THE IMPACT OF INTERNET SAVVY AND INNOVATIVENESS ON REAL STATE AGENTS' INTERNET UTILIZATION AND SALES PERFORMANCE

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Current literature and thought suggest that the Internet may be both helpful and harmful to independent sales professionals such as real estate agents. This study develops a conceptual model and (a) examines the impact of two individual variables, Internet savvy and Innovativeness, on real estate agents' utilization of Internet resources for selling activities, and (b) evaluates real estate agents' perceptions of the effect of such Internet utilization on their sales performance. Results suggest that the two anteceding variables positively influence real estate agents' Internet utilization. Further, results also point to enhanced performance by those real estate agents who utilize the Internet to a greater extent in their jobs. Implications for real estate agents and real estate agencies are provided.

INTRODUCTION

The Internet is a valuable marketing channel that allows storage, delivery, and exchange of vast amounts of information at very low cost (Peterson et al. 1997). These characteristics make the Internet a potentially useful tool in selling a service, particularly when information exchange represents a key component of that service. Such a realization is drastically changing the manner in which real estate brokerage services are provided, with real estate sales agents investing heavily in this new technology (Tse and Webb 2002). A related trend influencing the manner in which real estate agents provide their services is potential home buyers' and sellers' reliance on information available through the Internet. Evidence of this trend was apparent in the results of a 1999 survey of potential home buyers conducted by the National Association of Realtors (NAR). Findings of this report indicated that 23 percent of all the surveyed individuals searched online for a home, and approximately 58 percent of those Internet users felt that online searches were valuable or extremely valuable to them.

Not surprisingly, the real estate market is one of the faster growing arenas for online commerce (ActiveMedia 2000). This growth has been hailed as an important and valuable development for real estate agents, and suggestions regarding the positive results of Internet use abound in both academic treatises and the popular press. Various authors and experts claim that real estate agents who adopt and integrate Internet resources into their business are likely to improve: (a) their productivity and profitability (Delcourse and Miller 2001; Stanfill 2000; Tse and Webb 2002); (b) interactions with and service to customers (Conhaim 1998; Delcourse and Miller 2001; Tse and Webb 2002); (c) customer satisfaction (Stanfill 2000), and (d) their professional skills (Conhaim 1998). However, as Tse and Webb (2002) note, relatively few studies have examined empirically the impact of information technology on real estate brokerage. This represents a gap in current literature and the need to examine the impact the Internet has on sellers of services such as real estate agents.

Empirical investigations that examine the influence of Internet use on outcomes such as real estate agents'

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sales performance become more relevant in light of arguments that suggest the Internet could have some negative consequences for these service providers. Some scholars suggest that the Internet has made the real estate market more competitive (Baen 1998; Tse and Webb 2002). Also, because buyers and sellers can communicate directly through the Internet, the value provided by the real estate brokers may be diminished; this could reduce commission rates (Muhanna 2000; Tse and Webb 2002), and result in lost business (cf. Tse and Webb 2002). These arguments highlight the need for studies that address the research gap and test for the advocated positive consequences of Internet use.

The manner in which real estate agents utilize the Internet may relate to the posited outcomes of Internet use. Although real estate agents are increasingly making their presence felt through web listings on the Internet, a significant number of these service providers have not been able to appropriately exploit the Internet medium to their advantage. According to a recent survey by the National Association of Realtors (2001), only about four percent of its members were generating 20 percent of their business online. This result was in sharp contrast to a relatively high e-mail usage rate (75 %) and web listing (40%) among members. These facts suggest that real estate agents may differ from other sales professionals along certain dimensions and that such dimensions may have an impact on the extent to which they utilize available Internet resources for selling rather than for promotional and basic communication purposes. A related field of inquiry, then, involves conceptualizing and testing factors that influence the extent to which service providers such as real estate agents utilize the Internet for selling activities.

This study addresses the research gaps identified above by investigating the influence of one plausible set of individual determinants on, and one possible consequence of, service providers' use of Internet resources. We recognize the possibility that other variables not addressed by this study may also influence service marketers' Internet utilization. We also acknowledge the existence of powerful theoretical frameworks that have guided research on the adoption and utilization of information technology, including the theories addressing the adoption and diffusion of innovation (e.g., Rogers 1995), the theory of reasoned action (Ajzen and Fishbein 1980), the theory of planned behavior (Ajzen and Madden 1986) and the technology acceptance model (Davis 1989). However, the purpose of this paper does not involve the comprehensive testing of any one or more of these theoretical frameworks. Rather, this study utilizes related findings and focuses on identifying and testing for (a) direct relationships between selected variables and Internet utilization for selling activities, and (b) the impact such utilization has on the service marketers' sales performance. More specifically, this study examines this issue from the perspective of real estate agents and seeks answers to the following research questions:

1. What relationships, if any, exist between a real estate agent's (a) Innovativeness and (b) Internet-savvy and the extent to which the real estate agent utilizes the Internet for selling activities?

2. What is the relationship, if any, between a real estate agent's Internet utilization for selling activities and the consequent performance the agent attributes to such Internet utilization?

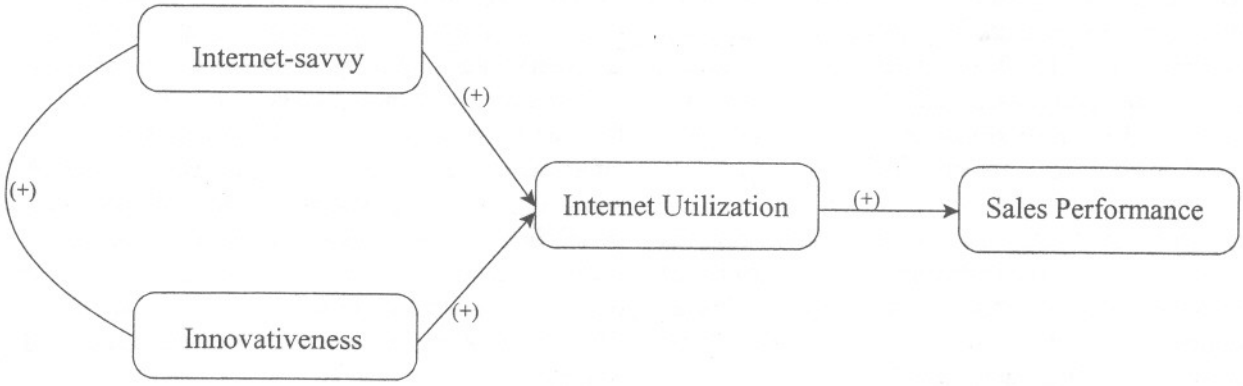
RESEARCH MODEL AND HYPOTHESES

Figure 1 presents a conceptual framework depicting the impact of two individual characteristics upon (a) real estate agents' use of the Internet as a selling tool and (b) agents' consequent selling performance associated with that use. The relationships depicted in this framework indicate that agents' Internet-savvy and their level of innovativeness work together to influence the degree to which agents will adopt the Internet as a selling tool. The constructs of Internet-savvy and innovativeness and related hypotheses are further defined and detailed below.

Constructs and relationships

Internet-Savvy: *The American Heritage College Dictionary* (1997) defines savvy as "well informed and perceptive; practical understanding or shrewdness, to understand, to know, to be wise" (p. 1214). The authors of this manuscript have adopted this definition and define the construct of Internet-savvy as one's

FIGURE 1
Model Depicting the Impact of Internet-savvy and Innovativeness on a Real Estate Agent's Internet Utilization and Perceived Sales Performance



accumulated, aggregate level of knowledge concerning the Internet medium and one's understanding of the applicability and usefulness of that technology in accomplishing a task or objective.

Innovativeness: A basic tenet of the adoption and diffusion of new products in a society is that some individuals tend to exhibit greater interest in, are quick to seek information about, purchase, and use new products soon after those products are introduced in the market. In this research, the authors have adopted Solomon's (1996) definition and defined innovativeness as one's willingness to or likelihood of quickly adopting new ideas, products, services; an individual who adopts such products before the mass market does so, a willingness to be a 'trend leader' (Solomon 1996).

Internet Usage: Internet usage is defined in this study as the extent to which a real estate agent utilizes the Internet as a marketing tool to effectively reach and serve his/her customers (cf. Gulati, Bristow, and Dou 2002). Both business (e.g., Dos Santos and Kuzmitz 2000; Pease 2000) and academic publications (e.g., Hoffman and Novak 1996; Peterson et al. 1997) have highlighted the utility of the Internet as a medium that enables better communication between involved parties. In addition, Weitz et al. (2001) point out that the Internet is a medium that enables salespeople to prospect, gather information about clients and prospects, and communicate with principals and clients. Winer (2001) underscores the importance of building relationships with customers using the Internet, and Barua (2001) argues that the Internet has the very real potential to enhance customer service throughout the sales process. These and related findings are readily applicable to the real estate industry and the use of the Internet for selling activities.

The Impact of Internet-savvy on Internet Usage: The relationship between a real estate agent's Internet-savvy and Internet usage can perhaps best be initiated with by referencing Rogers' (1995) work on diffusion of innovation. Rogers suggests that an individual's knowledge about an innovation and how that innovation functions will affect the likelihood of adoption of said innovation by that individual. As suggested earlier, the more Internet-savvy is a real estate agent, the more he/she knows about how to utilize this new technology tool (cf. Fugate 2001). A natural conclusion drawn from the above discussion is that an individual's Internet-savvy relates directly and positively with his/her Internet utilization. This relationship is further delineated below.

When faced with the challenges of developing new skills and acquiring the technical knowledge necessary to effectively use an innovation (arising from new technology), people tend to postpone adoption of that innovation until they have acquired sufficient internal expertise (i.e., knowledge). This line of reasoning has received empirical support across a broad range of adoption settings, including adoption of new information technologies. For instance, Neidleman (1979) found that the failure of European small businesses to utilize information systems could be attributed to a lack of knowledge of such systems. Other studies have established that employees with high levels of knowledge regarding technological innovations are likely to increase their use of such innovations (Ettlie 1990; Thong 1999). These findings further support the relationship depicted in Figure 1.

The Impact of Innovativeness on Internet Usage: According to Kirton (1976), every individual falls somewhere on a continuum with the more rigid and conforming adopters and the more imaginative and change-seeking innovators occupying the two end points. Adopters tend to be methodical and disciplined. They tend to reduce problems by maximizing continuity and stability, and seek solutions to problems in tried and understood ways. Innovators, on the other hand, tend to approach problems in a less disciplined manner and are more tangential in their thinking. These individuals approach tasks from unsuspected angles and tend to disregard accepted means of dealing with problems.

Prior research indicates that the above tendencies and individual difference characteristics of innovators and adopters are applicable to adoption of technology (Novak and Hoffman 2000; Robertson and Gatignon 1986). Drawing upon these studies, this paper suggests the following rationale for a direct, positive relationship between innovativeness and Internet usage. In the case of Internet adoption by real estate agents, the adopter agent (who tends to be rigid and utilizes established approaches to problem solving) would be likely to apply

technological tools in his/her selling activities only after other agents or individuals in related industries have come to understand and successfully apply that technology. On the other hand, the innovator agent (who is imaginative and a flexible problem solver) would be more likely than the adopter agent to prefer and implement an innovation like the Internet medium as a selling tool. In short, the adopter agent would wait to adopt the Internet as a selling tool until the effectiveness and/or efficiency of that tool had been proven and/or his/her level of related knowledge had increased. The innovator real estate agent would, in effect, be the person to adopt the Internet as a selling tool, to develop his/her knowledge of the Internet during use and over time, and prove the effectiveness of that selling tool to the adopter agent.

As such, the authors of this manuscript postulate that an agent's level of innovativeness is an important predictor of that agent's adoption and application of the Internet for selling activities.

The Impact of the Internet Usage on Sales Performance: Salesperson performance has been widely studied in the personal selling literature (e.g., Walker, Churchill and Ford 1977; Weitz 1979; Cravens, LaForge, Pickett, and Young 1993; Boles, Donthu, and Lohtia 1995; Rentz, Shepherd, Tashchian, Dabholkar, and Ladd 2002). Over the decades, a plethora of variables – ranging from motivation, sales aptitude, selling skills, role clarity, personal, organizational, environmental variables, and others – thought to be related to salesperson performance, have been studied. Although significant advances have been made in furthering our understanding of factors related to salesperson performance, debate continues as to the most adequate or 'appropriate' way to assess such performance. Based upon their meta analysis of 116 articles on the subject, Churchill, Ford, and Walker (1985) concluded, in part, that (a) theoretical models based upon multiple determinants of sales person performance are "probably on the right track" (p. 117), and that (b) "self-report measures (of salesperson performance) do not create an upward bias in the findings, and the tendency that is often observed to discount findings simply because of the 'natural' upward bias produced by self-report measures of performance is unfounded" (p.117). Based upon these findings, in this work we used multiple-item self-report measures to document the performance of the real estate agents studied.

The multi-item, self-report measures of salesperson performance used in this study were designed to tap into two separate components of the construct: (a) salesperson effectiveness, and (b) salesperson efficiency. This approach is consistent with the work of earlier researchers (i.e., Churchill, Ford, and Walker 1985; Weitz, Sujan, and Sujan 1987; Boles, Donthu, and Lohtia 1995). The effectiveness of a salesperson is based upon his/her contribution to valued organizational outcomes including sales volume, market share and others (Churchill, Ford, and Walker 1997). The efficiency of a salesperson can be conceptualized as the ratio between inputs and outputs. As stated by Pilling, Donthu, and Hensen (1999), "Performance efficiency in this context is producing the maximum quantity of outputs for any given amount of inputs or the minimum use of inputs for any given amount of outputs" (p. 38). That is, if two sales people each generate $250,000 in sales volume, but one utilizes $5,000 in office supplies, travel, and support service, while the other salesperson uses only $2,500 of sales related services/equipment, the latter salesperson would be a more efficient sales person in terms of performance. In this study, we sought specifically to assess, from a self-report basis, the impact of Internet usage on the performance of real estate sales agents in terms of: (a) overall performance as measured by increased sales volume and improved customer satisfaction; (b) increased efficiency in achieving the reported level of sales volume/customer satisfaction.

Hypotheses

The preceding analysis of the four constructs embodied in the research model (see Figure 1) provides directions for delineating the relationships between those constructs in the form of testable research hypotheses.

As stated earlier in this manuscript, the authors have defined the construct of Internet-savvy as a real estate sales agent's accumulated, aggregate level of knowledge concerning the Internet medium and his/her understanding of the applicability and usefulness of that

technology in accomplishing a task or objective (i.e., selling activities). Based upon this definition, the authors expect that the greater is a sales agent's knowledge of the Internet, the more he/she will use the Internet to accomplish selling related activities.

H_1: The greater the real estate agent's Internet-savvy, the greater will be that agent's use of the Internet medium for selling activities.

The authors of this manuscript also postulate that a real estate agent's use of the Internet will be influenced by that agent's level of innovativeness concerning the Internet. A more innovative agent would be expected to perceive fewer obstacles when considering the application of the Internet as a selling tool. Hence:

H_2: The more innovative a real estate agent is, the greater will be the agent's use of the Internet medium for selling activities.

An interesting link between a real estate agent's Internet-savvy and his/her degree of innovativeness can also be made. While the two constructs measure distinct individual traits, it is conceivable that these constructs may overlap to a certain extent. Internet-savvy concerns primarily the knowledge an agent may have regarding the new technology. This knowledge may be a consequence of self-learning, prior experience with similar products (e.g., computers), or training programs sponsored by the employing organization. On the other hand, a real estate sales agent's innovativeness describes an inherent personal trait of that individual such that he/she tends to naturally be more enthusiastic about new technologies and is among the first group of individuals to learn about, purchase, and utilize those technologies.

The link between the real estate agents' Internet-savvy and his/her innovativeness is delineated as follows: the greater is an individual's level of innovativeness, the more likely that individual is to seek out information about new technologies and, therefore, become knowledgeable regarding those technologies. On the other hand, an individual who is highly Internet-savvy is likely to be ingenious and not only understand the applicability of technological innovations, but "push the envelope" regarding the applications of those innovations.

In addition, although we consider the constructs of Internet-savvy and innovativeness to be correlated, neither is expected to *cause* the other. The rationale here is that, due to a lack of exposure to the Internet, an innovative person might not necessarily be highly knowledgeable about that tool. Furthermore, an individual with a great deal of Internet knowledge, that is, an agent who demonstrates a high degree of Internet-savvy, may not be an innovator regarding other products and/or services. For example, an adopter agent might have acquired his/her knowledge of the Internet via corporate-sponsored and required Internet related training seminars. In such a case, although the adopter real estate agent may demonstrate Internet-savvy, he/she does not do so due to an inherent motivation to seek out new products. Hence, the authors of this manuscript postulate that:

H_3: Innovativeness and Internet-savvy of real estate agents will co-vary.

Finally, a real estate agent's use of the Internet as a selling tool is expected to improve his/her overall sales performance (as measured by self-report) by: a) increasing the agent's effectiveness in generating sales via improved customer service; b) by enhancing the agent's operational efficiency via the development of more efficient exchange relationships with his/her prospects and clients. Hence:

H_4: A real estate agent's Internet utilization for selling activities relates directly and positively to that agent's perceived performance.

STUDY DESIGN

Participants

A survey study was designed to test the conceptual model and research hypotheses. Participants in the study were real estate sales agents randomly selected from the membership roster of the Minnesota Association of REALTORS. A total of 1500 surveys were distributed, with 301 useable surveys being returned for a response

rate of approximately 20 percent. Response bias was assessed via the early and late respondent comparison (see Armstrong and Overton 1977), which revealed no significant differences. On average, the participants had approximately 13.7 years of experience as real estate agents. Approximately 48.5 percent of the participants were college graduates. About 69 percent of the respondents reported that their average personal income for the last fiscal year was between $30,000 and $100,000. Based upon discussions with experts from the Minnesota Association of REALTORS Association, the sample is considered to be representative of that association's membership.

Development of Survey Instrument and Testing

The process involved in developing the survey instrument consisted of two phases. In the first phase, the researchers consulted with marketing academicians in the field of e-commerce and professional selling and discussed the primary objectives of the study with real estate research experts. The second phase of the research, in which survey items designed to tap into the constructs of interest were developed, consisted of an iterative measurement development process modeled on the ubiquitous Churchill paradigm (1979). In the initial stages of this phase, the researchers relied on relevant literature to identify appropriate construct measures that documented acceptable reliability and validity. This review resulted in the identification and subsequent adaptation of the 6-item "domain-specific innovativeness" scale developed by Goldsmith and Hofacker (1991; Cronbach's Alpha = 0.86) as a measure of agents' innovativeness.

The review of the literature did not reveal any existing assessment instruments suitable for the constructs of Internet-savvy, agents' use of the Internet as a selling tool, or the impact of the Internet on sales performance. The combined expertise of the marketing academicians and real estate researchers provided the framework for the specification of the following item-sets designed to measure salient factors for the research but for which measures did not currently exist: 1) a 5-item set was developed to assess the agents' Internet-savvy; 2) a 6-item set was developed to measure the agents' use of the Internet as a sales tool; and 3) a 10-item set was generated in order to measure the agents' perceptions of the impact of the Internet on their sales performance.

Based upon the adapted items from the domain-specific innovativeness scale (Goldsmith and Hofacker 1991) and the newly developed survey items, a total of twenty-seven items were developed to represent the domain of the four constructs (Internet-savvy; Innovativeness; Internet use in selling; and impact of the Internet on sales performance) included in our research model (Figure 1). All survey items were written into a 5-point Likert type format and were then reviewed by four academicians with expertise in the areas of professional selling, e-commerce/Internet marketing, consumer behavior, and real estate. The survey items were examined for face validity and potential problems in wording, understandability, or redundancy. The review process resulted in the rewording and revision of several items. The revised pool of twenty-seven assessment items and demographic question set was pretested with twenty real estate agents. For each set of scale items, respondents were instructed to indicate, as appropriate (given the specific scale items), either (a) the extent to which the respondent had engaged in the specific activities described in the scale items (response category end-points ranged from (1) Not at all to (5) Very much) or (b) the degree to which they disagreed or agreed with scale items (response category end-points ranged from (1) Strongly disagree to (5) Strongly agree). This procedure revealed no problems with the wording or understandability of the items and the finalized assessment instrument was distributed to the study participants via the United States Postal Service. Care was taken to avoid any overlaps between participants in the pilot study and participants in the main data collection.

In order to enhance the response rate, the researchers also worked closely with the Minnesota Chair of Real Estate professor at a mid-western university. With the cooperation of this individual and the Minnesota Association of REALTORS, a cover letter was drafted that explained the nature of the research and indicated the Minnesota Association of REALTORS support of the study. The letter served as the cover page for the survey instrument.

ANALYSIS

The dimensionality of the model was assessed by conducting exploratory factor analysis on the pool of 27 items. An evaluation of the resulting factor structure revealed that two items that measured Internet Use did cross-load on more than one factor. As these two items exhibited low correlations with other items measuring the construct Internet Use, they were deleted from further analysis. The results of a common factors procedure with no *n* specified and a varimax rotation on the remaining 25 items indicated that the scale items loaded upon four distinct factors corresponding to the *a priori* dimensions specified in the model.

In accordance with the structural modeling approach suggested by Gerbing and Anderson (1988) and Anderson and Gerbing (1988), a confirmatory factor analysis was conducted on the construct-measures using LISREL 8.3. The resulting diagnostics revealed an unacceptably low squared multiple correlation for an item that measured Innovativeness. After deleting this item, the 24-item measurement model (see Table 1) yielded the following indices: $\chi 2 = 1050.21$, df = 246, p = .00; Standardized RMR = .056; NFI = .85; NNFI = .87; CFI = .89, and RMSEA = .11. Although the fit indexes were mediocre (see Hu and Bentler 1999; McCaulum 1996), the squared multiple correlation coefficients and standardized loadings for the various items were within acceptable limits (see Table 1) and established convergent validity of the various measures. Table 1 also reports the reliability coefficients (Cronbach's Alpha) of the four construct measures. The reliability of the 4-item sets that measured the constructs of interest in this study ranged between .84 and .95, thus establishing the internal consistency of the construct measures (Nunnally 1978). Table 2 depicts the results of the analysis that established the discriminant validity of the four construct measures.

The next step in the analysis involved the use of LISREL 8.3 to test the structural relationships depicted in the conceptual model using a path analytic technique. The following fit indices were reported for the path model analyzed: $\chi 2 = 9.06$, df = 2, p = .01; Standardized RMR = .045; NFI = .98; NNFI = .95; CFI = .98, and RMSEA = .11. Table 3 summarizes the standardized path coefficients along with their critical ratio values and statistical significance for the various hypothesized relationships. Critical ratio values greater than 1.96 indicate significant path coefficients (Byrne 2001). Standardized path coefficients are standardized partial regression coefficients and, therefore, are useful when comparing the relative influence of various constructs (see Loehlin 1992). As Table 3 indicates, the analysis provided support for all of the hypothesized relationships. The next section discusses the results of, and implications that flow from, this study in some detail.

DISCUSSION AND IMPLICATIONS

Summary of Findings

Analysis of the responses from the sample of real estate agents provided strong empirical support for our research model, which conceptualizes the relationships among real estate agents' Internet-savvy, innovativeness, Internet Use, and Performance enhancement due to Internet use.

The test of the path-analytic model (Figure 1) indicated that Internet-savvy related positively and significantly (standardized path coefficient = 0.25, critical ratio= 3.74, $p < .05$) to Internet Use, supporting Hypothesis 1. The results indicate that, among the responding real estate agents, those agents who possessed greater Internet-savvy also utilized the Internet to a greater extent for selling activities. A generalization of this result suggests that enhancing agents' knowledge and skills regarding the Internet medium should result in these agents using the Internet more actively to accomplish their job requirements.

A positive and statistically significant association (standardized path coefficient = 0.29, critical ratio = 4.37, $p < .05$) between real estate agents' innovativeness and Internet use suggests support for Hypothesis 2 (see Table 3). For the sampled agents, then, the extent to which they are more innovative towards new technologies relates directly and positively to how actively they engage in using the Internet as a selling tool. Generalized across all real estate agents, this result implies that those real estate agents who by their nature

TABLE 1
Summary of Findings for the Measurement Model

Constructs and Items	Sq. Multiple R	Std. Loadings	t-Value	p <
Internet Savvy				
I am familiar with the use of e-mail	.49	.70	13.69	.001
I am knowledgeable about the features offered in my e-mail	.63	.79	16.24	.001
In general, I am capable when it comes to using the Internet to search for information	.85	.92	20.69	.001
I can usually use the Internet to quickly find information I am seeking	.91	.96	22.07	.001
I am capable of using a variety of information sources on the Internet to find the specific information I want	.89	.94	21.50	.001
α (5 items) = 0.94				
Innovativeness				
In general, I am the first of my circle of friends to try a new technology	.81	.90	19.30	.001
If I hear that a new technology is available, I want to learn more about it	.70	.84	17.23	.001
Compared to my friends, I have a lot of technological gadgets	.69	.83	17.15	.001
In general, my friends learn to use new technology before I do (R)	.50	.71	13.54	.001
I wait until I have heard of others trying new technologies before I am willing to do so (R)				
I will not commit to using a new technology until I have tried that technology for some time (R)*	.31	.55	9.90	.001
α (5 items) = 0.88				
Internet Use				
I use the Internet to gather information about prospective home sellers	.71	.85	17.14	.001
I use the Internet to gather information about prospective home buyers	.74	.86	17.52	.001
I use the Internet to make sales presentations more effective	.48	.69	12.91	.001
I rely on the Internet to respond to objections or concerns raised by my clients	.39	.62	11.30	.001
I rely on the Internet to communicate with my clients*				
I rely on the Internet to build effective relationships with clients*				
α (4 items) = 0.84				
Performance				
Using the Internet reduces the average time I spend with sellers to complete a sale	.59	.77	15.39	.001
Using the Internet reduces the average time I spend with buyers to complete a sale	.59	.77	15.45	.001
Using the Internet reduces the average time I spend with third -party service providers to complete a sale	.46	.68	13.04	.001
Using the Internet reduces the average time I spend servicing customers after the sale				
Using the Internet has increased the total sales $ I have generated	.58	.76	15.38	.001
Using the Internet has increased the number of homes I sold	.81	.90	19.77	.001
Using the Internet has increased the number of new listings I obtained	.78	.88	19.21	.001
Using the Internet has increased buyer satisfaction with my services	.73	.85	18.09	.001
Using the Internet has increased seller satisfaction with my services	.74	.86	18.37	.001
Using the Internet has increased the average $ value of the property I listed	.70	.84	17.56	.001
α (10 items) = 0.95	.67	.82	17.06	.001

Descriptive Goodness of Fit Indices:

χ^2 *(246 N = 295), p=.00*	1050.29
Standardized RMR	0.056
NFI	0.85
TLI	0.87
CFI	0.89
RMSEA	0.11

Note: 1. α = Cronbach's Alpha; 2. (*) indicates items not included in the analysis of measurement model and subsequent analysis.

TABLE 2
Assessing Discriminant Validity: Chi-Square Difference Tests

Models/ Construct Pairs	Model $\chi 2$	$\Delta \chi 2$	p <
Unconstrained Measurement Model (d.f = 246): All constructs are independent.	892.19		
Constrained Models (d.f = 247): Pairs of constructs constrained to one.			
Innovativeness and Internet Savvy	1775.21	724.92	.001
Internet Use and Internet Savvy	1390.34	340.13	.001
Internet Use and Innovativeness	1384.64	334.43	.001
Performance and Internet Savvy	2468.96	1418.75	.001
Performance and Innovativeness	1971.37	921.16	.001
Performance and Internet Use	1187.65	137.44	.001

TABLE 3
Path Model Estimation Results

Relationships	Hi	Std. Path Coeff.	t-Value	Sig. p ≤
Internet Savvy → Internet Use	H_1	.25	3.74	.05
Innovativeness → Internet Use	H_2	.29	4.37	.05
Covariance between Internet Savvy and Innovativeness	H_3	.26	6.46	.05
Internet Use → Performance	H_4	.68	15.85	.05

are more innovative in the usage of new technologies are also more likely to use the Internet in their jobs.

For the agents surveyed in the study, a positive and significant covariance is detected between Internet-savvy and Innovativeness (covariance = 0.26, correlation = 0.62, critical ratio = 6.46, p< 0.05), supporting Hypothesis 3. Generalized across all real estate agents, this result indicates that those real estate agents who by nature are more innovative tend to be more knowledgeable about the Internet, and vice versa.

The path analysis also supported Hypothesis 4, which posited a direct and positive relationship between Internet use and sales performance (standardized path coefficient = 0.68, critical ratio = 15.85, p < .05). This result establishes that real estate agents who responded to the survey perceived a significant performance enhancement if they used the Internet for selling activities. A generalization of this finding to all real estate agents suggests that real estate agents who utilize the Internet to a greater extent for selling activities will improve their own perceived performance.

Implications for Real Estate Agencies

Among the challenges facing the real estate brokerage industry today is the enhancement of agent performance in the Internet era. If the Internet is to be used as a marketing tool to enhance performance, two issues need to be addressed.

Our study results support the contention that utilizing the Internet for selling activities leads to enhanced perceived performance for real estate agents. Therefore, one of the responsibilities of brokers is to try to encourage agents to increase their use of the Internet medium in their job-related activities. This objective may be achieved through different routes. Brokers could develop training programs to educate their agents about the potential applications of the Internet. Once agents become more knowledgeable about the Internet, they should use it more and enhance their performance through this

marketing tool. For instance, the agency may sponsor in-house training seminars regarding sample online applications for real estate agents. Alternatively, they can encourage agents to take advantage of external training opportunities such as skills workshops often offered by professional associations. Lastly, the broker can encourage agents to learn by themselves by providing educational incentives (e.g., reimbursement of home Internet access fees).

The study also revealed another important factor that is not easily affected by training alone, namely, innovativeness of agents. Not surprisingly, agents who were innovative to begin with were more likely to use the Internet in their jobs. Thus, the broker can emphasize the innovativeness trait in his/her recruiting, especially in the recruitment of junior agents. Efforts could be made to select those innovative individuals, everything else being equal. This implies that those individuals will get on to using the Internet sooner and enhance their performance.

As both Internet-savvy and innovativeness contribute to Internet usage almost equally (see Table 2), brokers could choose either route to facilitate and expand Internet usage, depending on the types of agents they have or can attract. Pursuing both routes should have even more promising results.

Implications for Agents

Compared to other professionals, real estate agents typically work relatively independently and derive their income through their own efforts. Therefore, potential for enhanced performance should be the number one impetus for them to use the Internet in their jobs because of the positive linkage between Internet use and performance. Potential applications exist in better communications with buyers and sellers, as well as better service.

Since innovativeness is largely a personal trait that is not easy to change for most people, the greatest gains may be achieved through increasing real estate agents' knowledge and understanding of the Internet technology. Once they become familiar with the Internet technology and its applications, they will feel more at ease making use of it as a marketing tool in their jobs. As the data indicates, Internet knowledge or savvy can be just as important as innovativeness when it comes to the perception of one's own performance.

Regardless of their level of innovativeness, real estate agents could benefit by choosing to work for those agencies that emphasize and support learning about and using the Internet medium. These agencies may have in-house training programs to educate people about the Internet or they may have policies rewarding the learning of Internet technology. Once they learn enough about the Internet, even less innovative individuals would likely use the Internet actively in pursuing sales. Consequently, they can also realize the benefits of performance enhancement due to the use of the Internet.

Limitations and Future Research

Since this study utilized cross-sectional data to test proposed relationships, no conclusions regarding causal linkages between the constructs examined can be established. Also, since the data was generated through self-reports, it may be biased to an extent. The study utilized a list of real estate agents belonging to one state association of realtors. Although selection of a random sample adds to its generalizability, the results of the study cannot be unconditionally generalized to the entire population of real estate agents.

While our research provides some insights to the research questions posed in the study, additional research in the area is warranted. This study represents an initial empirical investigation of a model. Researchers are encouraged to further investigate the constructs and relationships and replicate the results with other samples. Further understanding of the antecedents and consequences of Internet Usage on Performance Enhancement should have profound influence on how agencies promote usage of the Internet by agents.

In addition, we encourage researchers to replicate and extend the findings reported in this manuscript. Specifically, the participant sample used in the study consisted of real estate agents from a mid-western state. While the participants did represent a variety of educational backgrounds, their levels of Internet-savvy may vary compared to agents from other parts of the

United States. Accordingly, researchers are strongly urged to test the model on a more diversified sample of real estate agents.

Yet another avenue for future research would involve organizational factors that influence Internet utilization by agents. Given the importance of online strategy to most real estate agencies today, we suspect brokers would not simply wait and see if personal traits play a role shaping the intensity of Internet usage by agents. Rather, brokers may proactively direct agents to utilize the Internet more through incentives, policies, or even disciplines. Therefore, adding the organizational dimension to our existing model could potentially enrich it.

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