WHY CUSTOMERS DO NOT COMPLETE ONLINE TRANSACTIONS: THE MISSING LINK

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The purpose of this study is to investigate the stages of online business that motivate customers to complete online transactions. By using the Technology Acceptance theory, the online business-transaction model is proposed and tested. The results of our survey of Canadian firms validate the four-stage causal model—Perception, Interpretation, Value Assessment, and Transaction stages. Given the international scope of online business, identification of the stages is important for both scholars and managers, because relatively few customers who visit websites complete transactions, suggesting that at some stage the customer abandons the website. By assessing the stages of their online businesses, managers can determine which stage is most worthy of attention in order to encourage customers to complete online transactions. Managers who understand the stages can attract new customers and serve existing customers more effectively.

ONLINE CUSTOMER

In the past, aspects of international business in an online environment such as the comparison and growth of e-business among countries (Fey, Koning and Delios 2006; Zhao 2002), ordering (Boyer and Hult 2005), buying or browsing (Brown et al. 2003), retailing (Mukherjee and Nath 2007), consumer ethics (Chatzidakis and Mitussis 2007), teens' online behaviour (Moskowitz, Itty and Jeffrey 2003), and the globalization and localization of online contents (Tixier 2005) have been examined extensively. Although these studies have provided international managers with insight into the predictors of consumer behaviour, research has not yet focused on what motivates customers to complete online transactions. One of the reasons for not completing online transactions is the ability of customers to switch to another website and abandon their e-carts. This may suggests that at some stage during their shopping experience, customers seek more information from other sources. To identify these stages, research is needed to illustrate a more accurate representation of how customers go through the stages before they complete transactions. This is important, because any online business, by default, is an international business. Further, we need to examine online business from the firm's perspective, as only the businesses have an accurate assessment of customers' termination of purchases and their departure from the websites. In order to fill in the gaps, the objectives of this study are to (1) identify the key variables of online business and transaction from a theoretical background, (2) determine the stages of online business, (3) discover the variables that differentiate the stages from one another, (4) determine the causal links associated with the stages leading up to transactions, and finally (5) validate the proposed model.

Theoretically, past research indicates that several factors can contribute to achieving the aforementioned objectives (Burke 2002; Davis 1989). However, our conceptualisation of the identification of the stages of online business is based on the technology acceptance model (TAM) (Davis 1989), which has been replicated (Adams, Nelson and Todd 1992) and found to be valid (Davis 1993). The TAM is represented by two factors—*perceived ease of use* and *perceived usefulness*. Consistent with the model and taking the perspective of the firm, we define *perceived ease of use* as the firm's ability to provide user-friendly websites,

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whereas *perceived usefulness* is the firm's ability to create the usefulness of online purchases. We explain the factors in detail in the subsequent sections.

This study makes two contributions to business literature. First, theoretically, we identify the key underlying variables and test them empirically to discover the underlying stages of online business. Second, methodologically, we test the applicability of the TAM from the firm's perspective. By assessing the stages of online business, managers can determine which stage is most worthy of attention in order to encourage customers to complete online transactions. Managers who understand these stages can attract new customers and serve existing customers more effectively. For example, once they discover the stage beyond which customers have problems proceeding, managers can direct customers at that point to sales associates for live assistance.

First, we provide a brief synthesis of the behavioural theory. Second, we report the results of factor analysis designed to assess the stages of online business. Third, we discuss the findings. Finally, we present recommendations for managers, followed by our conclusions and the contribution, limitations, and directions for future research.

THEORETICAL BACKGROUND

The Theory of Planned Behaviour (TPB) Versus the Technology Acceptance Model (TAM)—The Competing Models

A review of the literature reveals diverse relationships to online business. For example, some studies have focused on the adoption of technology in general by firms (Porra 2000) and on the diffusion of technology across companies (Norton and Bass 1992), whereas others have tested the impact of the Internet on business-to-business marketing (Avionities and Karayanni 2000) and on conversion efficiency (Berthon et al. 1996). However, within the literature on technology use, the theory of reasoned action (TRA) (Fishbien and Ajzen 1975) has been used successfully to identify key elements of consumer decision-making (Taylor and Todd 1995) and to explain virtually any human behaviour (Ajzen and Fishbien 1980) across a number of disciplines. The TRA posits that behaviour is determined by an individual's intention to perform the behaviour and that the intention is influenced by attitudes and subjective norms (Ajzen and Fishbien 1980). Following the success of this theory, it has been further refined to enhance its predictive nature about behaviour. Two such related but competing theories are the theory of planned behaviour (TPB) and the technology acceptance model. The TPB predicts an individual's behaviour across many social and psychological settings and can be applied to Internet shopping (Brown and Venkatesh 2005; Chau and Hu 2002; Chau and Hu 2001; Venkatesh and Brown 2001), whereas the TAM predicts an individual's intention to use an information system and can be modified to predict a consumer's intention to use Internet technology for product purchasing (Davis 1989; 1993). We draw on the TAM (Davis 1989) to market products or services in an online environment. This model is particularly applicable in explaining behaviour by identifying a small number of fundamental variables and by modelling the theoretical relationship among these variables (Davis 1989). Researchers have replicated the model (Adams, Nelson and Todd 1992) and extended it to examine users' acceptance (Moore and Benbasat 1991; Taylor and Todd 1995). However, in this study, we not only extend the applicability of the model by examining consumers' acceptance of it, but also use managers of firms as respondents. This model has received significant support in the literature and has two broad factors: *perceived ease of use* and *perceived usefulness*.

Application of the Technology Acceptance Model (TAM)

To achieve the objectives of this study, we utilized the above-mentioned factors to generate twelve key variables within the TAM framework (Davis 1989, p. 331), as they are

likely predictors of the stages of online business. The Ease of Use (E) factor has six variables: Easy to learn (E1), Controllable (E2), Clear and understandable (E3), Flexible (E4), Easy to become skilful (E5), and Easy to use (E6). The Usefulness (U) factor also has six variables: Work more quickly (U1), Job performance (U2), Increase productivity (U3), Effectiveness (U4), Makes job easier (U5), and Usefulness (U6). Although these variables were derived from the theory, they had to be refined. To do so, we followed the guidelines developed by Churchill (1979) and (DeVellis 1991) and asked the managers (more details in the Methodology section) to (1) comment on the variables for their relevance, clarity, and conciseness and (2) relate the variables to the operation of their websites that could tap into the domain of online business. As a result of this process, we generated twelve modified variables that corresponded to the original twelve variables taken from the TAM theory: E1—be able to do transaction and feel comfortable with the process, i.e., easy to learn; E2—customisation of order, i.e., controllable; E3—clear understanding of the security features of websites, i.e., clear and understandable; E4— flexible return policy and warranty, i.e., flexible; E5—easy to become skilful at navigating websites, i.e., easy to become skilful; E6—easy to trust websites and thus easy to use, i.e., easy to use; U1—quick loading websites, i.e., work more quickly; U2—seamless transaction performance, i.e., job performance; U3—tracking orders for increased productivity, i.e., increase productivity; U4—effective interactivity, i.e., effectiveness; U5—comparative marketing strategy for making transaction easier, i.e., makes job easier; and U6—useful value-added opportunities, i.e., usefulness. In the next section, we define the variables.

(1/E1) *Transaction* relates to the buyer's intention to engage in online exchange relationships with the community of sellers (Gefen, Karahanna and Detmar 2003). (2/E2) *Customisation of order* refers to the firm's ability to develop, manage, and deliver value-added products. (3/E3) *Security features* relate to the firm's ability to make customers understand the security features of their websites. (4/E4) *Return policies and warranty* refer to the extent to which the firms are flexible in their return policies and warranties, such as a full refund or replacement. (5/E5) *Website navigation* relates to the firm's ability to provide websites that are easy to navigate and that deliver the desired information. (6/E6) *Easy to trust website* refers to the firm's ability to create trustworthy websites. (7/U1) *Quick loading website* refers to the firm's ability to use speed optimization techniques for the quick loading of websites, without having customers wait excessively for the desired information. (8/U2) S*eamless transaction performance* refers to the extent to which firms seamlessly use third-party structures to facilitate transactions and to foster trust. (9/U3) *Tracking orders for increased productivity* refers to the extent to which the firms are able to integrate a management information system with order entry applications, real time inventory databases, and shipping systems. (10/U4) *Effective interactivity* refers to the amount and quality of two-way communication between two parties. (11/U5) *Comparative marketing strategy making transaction easier* refers to the firm's ability to present comparisons of products based upon certain criteria. (12/U6) *Useful value-added opportunities* refer to the firm's ability to create value by informing the customers of the benefits of the online purchases.

METHODOLOGY

Questionnaire Development

These modified twelve variables formed the basis for the questionnaire development. To ensure clarity and content validity, as suggested by Churchill (1979), these variables were pre-tested on 30 international business managers (15 each from manufacturing and service sectors) who were engaged in online business. Their feedback was incorporated into the statements presented in the e-questionnaire (Appendix). Managers were the unit of analysis, as they had intimate knowledge about

both the online consumer behaviour and the acceptance of the technology in the context of online business. This knowledge is useful for the managers as they have access to real time information about customers' activities such as how long they stayed on the website, where they came from, and how often they did not complete transactions. Clearly, managers can use this information to predict consumer behaviour and to adjust their business strategy. The relationship between consumer behaviour and online business exists and thus is extensively used (e.g., airline industry, hotel industry) for adjusting price in response to demand.

Data Collection

To collect data, a link to the e-questionnaire (Appendix) containing the twelve items was sent via e-mail to 4,000 managers selected randomly from the bluebook database of Canadian firms. Access to the online forms was password restricted in an attempt to ensure that only appropriate individuals answered the questions. To increase the response rate, we kept the questionnaire as short as possible. Managers responded to the questionnaire by selecting a number on a seven-point scale (1=strongly disagree, 7=strongly agree). Subjective measures of performance are frequently used in marketing research and have been found to be both reliable and valid (Dess and Robinson 1984).

To ensure anonymity, details such as contact information and Internet Protocol (IP) addresses were not kept. Dillman's (1999) principles of a tailored design method for survey data collection were followed; that is, initial contact with follow-up reminders, a small incentive for completing the survey (we promised a copy of results of the survey if they gave us contact information), and the promise of anonymity in survey responses. A second wave of e-mails was sent two weeks later. Of the 4,000 firms contacted, 324 firms declined to participate in the survey, as they did not have the time to complete the questionnaires, and 217 e-mails were undelivered, leaving an effective sampling frame of 3,459 firms.

Response Rate and Non-response Bias

A total of 892 questionnaires were obtained, of which 131 were incomplete, and 49 had outliers, leaving an effective sample size of 712. The overall usable response rates from first and second e-mails were 13 percent (450/3459) and 9 percent (262/3459) respectively, the total response rate being about 21 percent (712/3459). The high response rate indicates the timeliness and relevance of the study. To assess non-response bias, the last-wave method was used (Filion 1975). This method projects the trend in responses across the two waves and assumes that the non-respondents are like the last respondents in the second wave. A Chi-square test indicated no significant differences between the first- and second-wave respondents (X^2=0.84, p>.05) across firm size or turnover of firms, suggesting a non-significant non-response bias.

Sample Characteristics

One limitation of survey-based data is whether or not it represents the population. However, the distribution of firms in the sample—which broadly corresponds to the database's population on such parameters as firm size, number of employees, and turnover of firms—suggests that it is representative of the population. The sample broadly consisted of 36 percent of firms that manufacture products, 48 percent of firms that provide services, and 16 percent "other". Firms having a turnover of less than $100 million, between $100 million and $200 million, and more than $200 million provided 38 percent, 41 percent, and 21 percent of the sample, respectively. Firms with less than 100 employees, between 100 and 500 employees, and more than 500 employees represented 41 percent, 46 percent, and 13 percent of the sample, respectively. Questionnaires completed by senior, middle, and lower marketing management were 22 percent, 71 percent, and 7 percent, respectively.

ANALYSES AND RESULTS

Factor Analysis

Following procedures recommended by Churchill (1979), we divided the sample into two parts, namely, training and validation sample. Thus, to achieve the second and third objectives of the study, an exploratory factor analysis was used. The KMO (Kaiser-Meyer-Olkin) test indicated a score of .71, suggesting the suitability of the data for the analysis. The analysis extracted four factors. Table 1 reports statistical details of the factor analysis. To cross-validate the stages, we ran a confirmatory factor analysis on the four factors that arose from exploratory factor analysis on the validation sample. The CFA resulted in good fit, with GFI, AGFI, and CFI above the recommended 0.90 level (Hair et al., 2006), thus confirming the four factor structure proffered in this study.

Further, CFA was also performed on training sample. The chi-square difference test was employed to examine difference between factor structure obtained with training and validation sample. The results of chi-square difference test indicated no significant differences between both sets of data ($\chi2=0.85$, $p>0.05$) across the factors, suggesting the stability and validity of the data. Also, we did not find any significant difference between manufacturing and service sectors across the stages (Chi-square $\chi2=0.79$, $p>0.05$). Overall, four factor structure was cross-validation and we labelled the four factors as the Perception, Interpretation, Value Assessment, and Transaction Stages of online business.

Perception Stage

The Perception stage relates to the firm's ability to create a positive perception by providing *security features*, *trustworthy websites*, and *effective interactivity*. One way to create a positive perception is by outlining security features and providing privacy policies: for example, the display of the VeriSign client software that establishes a secure link with the VeriSign processing server using an SSL connection to transmit encrypted transaction

TABLE 1
Factor Analysis: Extended TAM Model (Davis 1989)

Factor Matrix, Varimax Rotation (For clarity, factor loadings less than .4 have not been reported.)

Item no.		*Mean/s.d.*	*Perception*	*Interpretation*	*Value-assessment*	*Transaction*
3	Security features	5.2/.87	**.76**			
6	Easy to trust websites	6.1/.91	**.71**			
10	Effective interactivity	5.3/.87	**.65**			
5	Easy to navigate websites	5.9/.97		**.81**		
11	Comparative marketing	5.2/1.01		**.79**		
4	Flexible return policies	4.3/.86		**.74**		
12	Value-added opportunities	5.5/.65			**.73**	
7	Quick-loading website	5.2/.87			**.71**	
2	Customisation of orders	4.7/.78			**.65**	
1	Easy transactions	5.2/.65				**.77**
8	Seamless transaction	5.1/.94				**.69**
9	Ability to track orders	4.6/1.01				**.64**
Eigen value			6.08	5.60	4.67	4.13
Variance percent			13.45	12.38	10.31	9.13
Cronbach's a			.73	.77	.74	.71
Standard a			.71	.74	.71	.70
No of items			3	3	3	3

NB: The variables were measured on a seven-point scale (1=strongly disagree, 7=strongly agree).

requests. Further, displaying the privacy seals provided by TRUSTe and BBB*Online* establishes the perception that the firm collects information according to the stated privacy policy. Operators of the third-party seal programs advocate a set of standards that concern customers, such as privacy, security, and reliability (Cook and Wenhong 2003). When firms follow these standards, the seal—a visible fixture on the website—appears to foster trust. Although the display of privacy seals is common, it can be misleading to some customers. A majority of consumers inaccurately perceive a website's privacy policy as an indication that the website does not collect or share their personal information (Rifon, LaRose and Choi 2005).

Interpretation Stage

The Interpretation stage is about the firm's ability to persuade customers to interpret the contents of websites correctly by providing easy-to-navigate websites, benchmarks for product comparisons, and flexible return policies and warranties. To be interpreted correctly, it is important that the website displays error-free text, images, pictures, and easy-to-navigate tools. Customers may interpret professional-looking websites as being the equivalent of neat and clean physical stores, and thus may perceive such websites as being able to provide exceptional services. On the contrary, poor spelling, grammar, and syntax create doubts about the firm's identity and thus impede trust (Koehn 2003). Because the customers cannot look for sales associates, size up the physical space of a store, or touch the products, they have to rely on images and promises (Gefen and Detmar 2004). If customers do not trust the firm's images and promises, they will shop elsewhere (Reichheld and Schefter 2000). In fact, trustworthiness promotes both intention to buy and actual financial risk taking (Büttner and Göritz 2008).

Value Assessment Stage

The Value Assessment stage refers to the firm's ability to add value to products, create quick-downloading websites, and customize orders. Adding value to products through the concept of value-based pricing seems most appropriate for this stage. This concept sets a target price based on a customer's perceptions of the product value and its quality. Because consumer seek appropriate and optimal information to aid their consumption process, increased ability of the quick loading website that adapts to consumer's interest, searches, and past purchases can augment overall value of consumption (Pollard, Chuo and Lee 2008).Quite accurately, Jack Welch (1999), the CEO of General Electric said: "The value decade is upon us. If you cannot sell a top-quality product at the world's best price, you are going to be out of the game…. The best way to hold your customers is to constantly figure out how to give them more for less." Clearly, this stage assists customers with maximizing the value of their purchases.

Transaction Stage

The Transaction stage relates to the firm's ability to let customers become skilful at transactions, provide seamless transaction performance, and track orders for increased productivity. Of particular note is the importance of saving the order in case the customer decides to return to it later; this back-and-forth mechanism should be seamless. For time-constrained and confident customers, express transactions (where firms keep personal information on a secure database) are particularly important. Furthermore, reminding customers about privacy protection and Internet security reinforces their confidence in conducting online transactions. Finally, being able to track the progress of orders and the rapid delivery of goods is likely to maximize the value of purchases (e.g., amazon.com and fedex.com).

Common Method Bias, Reliability, and Validity

We employed a statistical check for common-method bias using the Harman's one-factor method (Podsakoff and Dennis 1986). The fact

that the variance (45.27 percent) explained in the four factors is relatively balanced (with 13.45 percent, 12.38 percent, 10.31 percent, and 9.13 percent, respectively) suggests that common method bias was not a serious problem. To test for the reliability of the factors, an internal consistency analysis was performed (Churchill and Peter 1984). Table 1 reports the scores of α and standard α for the *Perception* (.73/.71), *Interpretation* (.77/.74), *Value Assessment* (.74/.71), and *Transaction* (.71/.70) factors. That the values of standard α are close to α lends further credence to the reliability of the research. The Cronbach's α coefficient scores for the stages are above the recommendation (.70) for the scale to be reliable (Nunnally 1964).

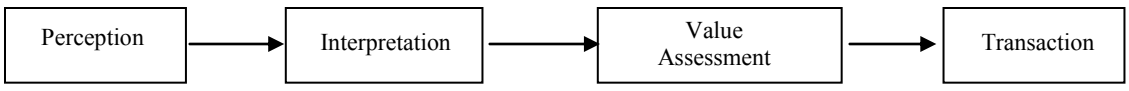
Theoretical Background for the Causality Between the Stages

To achieve the fourth objective, we offer the following theory. Consistent with the Quelch and Klein (1996) model of evolutionary paths of a website—from information to transaction—for multinational corporations, we conceptualised (Figure 1) the following causality between the four factors—*Perception*, *Interpretation*, *Value Assessment*, and *Transaction*, and regarded each factor as a stage of marketing. Because we adapted the variables from the TAM (Davis 1989) to make them compatible with firm's perspective, it contributed to the stages. For the purpose of the study, we define a stage as a specific, identifiable position through a combination of variables in a continuum of online business. Clearly, the aforementioned stages are more relevant in online business than in offline business, because of the lack of physical presence of the products and, thus, their actual performance. As a result, firms and their products need to be perceived, interpreted, and correctly assessed before transactions can take place. Although there is a risk of oversimplification in using such stages, using them serves the conventional purpose of highlighting distinct aspects of different factors and facilitates the discussion of results. Further, making linkages between these stages provides a systematic approach to identifying variables that differ between the stages and provides opportunities for managerial action.

Tests for the Reliability and Validity of the Stages

Using the procedure suggested by Anderson and Gerbing (1988), the unidimensionality, convergent validity, and discriminant validity of the stages were assessed. The composite reliability coefficients for all the stages were supported, as they were well above the usual guidelines of .60 (Bagozzi and Yi 1988). Further, the structural parameter estimates varied little when the method factor was incorporated into the analysis, suggesting reliability of the stages. The good model fit and the significant high factor loadings in Table 2 support the unidimensionality and convergent validity of the stages (Anderson and Gerbing 1988). Table 3 suggests the discriminant validity of the stages as all the correlations were significantly below one (p<.001) (Anderson and Gerbing 1988). Further, discriminant validity was found for the pairs of stages by comparing the average variance extracted for each stage to the square of the correlation between each pair of stages (Fornell and Larcker 1981).

FIGURE 1:
Causal Link Between the Stages



Results

After establishing the reliability and validity of the stages, the purified stages were estimated simultaneously in a multifactor model using AMOS 4.0. Each item was restricted to load on its priori factor, and the factors themselves were allowed to correlate (Anderson and Gerbing 1988). The overall model fit (c^2 (143)= 231.56 ($p<.05$), GFI=.97, AGFI=.95, NFI=.96, RMSEA=.03, NNFI=.95, TLI=.97) suggests that measurement relationships are consistent with data (Table 2). Next, having determined the latent stages, the full structural model shown in Figure 1 was estimated and evaluated. Overall and component fit measures were used to judge the simultaneous fit of the measurement and structural model to the data collected for the study.

To check if the hypothesized model fits better than other competing models, we conceptualised an alternative model and estimated its parameters. This competing model specifies the reverse causal direction between perception and interpretation, because it could be argued that interpretation leads to perception. The fit of the model (c^2 (15) =14.21 ($p<.05$), Goodness of Fit Index (GFI) =.67, Adjusted Goodness of Fit Index (AGFI=.66), Normed Fit Index (NFI=.61), Root mean square of error of approximation (RMSEA) =.07, Non-normed Fit Index (NNFI) =.54, and the Tucker Lewis Index (TLI) =.763) are significantly weaker than our hypothesized theoretical model. Given that the two models have the same degree of freedom, a direct comparison in c^2 statistics reveals that the competing model is 60 percent weaker than the theoretical model.

TABLE 2
Confirmatory Factor Analysis

Variables (mean/s.d.)		Factor loading (std.)	t-value	Correlations		
Perception (Composite ratio = .92, Variance = 13.45 percent, a = .73, standard a = .71)				X1	X2	X3
3 Security features (5.2/.87)	(X1)	.73	10.43	1.00		
4 Easy to trust websites (6.1/.91)	(X2)	.78	12.21	.34	1.00	
1 10 Effective interactivity (5.3/.87)	(X3)	.71	11.36	.28	.31	1.00
Interpretation (Composite ratio = .82, Variance = 12.38 percent, a = .77, standard a = .74)				Y1	Y2	Y3
5 Easy to navigate websites (5.9/.97)	(Y1)	.79	11.34	1.00		
11 Comparative marketing (5.2/1.01)	(Y2)	.83	13.86	.27	1.00	
4 Flexible return policies (4.3/.86)	(Y3)	.77	10.73	.29	.27	1.00
Value-assessment (Composite ratio = .83, Variance = 10.31 percent, a = .74, standard a = .71)				Y4	Y5	Y6
12 Value-added opportunities(5.5/.65)	(Y4)	.73	10.41	1.00		
13 7 Quick-loading website (5.2/.87)	(Y5)	.76	11.56	.32	1.00	
2 Customisation of orders (4.7/.78)	(Y6)	.85	14.25	.26	.24	1.00
Transaction (Composite ratio = .91, Variance = 9.13 percent, a = .71, standard a = .70)				Y7	Y8	Y9
1 Easy transactions (5.2/.65)	(Y7)	.78	11.32	1.00		
8 Seamless transaction (5.1/.94)	(Y8)	.83	14.56	.23	1.00	
9 Ability to track orders (4.6/1.01)	(Y9)	.79	13.25	.32	.27	1.00

Model Fit Indices
c^2 (143)= 231.56 ($p<.05$), GFI=.97, AGFI=.95, NFI=.96, RMSEA=.03, NNFI=.95, TLI=.97

Note: All the correlations are significant at .05 level.

TABLE 3
Correlations and Descriptive Statistics of Variables

Variables	PER	INT	VAL	TXN
Perception (PER)	1.00			
Interpretation (INT)	.24*	1.00		
Value assessment (VAL)	.32*	.28*	1.00	
Transaction (TXN)	.26*	.31*	.24*	1.00
Factor mean	5.53	5.13	5.14	4.96
Standard Deviation	1.03	.98	1.01	1.08

* $p < .05$

TABLE 4
Main Effects

Variables	Unstandardized Structural Coefficients (Standard errors)	
PERàINT	.36(.06) **	R^2=.54
INTàVAL	.29 (.05) *	R^2=.38
VALàTNX	.34 (.08) **	R^2=.32

Model Fit Indices

c^2 (115)=135.21 (p<.05), GFI=.97, AGFI=.96, NFI=.95, RMSEA=.04, NNFI=.96, TLI=.97

GFI=Goodness of Fit Index, AGFI=Adjusted Goodness of Fit Index, NFI=Normed Fit Index, RMSEA=Root mean square of error of approximation, NNFI= Non-normed Fit Index, TLI=Tucker Lewis Index

* $p < .05$, ** $p < .001$

Table 4 reports the standardized structural coefficients and goodness of fit statistics (c^2 (115)=135.21 (p<.05), GFI=.97, AGFI=.96, NFI=.95, RMSEA=.04, NNFI=.96, TLI=.97) for the theoretical model and suggests that perception is significantly positively (*b*=.36, *p* <.01) related to interpretation, that interpretation is significantly positively (*b*=.29, *p* <.05) related to value assessment, and that value assessment is significantly positively (*b*=.34, *p* <.01) related to transactions. Though it is parsimonious in terms of the number of predictors, the model explains 54 percent, 38 percent, and 32 percent of the variances in interpretation, value assessment, and transaction, respectively. The proposed causality in Figure 1 is supported.

THEORETICAL AND MANAGERIAL CONTRIBUTION

The purpose of the study was to identify the key variables of online business and determine the stages that contribute to the completion of online transactions. Overall, the study makes two contributions to the extant literature. From the theoretical viewpoint, the first contribution is the identification of the stages of online consumption process. In other words, following Churchill (1979) scale development procedure, we have proffered psychometrically purified measures for four stages in online consumption process. Items generated for measurement of four stages were guided by strong theoretical framework (i.e., TAMS) and further the items were submitted to a rigorous refinement processes. Four stages that were

conceptualized, theorized, and empirically validated in this study are—Perception (which relates to security features, trust, and interactivity), Interpretation (easy to navigate websites, benchmarks for product comparisons, and flexible return policies and warranties), Value Assessment (value addition, quick-downloading websites, customization of orders), and Transaction (ease of transactions, seamless transactions, and tracking of orders). The results of this study concur with model proposed by Quelch and Klein (1996) and extend the technology acceptance model promulgated by Davis (1989).

The second theoretical contribution is the operationalization of the variables of the technology acceptance model from the perspective of the firm. The advantage of this perspective is that managers can use the variables to determine their present stage and audit the variables that need attention. To do so, a target can be set to achieve a higher score within a certain timeframe on those variables that need improvement. The target is essentially a benchmark, which can be set by listening to focus groups within the firm with members drawn from various departments. Drawing members from various departments gives rise to market orientation, an approach that leads to superior business performance (Kohli and Jaworski 1990; Narver and Slater 1990). The differences between the scores on the variables in question and the scores on the benchmarked variables will determine the extent to which firms are successful in online business. Figure 2 graphically shows the relationship between online business and online transaction. Given the importance of the Internet and an international scope, the four-stage model for online business is useful for both scholars and managers.

Implications

We recommend that managers ensure that customers understand what the privacy seal represents and what it entails, so that they do not feel betrayed if the seal is misinterpreted. To do so, managers can create a short legal document written in plain language as a point-form version of these policies. This allows customers to have peace of mind, trust the website, and have a positive shopping experience. To enhance the experience and to receive complaints or comments, the managers should create opportunities for customers to interact with the staff via e-mail, live chat, and toll-free customer service telephone lines. The inclusion of a virtual salesperson makes the customers feel like they are shopping at a physical store, particularly if they are being assisted in the decision-making process. In fact, site design and interactivity were found to be important factors for apparel and clothing accessories websites (Kim and Kim 2004).

Perception leads to interpretation. To help customers interpret, we recommend that managers draw comparisons among similar products on several product specifications (price, size, etc.) while creating a benchmark, such as an average of the specifications among the top-selling brands. These comparisons assist customers in making correct interpretations of the product features. Thus, customers can apply their own evaluative rules in order to minimize the anxiety of post-purchase doubts and maximize the value of their purchases. In order to minimize such doubts, managers can also develop a flexible return policy and warranty, as this strategy not only reduces the perceived risk associated with purchases, but also serves as a strong indicator of product quality. Cleary, after-delivery satisfaction has a strong influence on overall customer satisfaction (Jiang and Rosenbloom 2005).

Satisfaction is related to the value offered by the products. To create value, we recommend that managers offer just the right combination of quality service with a good product at a fair price. For example, Wal-Mart has every-day-low-price products on its e-commerce site; and expedia.com has special offers in terms of holiday package and low price fares; and amazon.com has special offers on price and shipments for its customers. Further, to add value, firms must shift from the old world of mass production—where standardized products,

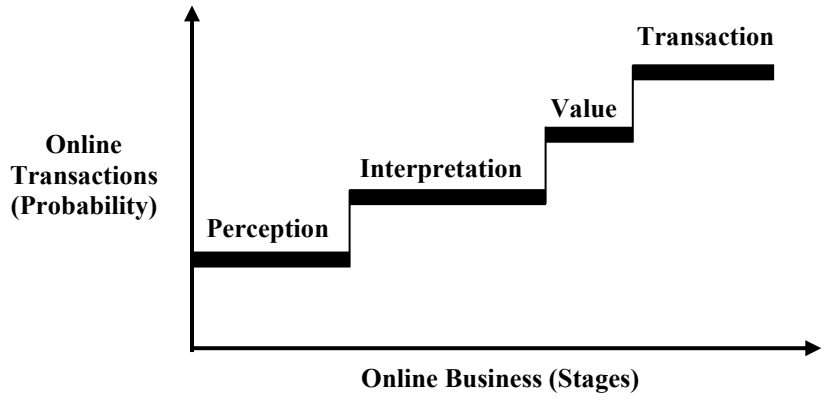
homogeneous markets, and long product lifecycles were the rule—to the new business world, where variety and customisation of products and services have become the norm. Customization allows customers to obtain somewhat unique products and services; thus gratifying their need for uniqueness and, in turn augmenting the perceive value of consumption (Tian, Beardon and Hunter 2001). The objective of customisation can be achieved through the improved efficiencies offered by technology. For instance, Dell Computers has become a market leader by exercising the build-to-order capability, thus differentiating itself from its competitors in the computer manufacturing industry. Furthermore, Apple allows customers to not only customize products but offer customer with an option of laser inscribing their purchases with names, slogans, etc. Clearly, if customers see the value in online purchases, they will proceed to the transaction stage.

Finally, managers should be cognizant of the fact that this stage involves a post-purchase evaluation of the online shopping experience through the quality of goods or services received. If the item was received as described, a relationship can be established through the formation of trust. This trust, in turn, leads to future transactions. For example, *eBay* capitalizes on the method of buyer feedback. A seller who continually provides bad customer service will soon get a low feedback score and will subsequently no longer have the trust of any *eBay* shoppers (Koehn 2003). Furthermore, word-of-mouth communication spreads quickly in an online community because of the feedback mechanisms and externally linked websites. Therefore, the transaction stage is crucial, as it has direct impact on the firm's financial performance.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The four-stage model is validated using a Canadian sample. It is therefore recommended that, in future studies, scholars use different samples from different countries to test the universality of the model. Although we expect the model to be theoretically robust universally, culture may impact online consumer behaviour. Second, future studies may attempt to parcel the impact of each stage on business performance. Third, this study examined the model from the perspective of the firm only, whereas prior studies have mainly examined it from the perspective of the consumer. Another logical line of investigation would be to use a dyadic approach to test the model using both perspectives. Finally, future research may examine the intervening effect of branding on the online consumption behaviour across four stages promulgated in this study.

FIGURE 2
The Causal Relationship Between Online Business and Online Transactions



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