
Web site satisfaction	0.84 ** (23.58)
Trust disposition	0.02 NS (0.59)
Risk aversion	-0.01 NS (-0.37)
Technology readiness	0.14 ** (3.52)
Web site satisfaction \times trust disposition	0.09* (2.43)
Web site satisfaction \times risk aversion	0.16 ** (4.34)
Web site satisfaction \times technology readiness	0.10 ** (2.79)
Internet experience (IntExp)	0.03 NS (0.75)
R^2 (per cent)	80.7
Adjusted R^2 (per cent)	79.8

Table III.
OLS regression
analysis results

Notes: * $\alpha < 0.05$; ** $\alpha < 0.01$; NS – not significant. All changes in R^2 had a significant F -statistic. Only the final model from the hierarchical regression results are shown

ANOVA						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	288.156	8	36.020	84.355	0.000
	Residual	68.747	161	0.427		
	Total	356.903	169			

Table IV.
Overall model test results

Notes: Predictors: (constant), customer satisfaction, risk aversion, trust disposition, technology readiness, customer satisfaction \times risk aversion, customer satisfaction \times trust disposition, customer satisfaction \times technology readiness, internet experience. Dependent variable: purchase intentions

characteristics increased the explanatory power by nearly 6 per cent. Moreover, the increase in R^2 value from the direct effects only model to the complete model including the moderating effects was 3.4 per cent. This is noteworthy since it is well recognized that two problems arise in trying to detect interactive effects in field studies. First, interactive effects typically account for a very small portion of the additional variance explained (Chaplin, 1991). Second, when main effects account for a large portion of the explained variance, the detection of interactive effects becomes even more problematic (McClelland and Judd, 1993). It is argued in the literature that given the problems in detecting interactive effects in field studies, those effects that account for even 1 per cent of incremental variance should be considered substantive (Evans, 1985). Hence, the interactive effects detected in this study are noteworthy.

Overall, all the hypothesized effects were confirmed. The direct effects of web site satisfaction and technology readiness, and the pure moderating effects of the three personality characteristics on purchase intentions were significant. As expected, the effect of trust disposition on purchase intentions was not significant. Interestingly, the direct effect of risk aversion on purchase intentions was also not significant. These results were found after controlling for possible differences in the level of internet experience within the sample. The effect of the control variable, internet experience, on purchase intentions was non-significant.

Additional analysis

To shed further light on the specific nature of the interaction effects, the following graphical and statistical analysis as recommended by Aiken and West (1991) was conducted. First, the median scores for web site satisfaction, trust disposition, risk aversion, and technology readiness were computed. Then the entire sample was split into groups of respondents who were either above or below the median values on the interacting variables, and compared the mean rates of purchase intentions for every combination of interacting effect. Finally, these means were plotted and tested for statistical differences. The results of this analysis for web site satisfaction and trust disposition are shown in Figure 2. Among satisfied respondents (i.e. those above the median on the web site satisfaction score), those high showed high levels of trust disposition were significantly more likely to purchase than those with low levels of trust disposition. As shown in Figure 2, the mean rate of purchase intentions for those having high-dispositional trust (5.17) was significantly higher ($\alpha = 0.05$) than the mean rate of purchase intentions for those having low-dispositional trust (4.39). This offers further support for *H2*. Figure 2 also shows how trust disposition acts only at the high end of satisfaction, namely that it compliments web site satisfaction and reinforces purchase intentions, and not at the low end of satisfaction.

The results of the same analysis for web site satisfaction and risk aversion are shown in Figure 3. Intriguingly, among highly satisfied respondents, those with high levels of risk aversion were significantly more likely to purchase than those with low levels of risk aversion. The mean rate of purchase intentions for highly risk-averse customers (5.07) was significantly higher ($\alpha = 0.05$) than the mean rate of purchase intentions for customers with low-risk aversion (4.32), further supporting *H4*. Here too, risk aversion was found to have a significant impact only at high levels of satisfaction. Interestingly, Figure 3 also shows how the two slopes cross each other. Specifically, at

Mean level of Purchase Intentions

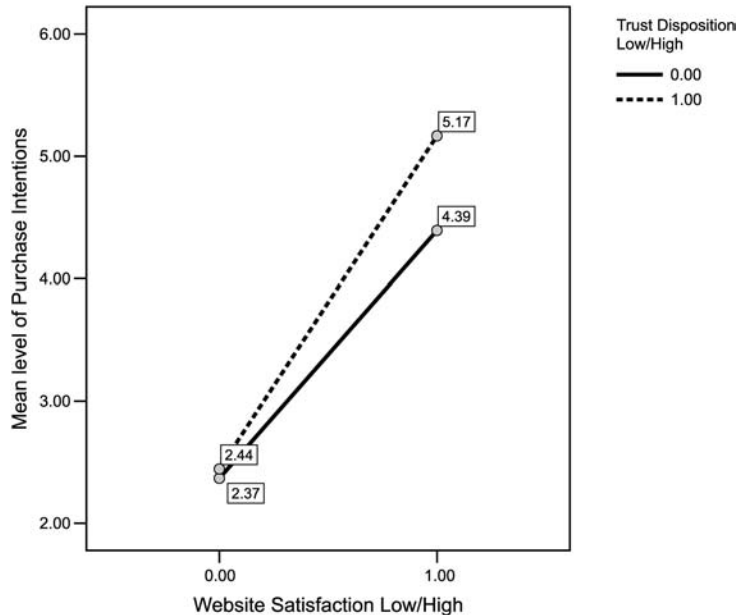


Figure 2.
Interaction between
web site satisfaction and
trust disposition

low levels of satisfaction, risk aversion inhibits behaviour, whereas at high levels of satisfaction the effect is the opposite.

Likewise, Figure 4 shows the interaction effect between web site satisfaction and technology readiness. Here too, among highly satisfied respondents, those with high levels of technology readiness were significantly more likely to purchase than those with low levels of technology readiness. The mean rate of purchase intentions for customers showing high levels of technology readiness (4.84) was significantly higher ($\alpha = 0.05$) than the mean rate of purchase intentions for those having low levels of technology readiness (4.46), further supporting *H6*. Figure 4 also shows how technology readiness compliments web site satisfaction and reinforces purchase intentions, only at the high end of satisfaction. Here too, as in the case of the previous moderating effects, the mean rates of purchase intentions at low end of web site satisfaction were found to be not significantly different.

Discussion

The results offer strong support for the positive direct effects of web site satisfaction and technology readiness as well as the interaction effects on purchase intentions of satisfaction with three personality characteristics in the context of an initial visit to the web site of an unknown service provider. The implications are discussed below.

Effect of web site satisfaction on outcomes

The main effect of web site satisfaction on purchase intentions was positive and significant. The results confirm the association between attitudes and intentions found

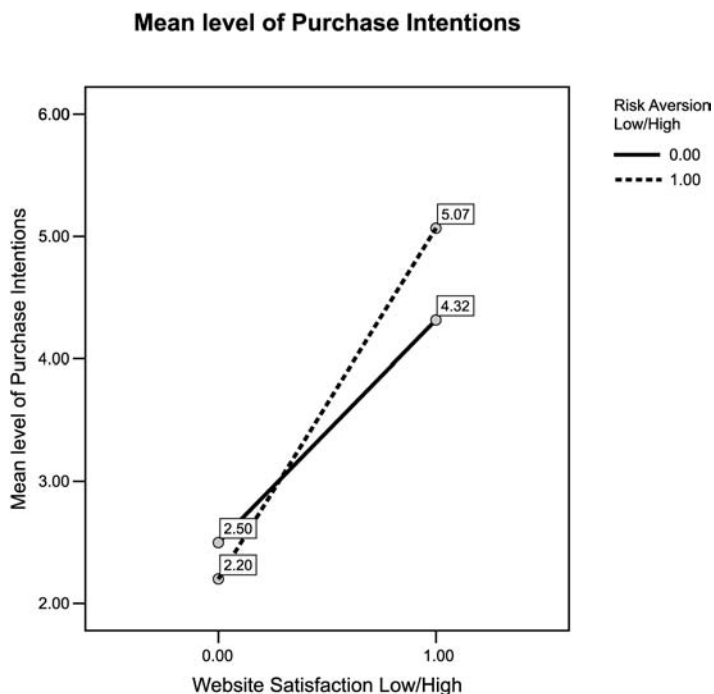


Figure 3.
Interaction between
web site satisfaction and
risk aversion

in previous studies in many contexts. However, the very high-regression coefficient indicates how crucial it is for relatively little known service providers to have excellent web sites since in such contexts, potential customers visiting the site intending to do their first transaction with the firm make that decision almost entirely based on what they see on the web site. While this may sound intuitive, the better known companies often tend to have the better web sites as well. Our results show that little known companies need to not only match better known company web sites, but also compensate their lack of brand recognition by investing in web sites that are extra-ordinary. Given the lower costs of developing web sites relative to other infrastructure costs, the additional investment is likely to be more than compensated by the incremental revenue generated from more sales.

Effects of trust disposition, risk aversion, and technology readiness

The absence of a main effect of trust disposition confirmed by the data is noteworthy. It shows that mere presence of positive valence (the extent to which a customer thinks about the outcome of the transaction to be positive) arising from dispositional trust is not adequate for a customer to move to the behavioural stage. It confirms that dispositional trust does not mean blind faith. However, lack of a main effect of trust disposition also means that the absence of trust disposition itself will not prevent customers from having positive purchase intentions. The significant reinforcing effect of trust disposition on the relationship between web site satisfaction and purchase intentions indicates that those possessing global dispositional trust are more likely to act on their purchase intentions provided they are satisfied with the web site.

Mean level of Purchase Intentions

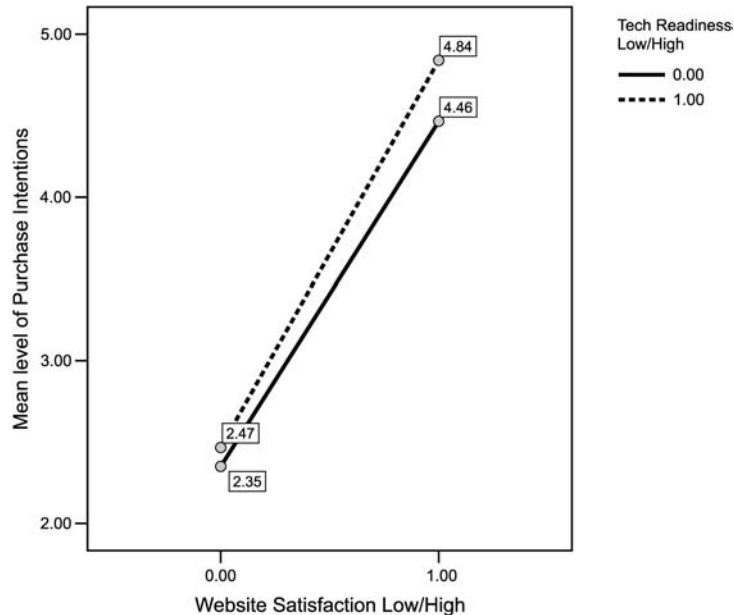


Figure 4.
Interaction between
web site satisfaction
and technology readiness

Inherent risk aversion did not significantly constrain purchase intentions. While the effect was negative, it was non-significant. As indicated by the strong interaction effect between risk aversion and web site satisfaction, the former affects purchase intentions in combination with satisfaction, and not necessarily in isolation. What is more intriguing is that while risk aversion had a significant interactive effect on purchase intentions, the direction of the relationship was positive, confirming a reinforcing effect. This finding needs highlighting. The results show that provided they are satisfied with a web site, risk-averse consumers are more likely to purchase. Given that risk-averse consumers seek additional information to be satisfied (Shimp and Bearden, 1982), they will be more committed to what they found and liked, knowing that they are making a well informed decision. They are also unlikely to have a desire to look for alternatives since that would lead to facing new, ambiguous situations. The results indicate that risk aversion does not prevent people from acting, provided they are satisfied. This also indicates that well informed risk-averse customers can be a segment with higher potential for customer loyalty than others who are more risk seeking.

Given that risk-averse consumers, when satisfied with the web site, are more likely to have positive purchase intentions, it is crucial to provide all the necessary cues to satisfy them. The online literature offers clear guidance on useful risk-related information such as clear security policies (Grewal *et al.*, 2003); privacy policies (Hoffman *et al.*, 1999); product or service guarantees, evidence of legal and statutory compliance, trusted third party verification (Yousafzai *et al.*, 2005); testimonials (McKnight *et al.*, 1998); and brand identification (Huang *et al.*, 2004). However, the presence of a significant segment of consumers that is more risk-averse than others,

and who needs greater reassurance should be recognized. Hence, online retailers need to move beyond ensuring the mere presence of the aforementioned features on their web sites, and towards customizing the web sites to meet the needs of risk-averse consumers. Specific links and features that will proactively direct such risk-averse customers to customized information can potentially improve purchase intentions. While risk aversion may have some negative implications for the service provider in view of its main effect (albeit small), the direction of the moderating effect presents the service provider with an opportunity to leverage the inherent dislike of the risk-averse individual to seek new situations by making them loyal to what they know and like. In the context of an initial transaction, the only opportunity that the service provider gets to convince the risk-averse customer to move to the purchase stage is the web site. This highlights the importance of customizing web sites to meet the needs of this potentially more loyal target group.

The results also confirmed that both the main and interactive effects of technology readiness on purchase intentions are significant. The positive main and reinforcing effects mean that the more technology ready the consumers are, the more likely that they will proceed with a purchase. This is generally good news for the service provider, and is consistent with the behaviour of similar groups in adopting and continuing to use technological innovations.

Conclusions

While extant literature has dealt extensively with both risk perceptions and online trust as context specific perceptual constructs, little attention has been paid to personality characteristics such as risk aversion and trust disposition that are inherent in individual consumers and determine their general outlook towards the world. Similarly, while internet experience has often been studied as a predictor of online behaviour, the inherent readiness of individuals to embrace a new technology has received little attention, especially in the context of online behaviour. This research fills that gap in the literature and makes an important contribution by identifying significant direct and moderating effects. This research clearly illustrates that it is crucial for service providers to recognise both the opportunities these personality traits offer in identifying potentially lucrative customers, as well as understand the challenges that the same traits pose. Managers who are knowledgeable of these traits are therefore likely to gain an advantage over their competitors in customising their web sites to meet distinct personality traits. Results also indicate that web-based service providers with little known brands need to work extra hard to ensure that their web sites do not just match those of their larger competitors, but that they go beyond in offering a unique online experience. This is crucial since the web site is often the only medium they have in convincing first time visitors to their sites to move to the purchase stage.

The findings will not only help those firms in the hotel sector, but also a number of other sectors where customers often deal with relatively unknown web-based service providers, and where the service provider is faced with the reality of trying to convince numerous first time browsers to move to the purchase stage. Examples include but are not limited to restaurants in new destinations, attractions that rely on tourism for revenue, as well as numerous small- to medium-sized e-tailing businesses that rely on search engine optimization strategies to attract customers to their sites.

Limitations and future research

The cross-sectional nature of the study only allowed for an understanding of directional relationships amongst the constructs, and not causal inferences. Causal inferences are best made under controlled experiments. As the model is tested in one online setting, the validity of the results can be further tested by empirically examining other retail settings. Moreover, this is one of the first attempts at investigating the moderating effects of personality characteristics on the relationship between web site satisfaction and purchase intentions in an online buying context. It is plausible that there are additional personal as well as contextual characteristics to be considered beyond those investigated here. Characteristics such as purchase involvement, flow, as well as demographics (Ranaweera *et al.*, 2005) are likely candidates for further research.

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