Technology Readiness in the e-Insurance Industry: An Exploratory Investigation and Development of an Agent Technology e-Consumption Model

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Abstract: We set out in this study to assist e-Insurance marketers in developing a research-based foundation on which to make strategic decisions related to technology / Internet implementation. In this study we focused on the agents of a single, medium-sized insurance / financial services concern operating primarily in the Midwest of the United States. Our first inquiry demonstrates that Parasuraman's (2000) Technology Readiness Index (TRI) appears largely generalizable to the insurance industry within the constraints identified in this study. The TRI explains almost two-thirds of the explained variance in agents' self-reported perceptions of technology readiness in our study, and it appears that the positive dimensions of optimism and innovativeness are most influential in facilitating technology readiness. Our second research inquiry concerned developing an e-Consumption model to help better understand how agents form their intentions to adopt and use technology and the Internet. The results suggest that general e-Consumption models from the services marketing literature appear to generalize to this internal marketing research setting. The managerial and research implications of this study are presented and discussed. [Keywords: e-Insurance, technology readiness, e-Consumption, relationship marketing, agents]

INTRODUCTION

Insurance today is a $1 trillion industry in the United States and a $900 billion market in the European Union (Deloitte and Touche, 2001a). In 2000, insurance companies wrote $2,444 billion (USD) in premiums worldwide, translating into a 6.6 percent increase in premiums over 1999 when

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adjusted for inflation. Life insurance specifically benefited as a result of the shift from public to private pension provision. Non-life insurance reported premium increases, but was adversely affected by low prices as a result of premium rate erosion in previous years (Swiss Re, 2001). However, recent advances in technology and the growth of the Internet are profoundly affecting the insurance industry. For example, total e-Insurance[1] information technology (hereafter referred to as IT) spending is projected to top $3 billion by 2005 (Datamonitor, 2001). Thus, the insurance industry today faces significant challenges because of growing information technology costs coupled with generally decreasing profit margins for mature products.

The distribution of insurance and financial services is also being changed dramatically by the Internet. For example, insurance malls are a growing resource for online insurance shoppers, offering one-stop shopping (e.g., www.InsWeb.com). The emergence of these online malls has forced many insurance firms to establish partnerships with them. Many insurance companies are currently using their own Web presence largely to make available company-specific information and to generate sales leads. One recent study finds that 72 percent of insurers stated that they will provide online quotes, and 39 percent stated an ability to complete online sales by the end of the 2001 calendar year (Deloitte and Touche, 2001b). Online sales of insurance products are predicted to be more influential with less complex insurance products such as automobile coverage, as opposed to term life and home insurance. Nonetheless, the outlook for the online insurance marketplace over the next five years looks quite positive. This market is expected to grow to $7 billion net-influenced sales and $4.1 billion online sales by 2003 (Deloitte and Touche, 2001b). Deloitte and Touche (2002) state that this growth is more evolutionary than revolutionary to date, but predict that insurance marketers can expect technology to fundamentally change existing business models within the industry.

Despite these lofty expectations, recent studies by Deloitte and Touche (2001b, 2001c) state that the insurance / financial services industry has been slow to embrace the Internet relative to other industries. Major concerns among U.S. insurance executives include risks associated with e-Commerce in general and the potential for reductions in brand equity (International Insurance Monitor, 2000). Those insurers that have tried to establish their e-Insurance business have largely been “far from successful” to date (Datamonitor, 2000). Nevertheless, marketplace realities and the identified challenges suggest that insurance executives must seek ways to generate revenues and profits through new distribution channels and improvements in customer loyalty and marketing relationships, and find ways to attract and keep the most talented insurance professionals in order to

survive today's turbulent business environment. It is doubtful that the Internet can be ignored in these efforts over the coming years.

The purpose of this study is to contribute to efforts by insurance/financial services practitioners and academicians in developing the marketing theory and tools necessary to help navigate the emerging world of e-Insurance. e-Insurance exchange assumes that the relevant exchange partners are "technology ready" in the sense that they are *able* and *willing* to adopt technology and the Internet in such marketing-related practices. We will test these assumptions, specifically focusing on agents as a critical first partner in the strategic consideration of e-Insurance practices. Our first research objective addresses the question of agent readiness to adopt technology in support of e-Insurance marketing exchanges. We assess a recently developed scale of technology/Internet readiness from the general marketing literature specific to an insurance setting for the first time. Second, we address whether agents are willing to adopt technology and the Internet in such practices through the development of a basic agent e-Consumption model.[2] The next section presents the theory underlying this study as well as the research hypotheses that we empirically assess.

e-INSURANCE MARKETING THEORY AND THE RESEARCH MODELS

Bitner, Brown, and Meuter (2000) argue that the increasing deployment of technology is altering the very essence of service encounters in general, which are critical to success in today's relationship marketing environment. However, the evolution of IT within many firms has often been preoccupied with issues related to technical implementation as opposed to strategic marketing implications, thus failing to recognize the important influence of technology on customer service and other long-term relationship marketing practices. Karimi, Somers, and Gupta (2001) report a study suggesting that the focus of many companies has been to treat IT as a support function as opposed to a strategic marketing consideration. In short, the efforts of IT and marketing have often been strategically independent in the evolution of technology and use of the Internet in organizational service/relationship marketing practices. This independence has often evolved into a short-term online sales orientation as opposed to a long-term integrated marketing communication strategy in support of long-term relationship marketing initiatives.

How do insurance firms today begin the process of melding marketing and IT into a strategic team guiding the evolution of technology and the Internet in long-term, relationship-oriented organizational practices? We

suggest that a useful starting point is to scientifically model technology adoption practices by insurance / financial services stakeholders. We believe that studying issues related to technology / Internet adoption and the subsequent development of e-Consumption models would immediately contribute to insurance / financial industry practices. We therefore focus our efforts on (1) the identification of appropriate technology / Internet readiness scales for the insurance industry, and (2) development of an e-Consumption model in the tradition of Oliver's (1997) more general consumption model. While the models we are developing herein are applicable to many stakeholder groups, we focus our attentions in this study on insurance / financial services agents as a key stakeholder group of particular interest to insurance IT and marketing professionals.

The first research question we consider concerns ascertaining the level of technology / Internet readiness of insurance / financial services agents. A search of the literature to date identifies no attempts to develop a specific measure of technology / Internet readiness for the insurance industry. However, some studies can provide a foundation for this effort. For example, over a decade ago, Davis, Bagozzi, and Warshaw (1989) developed a technology acceptance model (TAM) to help explain technology use by marketing decision-makers. Grewal, Comer, and Mehta (2001) report a study investigating the antecedents of organizational participation in B2B (business to business) electronic markets, and find that both motivation and ability are important in determining the nature of participation. Lynn et al. (2002) investigate the factors that contribute positively to the adoption and effectiveness of *industrial marketer* use of the Web. These factors include (1) the provision of formal training to the marketing organization, (2) encouragement of an effective relationship between marketing and IS / MIS, (3) demonstration of the usefulness of the Internet to the marketing organization, and (4) the use of younger marketing personnel. Fenech and O'Cass (2001) report a study suggesting that attitude and perceived usefulness are viable predictors of adoption of the Internet for retail usage.

These studies are insightful, but do not provide us with a reliable and valid measure of technology / Internet readiness for the insurance / financial services industry. Fortunately, Parasuraman (2000) has reported a very promising scale for use with general consumer populations, which he calls the Technology Readiness Index (TRI, see Figure 1). Parasuraman (2000, p. 308) defines the construct *technology readiness* as "people's propensity to embrace and use new technology for accomplishing goals in home life and at work." He reports a 36-item scale based on four dimensions:

- **Optimism**: A positive view of technology and a belief that it offers people increased control, flexibility, and efficiency in their lives.

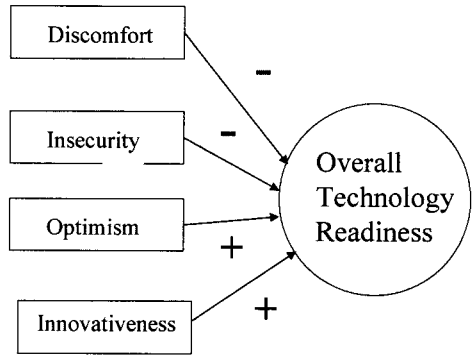

Fig. 1. Parasuraman's TRI.

- **Innovativeness**: A tendency to be a technology pioneer and thought leader.
- **Discomfort**: A perceived lack of control over technology and a feeling of being overwhelmed by it.
- **Insecurity**: Distrust of technology and skepticism about its ability to work properly.

He envisions optimism and innovativeness as positive drivers of technology readiness, whereas discomfort and security would serve as inhibitors. He calls for studies such as the current research to assess the generalizability of his scale. We hypothesize that the TRI Index may well generalize to insurance marketing settings as there is reason to believe that people "technology ready" at home would similarly be so at work (and vice versa). Thus our first statistical inquiry involves assessing the generalizability of Parasuraman's (2000) TRI scale specific to insurance / financial services agents. We also captured two global measures of self-perceived Internet / technology readiness in our study, which serve as endogenous dependent variables in our structural equation models. This allows us to explicitly assess the amount of explained variance the TRI scale produces in terms of explaining agents' self-perceived ability to adopt technology and the Internet in their agency practices.

Our second research inquiry concerns the development of an e-Consumption model to better understand the foundations of agent willingness to adopt technology and the Internet into agency practices. Consumption models within the context of this study can be envisioned as involving a causal ordering of relevant constructs. For example, it is well established in the general-services marketing literature that [quality → satisfaction →

behavioral intentions] in most consumer-service settings (Oliver, 1997). While again there is little in the extant literature specific to the insurance / financial services industry, the general marketing literature demonstrates a great deal of interest in consumption models. One of the unique contributions of this study is our focus on development of an e-Consumption model for agents based on the concept of internal marketing. Internal marketing is essentially treating an organization's own employees and other internal stakeholders as a separate target market. That is, our investigation of the following relationships is based on the belief that the more agents feel comfortable and rewarded with technology / Internet use, the more likely they are to engage in technology / Internet-based marketing behaviors in their agency practices.

Thus, we consider whether an agent perceives greater quality, value, satisfaction, and / or loyalty in his relationship with his company on the basis of organizational technology / Internet behaviors and how this affects the likelihood of agents engaging in desirable marketing-related technology behaviors. We specifically focus on four behavioral intentions related to the use of technology and the Internet (see Appendix A): intentions to obtain, share, and manage information and the intention to respond to specific information requests using technology / Internet. All of these intentions were captured for both customers and their own company information. Our review of the marketing literature suggests that this hypothesis, and probable assumption by most potential insurance / financial services e-Marketers, has yet to be tested.

There appears little discussion in the literature of the appropriate relationships between the myriad constructs that could lead to appropriate technology-based behavioral intentions by relevant insurance / financial services stakeholders, particularly agents. We therefore discuss what little evidence does exist and incorporate the general marketing literature in the development of our research hypotheses. We begin with a consideration of the role that quality likely plays in agent e-Consumption models. That is, can technology and the Internet contribute to the perceived quality of the relationship an agent feels with his own firm? There appears little attention to these relationships in the insurance literature to date (see Taylor, 2001 for an exception), but there is a substantial marketing literature discussing customers' quality perceptions, which we will not attempt to replicate herein.[3] Quality is globally defined as "excellence" and has been found to be subordinate to satisfaction judgments in numerous service marketing research settings (Oliver, 1997). Quality is related to value judgments (see below) via Parasuraman and Grewal's (2000) argument that quality and price are significant contributors to perceptions of perceived value. Zeithaml (1988) also suggests that quality is an antecedent

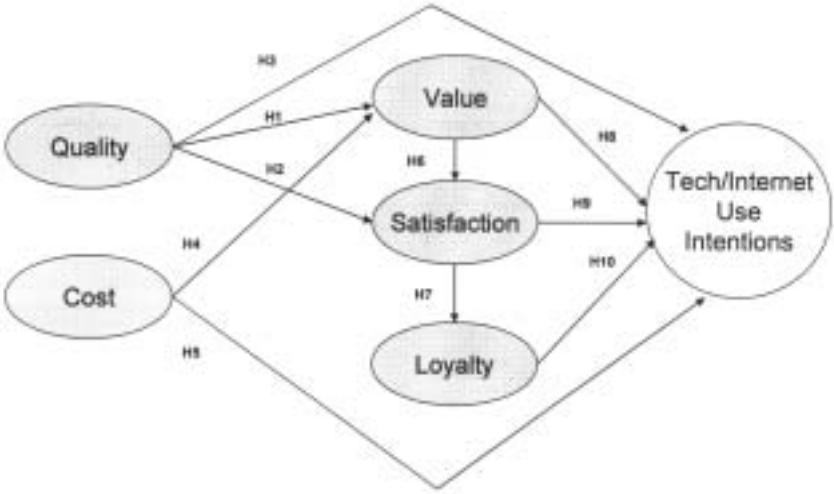

Fig. 2. Predicting behavioral intentions.

to value. Brady and Robertson (2001) more recently provide evidence that the relationship [quality → satisfaction] is robust across cultures. This literature provides support for the following research hypotheses:

H1: Quality is positively related to value.
H2: Quality is positively related to satisfaction.
H3: Quality is positively related to technology / internet behavioral intentions.

We next consider the role of costs / price and their relationship to value in our research model. That is, do the perceived costs associated with technology adoption outweigh the benefits for insurance agents? Baker, Marn, and Zawaga (2001) argue that the price of goods and services on the Internet may not be a primary purchasing decision criterion, and call for better measures of customer price perceptions. In our study, we take the more global perspective of "price" taken by Zeithaml (1988) that price might best be considered in such circumstances as global "sacrifice." Thus, we measure costs / price with measures of time, money, and perceived risks. As noted above, costs / price is very closely related to value (Zeithaml, 1988).

The value construct has remained something of an enigma in the marketing literature to this point. However, including the value construct in our model is important for several reasons. First, agents must understand value in order to make appropriate strategic decisions (Gjertsen,

1999). Second, Helm and Sinha (2001) argue for the importance of delivering customer value in electronic B2C (business to consumer) operations. These authors conclude that the increasingly dynamic translation of transient customer needs into knowledge-based products/services will be fundamental to the success of B2C operations as we move forward. Little appears known as to the relative value that stakeholders such as insurance/financial service agents place on technology and the Internet and how this might affect their intentions to use these tools. Some insight is apparent from Sawhney and Parikh (2001), who argue that the most economic value lies at the ends of the network (e.g., end-users). They further argue that in a networked world, where everyone and everything is connected, economic value behaves differently than in traditional marketing contexts. Ulaga and Chacour (2001) suggest that understanding and delivering superior value to customers is key to creating and sustaining long-term industrial relationships. Value can be created in three domains: through relationships with suppliers, through alliance partnering, and through relationships with customers.

Following the latter authors, we adopt this definition of customer-perceived value: "A value judgment is the customer's assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific-use situation" (p. 528). Thus, there appears evidence to substantiate an investigation of value perceptions as insurance/financial services companies and their agents move toward networked relationships.

In terms of the current research, there is reason to believe that personal value judgments related to the costs associated with adoption of technology and the Internet might affect agent behaviors, particularly if those values are protected values (Ritov and Baron, 1999).[4] This relationship is important as sacrifices in this context are related to employee commitment (Iverson and Buttigieg, 1999). Agents may also intuitively recognize that increased Internet use may well reduce interpersonal interaction and communication (Nie, 2001) and thereby attenuate their own relationship marketing efforts. This leads to our next two hypotheses:

H4: Cost/price is negatively related to value.
H5: Cost/price is negatively related to technology/internet behavioral intentions.

We next consider the study of e-Satisfaction, which has also enjoyed a measure of attention in the emerging literature.[5] Here we are asking if agents perceive greater satisfaction in their relationships with their company based on increased use of technology and the Internet. Satisfaction is generally defined as fulfillment with an exchange relationship (Oliver,

1997). Szymanski and Hise (2000) develop and report a model of e-Satisfaction based on issues related to convenience, merchandising, site design, and financial security. They suggest that the conceptual domain of e-Satisfaction appears similar to that understood from the general marketing literature and call for the further development of reliable and valid measures of constructs such as are found in the current research, as well as replication studies such as we conduct relative to Parasuraman's TRI. Mueter et al. (2000) provide a study using critical incidence methodologies to identify how self-service technologies are related to customer (dis)satisfaction. Palvia and Palvia (1999) provide an examination of IT satisfaction with small business users. Clearly e-Satisfaction belongs in e-Consumption models such as studied herein.

The importance of loyalty (and trust) in e-Business is also growing rapidly (de Ruyter, Moorman, and Lemmick, 2001; Griffin, 1996; Houston, 2001; Reichheld, Markey, and Hopton, 2000; Urban, Sultan, and Qualls, 2000; Warrington, Abgrab, and Caldwell, 2000). E-Loyalty is also emerging as an area of great interest for marketers. Griffin (1996) argues that customer loyalty is one of the most significant contributors to the bottom line in a technology-mediated environment. Reichheld and Schefter (2000) argue that loyalty is an even more important customer consideration than price. In fact, the authors present evidence that there is a high cost associated with low levels of loyalty in e-Commerce. However, they also caution that loyalty is not won with technology. Rather, it is the ability of technology to affect consistently superior customer experiences that makes e-Loyalty so important. Loyalty is a sophisticated construct. Morgan (2000) suggests that the term "loyal" can be interpreted in different ways, ranging from affective loyalty ("what I feel") to behavioral loyalty ("what I do"). In this study we take the perspective of Reichheld and Schefter (2000) that at the global level of analysis, loyalty is about earning the trust of the right kinds of customers. We ask whether increased technology / Internet use will lead to greater employee loyalty.

Having reviewed the existing marketing literature to date related to e-Satisfaction and e-Loyalty, we next move toward identifying the appropriate relationships between these constructs. Evidence is emerging that satisfaction is superordinate to customer value judgments (Brady and Cronin, 2001; Varki and Colgate, 2001). Satisfaction with technology / Internet use is hypothesized to lead (i.e., is subordinate) to greater agent loyalty based on the concept of the value chain (Anderson and Mittal 2000; Heskett, Sasser, and Schlesinger, 1997; Oliver, 1999). Value, satisfaction, and loyalty all are hypothesized to directly affect agents' intentions to use technology and the Internet as part of their own agency practices. This leads to the final set of hypotheses:

H6: Value is positively related to satisfaction.
H7: Satisfaction is positively related to loyalty.
H8: Value is positively related to behavioral intentions.
H9: Satisfaction is positively related to behavioral intentions.
H10: Loyalty is positively related to behavioral intentions.

METHODS

In this section we present the methods used to test our research models. Please refer to Appendix A for the measures used in this study. The first research objective pertains to testing the efficacy of Parasuraman's (2000) TRI relative to insurance / financial services agents. The TRI measures for this portion of the study can be found in Parasuraman (2000). We added two additional questions as dependent variables to ascertain the amount of explained variance associated with the TRI in this research setting (see Appendix A–Section A). We also used two-item measures of the antecedent constructs in our e-Consumption model. We used four-item scales to measure agents' behavioral intentions toward using the Internet for marketing-related behaviors with their own company and their customers.

The study conducted a census of all of the insurance / financial services agents for the medium-sized insurance company sponsoring the research. The participating firm offers auto, home, life and annuity, health and disability, farm, and business insurance products. In addition, like many traditional insurance concerns, the company has recently expanded into retirement planning and investment management. This firm operates in approximately a dozen states in the Midwest and has recently begun expanding into new geographic regions in the United States. The participating firm focuses on its own product lines. Approximately 1200 paper surveys were internally hand-distributed to agents, with return envelopes directed to the academic research team. The statistical analyses were conducted using SPSS 10.0 and LISREL 8.51. The next section presents the results of our statistical analyses.

RESULTS

We received 734 usable surveys, representing a response rate of approximately 61 percent. We deem this response rate as acceptable based on a determination that sufficient power exists to minimize the chance of erroneous conclusions (power > .90).[6] Murphy and Myors (1998) state that power above .80 is usually judged adequate for social science research. Our discussion with managers at the firm sponsoring the research suggests that

such response rates are good, given the survey length and typical industry response patterns.

We included some sample characteristics to ensure appropriate population representation for potential generalization of the results of this study. Figure 3 identifies technology / Internet usage through questions developed by Parasuraman (2000). Figure 3 (A) shows that most respondents report having cell phones, computers, and Internet service (ISP). However, Figure 3 (B) suggests that many are not yet making personal purchases online.

Before discussing how our models performed, it is important to consider the reliability and validity of our measures. Structural equation modeling (SEM) of multiple endogenous variables requires assessment of measurement model fit. Hair et al. (1998) suggest two steps. First, we verified that all variables used for analyses were significantly related to their specified constructs. Second, reliability estimates and variance-extracted measures were calculated for each construct in our research models. Table 1 presents these results and demonstrates that in all cases our construct measures exceeded the generally accepted reliability standard of $\alpha > .7$. Thus, we are confident in the reliability of our measures.

We next assessed the validity of our measures. Validity using structural equation models is supported by variance-extracted scores for each construct of > .5 (Hair et al., 1998; Raines-Eudy, 2000). The calculated variance-extracted scores exceeded the 50 percent recommended criteria for all model constructs except the negative dimensions of the TRI (i.e., insecurity and discomfort). The lower variance-extracted scores for these two factors suggests that more than half of the variance for the specified indicators is not accounted for by factor construct. This finding may be sample related and supports the item-parceling strategy that we eventually performed relative to the TRI scale analysis (see below).

We next turned to our investigation of Parasuraman's TRI scale specific to this target population. There has been a lot of discussion in recent years concerning the appropriate standards for asserting model fit using SEM. The current research relies on the combination-index based on the recent recommendations of Hu and Bentler (1999). Those authors argue for the following cut-off indices: CFI = .95, RMSEA = .06, SRMR = .08. Our SEM results were as follows: $\chi^2 = 3626.22$, df = 588, RMSEA = .084, CFI = .78, and SRMR = .075. Therefore, we could not conclude that the model was supported by the data when all 36 items were disaggregated. These results are not surprising, given the number of exogenous variables and the fact that the scale was developed in traditional consumer settings as opposed to an insurance / financial services agency setting.

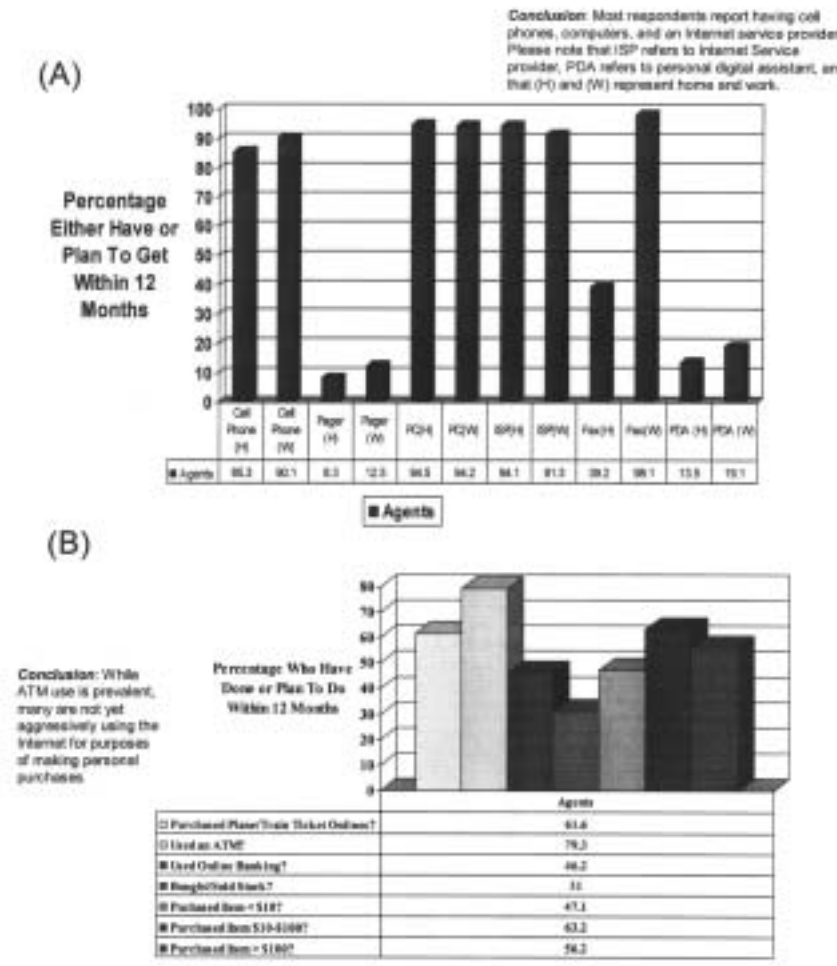

Fig. 3. Technology Usage Patterns Among Agents.

However, we remained unconvinced that the TRI index could not serve as a useful tool for insurance / financial services marketers. We therefore next considered the efficacy of the scale using item parcels. Bandalos and Finney (2001) note that the use of item parcels has become common practice in structural equation modeling. They suggest that reasons for using item parcels include (1) that it is parsiminous, (2) that the reliability of the measures is increased, (3) that item distributions are more continuous, (4) that it benefits factor analysis with small samples, (5) that it has less idiosyncratic indicator variance, and (6) that parceled solutions typically

Table 1. Reliability and Validity Assessment of Model Constructs

Construct	Construct Reliability	Variance Extracted
Parasuraman's (2000) TRI Dimensions		
TRI: Optimism	.89	.55
TRI: Innovativeness	.90	.63
TRI: Discomfort	.80	.44
TRI: Insecurity	.81	.46
eConsumption Model for Behavioral Intentions Related to Company Relationship		
Behavioral intentions	.95	.85
Quality	.92	.86
Satisfaction	.95	.91
Value	.86	.78
Cost	.79	.63
Loyalty	.85	.77
eConsumption Model for Behavioral Intentions Related to Customer Relationships		
Behavioral intentions	.93	.78
Quality	.92	.86
Satisfaction	.95	.91
Value	.86	.78
Cost	.79	.63
Loyalty	.85	.77

result in better model fit than solutions at the item level of analysis. They identify the limitations of item parceling as well: (1) information about individual items is lost, (2) items being parceled must be reasonably unidimensional, (3) parameter estimates and factor scores derived from parceled analyses will be dependent on the particular items being parceled together, and (4) the true factor structure of the items may be observed and biased estimates of other model parameters may be obtained.

Bandalos and Finney readily admit that item parcels are widely and uncritically used in social science research. They conclude by recommending that researchers use item parceling under the following conditions: (1) when the unidimensionality of the potential item parcels has been established in previous research, (2) when parcels are formed within each unidimensional factor, (3) when any secondary factors do not influence other model constructs, and (4) when detailed explanations how and why parceling is being conducted as part of the statistical analyses are reported. Recognizing their cautions, we implemented their recommendations.

We parceled the exogenous items in the TRI by averaging the items within each of the four theorized dimensions in Figure 1 as identified by Parasuraman (2000). We then assessed their contribution to a two-item endogenous dependent variable in order to identify the explained variance of self-perceived technology readiness in our sample.

Using the unidimensional parcels, our final assessment of the TRI scale using data parcels yielded the following indices: $\chi^2 = 10.26$, df = 3, RMSEA = 0.058, CFI = 1.00, and SRMR = 0.0063. There were neither warning messages from the LISREL software nor negative error covariances. These results suggest that the model fits the data well, particularly when using an MG standard for fitting and testing a covariance structure (Joreskog and Sörbom, 1989). In the MG case[7]:

> "The problem is not just to accept or reject a specified model or to select one out of a set of specified models. Rather, the researcher has specified an initial model that is not assumed to hold exactly in the population and may only be tentative. Its fit to the data is to be evaluated and assessed in relation to what is known about the substantive area, the quality of the data, and the extent to which various assumptions are satisfied. The evaluation of the model and the assessment of fit is not entirely a statistical matter. If the model is judged not to be good on substantive or statistical grounds, it should be modified within a class of models suitable for the substantive problem. The goal is to find a model within this class of models that not only fits the data well statistically, taking all aspects of error into account, but that also has the property of every parameter having a substantively meaningful interpretation."

We assert that our model fits this criteria.

$$\text{TRI} = -.17*\text{Discomfort} + .77*\text{Optimism} + .45*\text{Innovativeness} - \text{NS}^{8}*\text{Insecurity} \quad (1)$$

Equation (1) presents the structural equation based on our analysis. The *standardized* equation coefficients suggest that the positive dimensions appear more important as drivers of this target audience's self-perceived technology readiness. In addition, we found that Parasuraman's (2000) TRI explained almost two-thirds (65 percent) of the variance in respondent's self-perceived overall technology readiness. *Thus, we conclude that Parasuraman's (2000) TRI does appear generalizable to insurance settings when appropriately modified.* As with all measures from the literature, we caution marketers to ensure that they carefully assess the performance of market-

Table 2. eConsumption Model SEM Results
(Nonsignificant Predictors Omitted to Aid in Readability)

Dependent Variable	Equation	R^2	Reduced R^2
	Company-Related Behaviors Model		
	χ^2 = 133.68, df = 79, RMSEA = .031, CFI = .99, RSMR = .036		
Value	.78*Quality – .14*Cost	.68	.68
Satisfaction	.42*Value + .53*Quality	.83	.77
Loyalty	.33*Satisfaction + .49*Value	.62	.48
Company-related behavioral intentions	.21*Satisfaction + .26*Quality – .18*Cost	.25	.24
	Customer-Related Behaviors Model		
	χ^2 = 123.63, df = 79, RMSEA = .028, CFI = .99, RSMR = .038		
Value	.78*Quality – .14*Cost	.68	.68
Satisfaction	.42*Value + .53*Quality	.83	.77
Loyalty	.33*Satisfaction + .49*Value	.62	.48
Customer-related behavioral intentions	.26*Satisfaction + .12*Loyalty – .27*Cost	.36	.32

ing scales specific to their own samples and competitive settings. We remind readers that this result is from a single organization's agents.

We next tested the research model identified in Figure 2 relative to two dependent variables. The first model predicts *company*-related behavioral intentions (Appendix A, Section C, items 2, 4, 6, 8), while the second model predicts *customer*-related behavioral intentions (Appendix A, Section C, items 1, 3, 5, 7). Table 3 presents the results by research hypothesis. This table demonstrates that the vast majority of hypothesized model relationships are supported in this sample of agents. The results in Table 2 first show that both models fit the data well according to Hu and Bentler's (1999) standards. Please note that all model coefficients are standardized. In addition, the models appear to account for a great deal of the explained variance associated with the model constructs. Readers will note that we have included both the structural R^2 and reduced-form R^2 in our results in accordance with Joreskog's (1999) argument that traditional R^2 values may not be appropriate when using SEM analyses. Rather, the reduced-form R^2

Table 3. Results by Hypothesis Supported

Hypothesis number	Relationship	Company?	Customers?
1	Quality → value	Yes	Yes
2	Quality → satisfaction	Yes	Yes
3	Quality → behavioral intentions	Yes	No
4	Cost → value	Yes	Yes
5	Cost → behavioral intentions	Yes	Yes
6	Value → satisfaction	Yes	Yes
7	Satisfaction → loyalty	Yes	Yes
8	Value → Behavioral Intentions	No	No
9	Satisfaction → behavioral intentions	Yes	Yes
10	Loyalty → behavioral intentions	No	Yes

can be interpreted as the relative variance of a dependent variable explained or accounted for by all explanatory variables jointly. The next section discusses the research and managerial implications of the reported results.

DISCUSSION OF RESULTS

We set out in this study to help e-Insurance marketers begin to develop a research-based foundation on which to make strategic decisions related to technology / Internet implementation. In this study we focused exclusively on insurance / financial services agents from a single medium-sized insurance concern. We again caution readers to consider the singular nature of the study's data source in reaching their own conclusions based on the results of this study. In addition, we remind readers that the relationship between the perceived complexity of insurance / financial services products and the influence of the Internet remains an unanswered question awaiting future research.

Our first inquiry demonstrates that Parasuraman's (2000) TRI appears generalizable to the insurance industry within the constraints identified in this study. The TRI explains almost two-thirds of the explained variance in agents' self-reported perceptions of technology readiness, and it appears that the positive dimensions of optimism and innovativeness are most influential in attaining technology readiness. Thus, internal marketing strategies aimed at increasing technology readiness among agents should

focus on increasing agent scores on these important positive dimensions. We caution e-Insurance marketers to remember that the variance-extracted validity scores for the two negative dimensions are suspect, so reliability and validity are important considerations for any attempted replication of this study.

Our second research inquiry concerned developing an e-Consumption model to better understand how agents form their intentions to adopt and use technology and the Internet. Our overall literature-based model was confirmed in our sample of agents, as were the majority of our hypotheses. The results suggest that our general understanding of the important constructs and their causal ordering in e-Consumption models appears to generalize to this research setting. Value appears as a function of quality and cost, with quality having a much larger influence. Satisfaction is a function relatively equally influenced by quality and value perceptions. Loyalty appears as a function of satisfaction and value. However, some model differences exist in terms of explaining how issues related to technology and the Internet affect behavioral intentions toward company interactions versus customer interactions. In terms of company-related interactions, agent satisfaction, quality, and cost concerns are similarly important, explaining about a fourth of agent intentions to use technology and the Internet in these relationships. In customer-based interactions, however, satisfaction and costs are equally important and also influenced by issues related to loyalty. Our e-Consumption model explained almost a third of agents' intentions to use technology and the Internet for customer interactions.

We suggest two overall implications of this study for e-Insurance marketers and IT professionals. First, the performance of Parasuraman's (2000) TRI in this setting provides support for using this scale within insurance/financial services settings. When appropriately applied, the scale appears capable of providing guidance as to which factors should be emphasized in internal marketing communications as we attempt to increase technology readiness of agents. Second, the e-Consumption model we propose and validate in this study provides a framework for efforts to move agents toward greater adoption of technology and the Internet. The insurance industry is clearly moving toward greater integration of technology in industry practices, and tools like our e-Consumption model provide a valuable mechanism for developing internal marketing strategies aimed at bringing about greater adoption of technology and the Internet. For example, how do we bring about greater agent satisfaction with technology and the Internet? Our results suggest focusing on their perceptions about the effects of technology on the quality of their relationships with the company and customers. Our results suggest that satisfaction is a key

driver of agent behavioral intentions related to technology and the Internet. A greater understanding of the costs agents perceive with regard to technology and the Internet also appears a worthwhile inquiry.

Future research should investigate which new constructs could add to the explained variance of our proposed e-Consumption model. Oliver (1997) discusses the important roles of equity and affect in the formation of satisfaction judgments. It would be interesting to investigate the role of involvement in such models. Insurance/financial services marketing researchers should also extend this research to more fully consider trust. Trust, commitment, and loyalty are highly related constructs. Urban, Sultan, and Qualls (2000) state that consumers make Internet-based buying decisions on the basis of trust. Warrington, Abgrab, and Caldwell (2000) suggest that building trust is a key to developing competitive advantage in e-Business relationships. DeRuyter, Moorman, and Lemmick (2001) present evidence that trust (as well as commitment and intention to stay) are influential in supplier-customer relationships in high-technology relationships. Therefore, trust appears to be an essential component in electronic exchanges. Trust in a networked economy, however, is a complicated, multidimensional construct (Houston, 2001). Trust has been defined as the belief that a party's word or promise is reliable and a party will fulfill his or her obligations in an exchange relationship (Blau, 1967, Rotter, 1967). In the marketing literature, Morgan and Hunt (1994) have more recently defined trust as occurring when one party has confidence in an exchange partner's reliability and integrity. Understanding what trust is and where it fits into our e-Consumption model would be a useful endeavor.

There are also numerous extensions of this research beyond adding explanatory constructs. For example, Sherry (2000) suggests that marketers' inquiries into materiality must expand to encompass the numerous dimensions of technology. Experiential measures such as "flow" could be related to behavioral intentions (Novak, Hoffman, and Yung, 2000). The behavioral antecedents of switching costs could be explored (Boyle, 2001; Ganesh, Arnold, and Reynolds, 2000; Keaveney and Parthasarathy, 2001). Shiv and Huber (2000) report a study suggesting that consumer choice varies according to the level of anticipated satisfaction. Ofir and Simonson (2001) also report a negative bias in satisfaction and quality ratings when customers expect to provide feedback after service provision. Future research might investigate the effect of anticipating satisfaction and feedback within the context of e-Consumption models such as proposed herein.

APPENDIX A

(A) TRI dependent variables:

Overall, I have a general tendency to embrace and use new technologies for accomplishing goals *at work.*

Overall, I have a general tendency to embrace and use new technologies for accomplishing goals *in my home life.*

eConsumption Model Measures:

1	2	3	4	5
Strongly disagree	Somewhat disagee	Neutral	Somewhat agree	Strongly agree

(B) The GREATER the use of the Internet in my Agency business practices …

Quality 1	the higher quality my relationship will be with my company.
Quality 2	the more I will perceive my relationship with my company to be excellent.
Satisfaction 1	the more satisfaction I will have in my relationship with my company.
Satisfaction 2	the more fulfilled I will be with my relationship with my company.
Value 1	the more I will get for what I give up in my relationship with my company.
Value 2	the more value I will receive in my relationship with my company.
Cost 1	the more risk I will encounter in my relationship with my company.
Cost 2	the higher the financial costs that will be associated with my relationship with my company.
Cost 3	the higher the costs in terms of time that will be associated with my relationship with my company.
Loyalty 1	the more trust I will have in my relationship with my company.
Loyalty 2	the more likely I will be to stay committed to my relationship with my company.

(C) Company- and customer-related behavioral intentions

	Definitely WILL NOT use the Internet					Definitely WILL use the Internet
To what extent do you intend to use the Internet to:						
Company-specific dependent measures						
2) obtain information from your company?	1	2	3	4	5	6
4) share information with your company?	1	2	3	4	5	6
6) manage information from your company?	1	2	3	4	5	6
8) respond to requests for information from your company	1	2	3	4	5	6

	Definitely WILL NOT use the Internet					Definitely WILL use the Internet
Customer-specific dependent measures	1	2	3	4	5	6
1) obtain information from your customers?	1	2	3	4	5	6
3) share information with your customers?	1	2	3	4	5	6
5) manage information from your customers?	1	2	3	4	5	6
7) respond to requests for information from your customers?	1	2	3	4	5	6

NOTES

[1] The term "eInsurance" is defined within the context of this study as the use of technology and / or the Internet to facilitate exchange associated with knowledge-based insurance / financial products and services.

[2] eConsumption models in this context are of the nature Quality → Satisfaction → Behaviors.

[3] Interested readers will find the following sources useful in capturing the essence of the marketing quality literature: Dabholkar et al. (2000), Oliver (1997), Zeithaml (2000), and Brady and Cronin (2001).

[4] "Protected values" are those that people think should not be traded off.

[5] There is also a substantial literature related to customer satisfaction; see Fournier and Mick (1999), Oliver (1997), and Szymanski and Henard (2001).

[6] We calculated power indices two ways. First, we used sample power by SPSS to calculate the power necessary for regression analyses. Second, following Loehlin (1998), we determined that a sample size of approximately 114 is necessary to achieve a latent-variable power rating of .90 for purposes of the current research.

[7] The following statement was taken directly from the help section of the software package LISREL 8.51, SSI, Chicago, IL.

[8] NS means that the predictor variable was not statistically significant at the $p < .05$ level.

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