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Abstract

In this study, we examine trust in the technology itself. We introduce and distinguish between trusting beliefs, trust in a technology vendor, and willingness to depend on a technology. Empirically, we integrate these constructs into existing innovation diffusion research and examine these constructs' relationship with the ease of use (EOU), perceived usefulness (PU) and intention to explore technology. Our analysis suggests that (1) trusting belief in technology have a direct effect on EOU and PU, (2) trusting belief in a vendor influenced willingness to depend on a technology and (3) willingness to depend on a technology has a direct effect on PU and a mediated effect on intention to explore. Implications for research and practice are offered.

Keywords: Trust, Trust in Technology, Intention to Explore Information Technology, Database, Technology Acceptance, Perceived Usefulness, Perceived Ease of Use

Introduction

With the information age's expansion, information technology (IT) grows increasingly pervasive in the lives of organizations and individuals. In hopes of gaining a competitive advantage, organizations use IT as a means to cut costs and manufacture goods more efficiently (Culnan and Armstrong 1999). In the United States alone, more than 126 million consumers use IT to stay in touch with family, make purchases and exchange information (Hoffman, Novak et al. 2004).

Despite IT's pervasiveness, many individuals hesitate to adopt new technologies. Indeed, even if individuals initially accept an IT, they may discontinue use at later stages of innovation (Cooper and Zmud 1990). For example, rather than send an e-mail, a manager may still ask a personal assistant to convey an important, confidential, message. If the manager were certain that the technology would deliver the message in a timely, secure, manner, the personal assistant could be charged with other tasks. In this case, the manager chose to avoid the risk and uncertainty associated with the technology, in favor of a known, trusted, individual.

In order to encourage technology use, firms have cultivated the image that they offer safe, reliable IT-enabled transactions. For example, Gefen, Karahanna, and Straub (2003) report that trust in the e-vendor and usefulness of the website influence consumer's on-line purchasing. When individuals believed a vendor was trustworthy and the site was easy to use, Gefen et al. (2003) found that consumers were more likely to make another purchase.

Rather than a product's features or firm attributes, we suspect that resistance to IT use operates at a more visceral level – individuals are reluctant to trust technology. Frequently, individuals balk at using IT because of risk and uncertainty (Brown, Poole et al. 2004). They may resist using a new technology because they perceive it as unreliable. Perhaps more frightening, individuals worry about making mistakes that could lead to identity theft, fraud, or other forms of electronic malfeasance (George 2002). For managers, the basic dilemma may be how to inculcate trust necessary to encourage individuals to use and explore IT. Because

beliefs are subject to change over time with experience, we expect trust to be a key factor especially in post-adoption stage of an IT. Users' intent to explore IT is extremely important since users are widely acknowledged as a source of IT innovation and their involvement and participation play a crucial role in initiating innovations (Ives and Olson, 1984, Nambisan and Agarwal, 1999, von Hippel, 1978, 1988)

Hence, we examine a basic question: How does trust in the technology influence users' intention to explore an information technology? In this paper, we present a model that integrates trust in technology with the existing nomological net leading to technology use. We propose that user decisions to explore IT involve not only perceptions of the technology's attributes, but also trust in the enabling technologies and their manufacturers.

Literature Review and Hypotheses

Figure 1 presents our research model. We begin our discussion with a brief review of the Technology Acceptance Model (TAM). Davis (1989) introduced the TAM to explain users' initial adoption of information technologies. Rooted in the Theory of Reasoned Action (Ajzen and Fishbein 1980; Fishbein and Ajzen 1975), TAM suggests that beliefs affect individuals' adoption of information technology (see for example Moon and Kim 2001; Agarwal and Karahanna 2000; Koufaris 2002). TAM directs attention towards intentions as a useful predictor of actual technology use. Consistent with TAM's original conceptualization, researchers have generally focused on pre-acceptance or initial acceptance of IT and identified factors that influence individuals' intention to use, or actual use of, IT.

In this study, we focus on the intention to explore technology, a proxy for post-acceptance use of IT. Intention to explore reflects a user's willingness and purpose to explore an accepted technology and find potential new uses (Nambisan and Agarwal 1999). Nambisan and Agarwal conceptualizes intention to explore "as a user's purpose and motivation to innovate based on the perceived business related benefits she will derive from IT deployment".

When users explore new technologies, they experience conditions of uncertainty and risk– important conditions for the operation of trust. For instance, a novice MS Word user may accept the software is an efficient tool as a word processor that allows one to type and save documents conveniently. This behavior represents the initial adoption of the technology in terms of intention to use a technology. After the initial adoption, the user may be interested in exploring more advanced features such as tables or learning to write macros to customize MS Word to their needs. When users explore new uses of the technology, they may be exposed to conditions of uncertainty and risk. This behavior, using the technology beyond its basic function- typing and saving documents in this case- represents the intention to explore the technology.

To predict intentions, TAM employs two beliefs: Perceived usefulness and perceived ease of use. Perceived usefulness refers to "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis 1989). Perceived ease of use refers to, "the degree to which a person believes that using a particular system would be free of effort" (Davis 1989). Studies have found that perceived usefulness has a direct link to IT use (e.g. Moore and Benbasat 1991; Chin and Gopal 1995; Venkatesh 1999). Rather than a direct effect, studies frequently find that ease of use operates through usefulness and does not have a direct significant relationship to IT use (e.g. Segars and Grover 1993; Szajna 1994; Subramanian 1994). Most frequently, perceived usefulness is found to have a direct effect on intentions to use technology and ease of use is modeled as having direct and indirect effects on intentions.

Because intention to use technology is a natural antecedent to intention to explore IT and when users perceive a system as important, they will be more likely to participate in developing new applications of that system (Locke and Schweiger, 1979),

H1: Perceived Usefulness will positively influence Intention to Explore IT.

H2: Perceived Ease of Use will positively influence Intention to Explore IT.

H2b: Perceived Ease of Use will positively influence Perceived Usefulness.

In addition to perceived ease of use and perceived usefulness, extensions of TAM have demonstrated that subjective norms towards technology use are correlates of intentions to use information technology (Taylor and Todd 1995). A subjective norm is defined as “a person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein and Ajzen 1975). For example, our novice MS Word user may be content with using only basic word processing functions. However, if managers or peers chat up using tables to format documents, the user may be influenced to explore new functions of MS Word. Venkatesh and Davis (2000) extended TAM with the TAM2 model by "showing that subjective norm exerts a significant direct effect on usage intentions over and above perceived usefulness and perceived ease of use for mandatory (but not voluntary) systems" (p. 198). Hence, we hypothesize that:

H3: Subjective Norms will positively influence Intention to Explore IT.

Trust

Trust refers to “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action” (Mayer, Davis et al., 1995). When trustees extend trust, they assume that the trusted party will not take advantage of the situation (Bhattacherjee 2002). Also, when extending trust, the trustees recognize that they do not have total control over the outcomes (Riker, 1971; Mayer, Davis et al., 1995). Hence, trust may exist when risk and uncertainty characterize a transaction.

With the growth of electronically enabled transactions, there has been a surge of research tying trust to information systems (see Gefen, Karahanna et al. 2003). Trust has been related to outsourced information systems projects (Lander et al. 2004), knowledge management (Lee and Choy 2003), virtual teams (Pauleen 2003; Jarvenpaa and Leidner 1999; Brown, Poole et al. 2004) and virtual communities (Castelfranchi and Tan 2002). Also, fueled by the growth of Web technologies, individuals find themselves

conducting transactions in more uncertain "e-environments" (Hoffman, Novak & Peralta 1999). Generally, these studies focused attention on trust in a vendor or organization.

Trust in Technology

Although MIS trust research has surged, relatively few studies (e.g. Gefen 2000) have examined individuals' perceptions of trust in the technology itself. A substantive reason for not investigating trust is the stream of research assumes the trustee or trustor must have volitional control over their behavior (Delgado-Ballester and Munuera-Aleman 2001). Because technology lacks volition or moral agency, some suggest that it cannot be a target of trust (Friedman et al. 2000). However, trust is not necessarily a feeling that is limited to relations between human beings, but also to other situations in life such as objects and processes regardless of the will or moral agency (Tseng and Fogg 1999).

Although technology may lack volition, users may imbue technologies with human-like characteristics (Johnson & Marakas 2000). For example, a user may "trust" their own equipment more than the same product offered by a peer. Users may feel more comfortable working on a "personal workstation" than on a workstation in a computerlab. When users work on a "lab workstation", they may feel exposed to more risk and uncertainty. In this situation, the user "trusts" the lab machine to act as expected. If the computer failed to perform, it is likely the user will form beliefs of "distrust" in the lab machine and seek an alternative machine in the future.

Trust in technology reflects beliefs about how a technology will perform and willingness to rely on a technology. When one relies or depends on a technology for important tasks, one trusts the technology to perform as expected. Two facets of trust in technology are *trusting beliefs* and *trusting intention*. Trusting beliefs and intentions reflect the idea that interactions between people and technology and cognitive-emotional reactions to such interactions determine behavior. When one believes that another is benevolent, competent, honest, and predictable, they express *trusting belief*. When one expresses a willingness to depend on a technology, one expresses *trusting intention* (McKnight, Choudhury, et al. 2002). When users

express trusting belief and trusting intention, they are signaling a willingness to use information technology to perform tasks (DeVries, Midden et al. 2003).

Although conceptually similar, trusting beliefs and trusting intention have different implications. Trusting beliefs comprise two dimensions: Capability belief refers to the belief that the technology has the capability, functionality, or features to do for one what one needs to be done, while reliability / predictability belief refers to the belief that technology will consistently operate properly. For example, many people assume MS Word checks grammar correctly, which means that trusting belief refers to the competence of MS Word's grammar check function. Trusting intention refers to the willingness to depend on the specific technology in a given situation in which negative consequences are possible. Trusting beliefs in technology differ from trusting intention in that the former specifies attributes of the technology, whereas trusting intention specifies a willingness to depend without specifying attributes. Hence, while related, we expect trusting beliefs to be a precursor to trusting intention- willingness to depend on IT. The link between trusting beliefs and trusting intentions is natural because the theory of reasoned action posits that beliefs influence intentions.

A key purpose of TAM is "to provide a basis for tracing the impact of external factors on internal beliefs, attitudes and intentions" (Davis et al. 1989). Following our trust discussion above, we posit that trusting belief and trusting intentions are the key external factors that will positively influence the perceived ease of use and usefulness of IT. Also, because trusting intentions i.e. willingness to depend on IT is closely linked to actual usage, we posit that it will directly affect intention to explore IT.

H4a: Trusting Beliefs- Reliability in technology will positively affect Trusting Intention- Willingness to Depend on Technology.

H4b: Trusting Beliefs- Reliability in technology will positively affect Perceived Usefulness of technology.

H4c. Trusting Beliefs- Reliability in technology will positively affect Perceived Ease of Use.

H5a. Trusting Intention- Willingness to Depend on information technology will positively affect Intention to Explore IT.

H5b. Trusting Intention- Willingness to Depend on information technology will positively affect Perceived Usefulness of IT.

Trusting Belief- Benevolence of Vendor

Benevolence of the vendor has been found to be a key factor in developing trust relationships between buyers and vendors (Kumar, Scheer, and Steenkamp 1995). In the context of information technology, when a user purchases a copy of a software program, the buyer and the seller are bound to each other by a warranty contract. The content of this contract is under the vendor's responsibility. Reliability refers to how the vendor is fulfilling its promises to the customer (Selnes and Gonhaug 2000). On the other hand, there are no explicit or implicit promises in order to possess benevolence. A vendor is benevolent when it is willing to help its customers even though the effort is outside what is promised by the warranty. (Selnes and Gonhaug 2000). Benevolence is an indicator of goodwill, implying that firms will not act opportunistically, even given the chance (Pavlou 2002).

We presume that benevolence of the vendor will form positive beliefs and attitudes towards the exploration of a specific software product. If vendors put the extra effort and help their customers, the users are going to be more likely to find out new uses of the technology, be more familiar with it and commit themselves in a strong relationship with the vendor that will result in depending more on the technology. Thus, we anticipate that benevolence should positively influence usefulness, ease of use, and willingness to depend on IT.

H6a: Trusting Belief- Benevolence of Vendor will positively influence Perceived Usefulness.

H6b: Trusting Belief- Benevolence of Vendor will positively influence Perceived Ease of Use.

H6c: Trusting Belief- Benevolence of Vendor will positively influence Trusting Intentions- Willingness to Depend on information technology.

The next section describes our method, analysis and results.

Method

Sample

The sample consisted of students at a large public university in the Southeastern United States. Respondents completed self-reported questionnaires during regularly scheduled class times. As an incentive, respondents received extra-credit in a Management Information Systems course. 200 surveys were distributed and a total of 147 responses (73%) were received. Due to missing data, 144 responses (72%) were used in this analysis. See Table 1 for sample characteristics.

Measures

Measures were either adapted from prior research or developed for this study. Perceived ease of use, perceived usefulness, and subjective norm were adapted from Venkatesh and Davis (2000). Intention to explore was adapted from Nambisan et al (1999). Trust measures were developed specifically for this study. All items were phrased such that Oracle was the target technology. Items by construct may be found in Appendix A.

Preliminary Analysis

We conducted a preliminary analysis to look for outliers and to assess the sample's distribution. We did not discover outliers, however, analysis indicated many items were skewed and some items exhibited kurtosis (See Table 2).

Data Analysis and Results

We used Partial Least Squares (PLS), a structural equation modeling approach, to analyze the data. Like other SEM techniques, it allows researchers to integrate measurement and structural models. Unlike other SEM techniques, PLS focuses on maximizing the explained variance, not the model's fit. Also, PLS is robust to departures from normality and well suited for small samples.

Measurement Model

To assess reliability, we examined the constructs' composite reliability as well as the variance explained within each construct. To calculate reliability, we estimated each constructs' internal consistency reliability. Derived from the individual item' loadings, a composite reliability of .70 or greater is considered acceptable for research (Fornell and Larcker 1981). Also, we calculated the average variance extracted (AVE) which measures the variance captured by the indictors relative to measurement error (Fornell and Larcker 1981). An AVE should be greater than .50 to justify using a construct (Barclay, Thompson et al. 1995). Results indicate adequate composite reliabilities and AVEs (see Table 3).

To evaluate discriminant and convergent validity, we examined the correlation of constructs and factor loadings. When each construct's AVE square root is greater than the correlation of the construct to other latent variables, the constructs demonstrated discriminant validity. A second way to evaluate discriminant validity is to examine each indicator's factor loadings (Chin 1998). Indicators should load higher on the construct of interest than on any other variable. The model's correlations of constructs (see Table 3) and factor loadings (see Table 4) demonstrate adequate discriminant and convergent validity.

Structural Model

A bootstrapping procedure was used to generate t-statistics and standard errors (Chin 1998). Interpreted like multiple regression, the R^2 indicates the amount of variance explained by the model (Barclay, Thompson et al. 1995). To evaluate the full model, R^2 values were calculated for intention to explore, perceived ease of use, perceived usefulness, and trusting intention in technology. Structural model results are presented in Figure 2.

Structural model results provided reasonable support for our theoretical model. Our analysis yielded moderate to large amount of variance in the endogenous constructs: Perceived ease of use (R^2= .34), willingness to depend (R^2=.35), perceived usefulness (R^2 = .60), and intention to explore (R^2=.35). Please see Table 5 for a summary of hypothesis test results.

When considering immediate antecedents to intention to explore, we found a tangled web of relationships. Subjective norm exerted a positive influence (.21, p<.05) on intention to explore. Also, perceived usefulness influenced intention to explore (.48, p<.01). Although perceived ease of use and willingness to depend on technology were significant correlates of perceived usefulness; they did not exert a direct effect on intention to explore. Due to this surprising finding, we conducted supplemental analysis. From our first model, we dropped the path from perceived usefulness to intention to explore. In the absence of perceived usefulness, willingness to depend demonstrated a direct, significant relationship (.30, p < .01) to intention to explore. However, perceived ease of use did not demonstrate a significant relationship to intention to explore. These results suggest that perceived usefulness mediates the influence of willingness to depend on technology on intention to explore information technology.

In terms of trusting beliefs in the technology and in the vendor, we found support for many of our hypotheses. Trust in the technology's reliability significantly related to ease of use (.53, p < .01), Usefulness (.20, p <.01), and willingness to depend on technology (.49, p <.01). However, trust in the vendor (Oracle) demonstrated a direct effect on only one dependent variable - willingness to depend on technology (.36, <.01). Taken together, these results suggest that trust in the technology itself served as a more immediate predictor of beliefs tied to technology use than did trust in the vendor.

Limitations

Prior to discussing our results, it is important to note several limitations of this study. Our primary limitation is the sample. Respondents were seniors enrolled in an information systems class. Hence, our results have limited generalizability outside of the university. However, the students were in a position to choose between meeting minimal assignment requirements or identifying innovative applications of Oracle while completing their assignments. So, although use was not volitional, the nature of use was volitional.

A second limitation of this study was that the data were collected at a single point in time. However, PLS is robust to highly correlated data and is designed to tease out differences found in small, non-

normally distributed datasets (Chin 1998). Hence, although our dataset may suffer from common method variance, our analysis provides insight into the influence of trust in technology on intention to explore information technology.

Discussion and Implications

This study was prompted by a desire to investigate the role of trust in technology acceptance and use. We utilize intention to explore as our dependent variable. We found that perceived usefulness was the primary predictor of intention to explore. Through perceived usefulness, perceived ease of use and willingness to depend on the technology exerted a mediated influence on intention to explore. Also, trusting beliefs were related to antecedents to intention to explore.

Our findings underscore the importance of distinguishing between trust as an intrinsic versus an extrinsic belief. When trust is intrinsic to the task, it plays a significant role in determining beliefs and ensuing behaviors. In our study, trusting belief-reliability of the technology and trusting intention- willingness to depend on technology can be construed as intrinsic. They directly influence perceived usefulness and ease of use, two salient beliefs leading to technology use. When trust is extrinsic to the task, it plays a more peripheral role in shaping IT-related beliefs. For example, in this study, trusting belief- oracle corporation helpfulness only related to trusting intention-willingness to depend on technology. Hence, when examining trust's influence on post-adoption beliefs and behavior, our results direct attention to distinguishing between the type and target of trust.

From a practical viewpoint, this paper provides initial evidence to IT managers and technology manufacturers that users' trust in technology and trust in the vendor are distinct from beliefs about the benefits of the technology (perceived usefulness) and design of the software (perceived ease of use). From an organizational perspective, putting more emphasis on building strong user trust in the technology may result in an increase in the use of information technology.

The purpose of our study was to examine the effects of trust in technology and trust in the vendor on user intent to explore an information technology. Our application of technology-based trust antecedents extends prior research, such as previous studies that integrated vendor trust and TAM constructs. Rather than just trust in the vendor, this study suggests that trust in the technology itself influences user beliefs leading to intention to explore IT.

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Table 1. Sample Characteristics

	Mean	Standard Deviation
Age	23.48	4.56
Male	124.00	
Years of College Education	4.20	1.32
Number of Computer Courses Taken	6.95	4.66
Own a computer	139.00	0.26
I have been using a computer for _____ years	9.64	4.02
Each week I normally use a computer ____:		
hours for school	11.43	7.27
hours for fun	5.97	5.77
hours for work	11.18	13.22
hours for other activities	3.65	4.53
Was this survey easy to complete? Yes No	132.00	Yes
Were the questions easy to understand? Yes No	139.00	Yes

Table 2. Item Level Descriptives Statistics and Test for Normality

	Mean	Standard	Skewness[a]			Kurtosis[b]		
	Statistic	Deviation	Statistic	Std. Error	Z-statistic	Statistic	Std. Error	Z-statistic
Intention to Explore								
ITE1	3.97	1.65	-0.11	0.20	-0.54	-0.78	0.40	-1.94
ITE2	4.47	1.47	-0.56	0.20	-2.79*	-0.05	0.40	-0.12
ITE3	4.68	1.44	-0.80	0.20	-3.98*	0.37	0.40	0.92
Perceived Usefulness								
PU1	4.57	1.32	-0.59	0.20	-2.90*	0.42	0.40	1.05
PU2	4.29	1.40	-0.18	0.20	-0.87	0.12	0.40	0.28
PU3	4.62	1.28	-0.68	0.20	-3.35*	0.57	0.40	1.42
PU3	4.49	1.35	-0.58	0.20	-2.85*	0.51	0.40	1.27
Perceived Ease of Use								
EOU1	3.77	1.32	-0.06	0.20	-0.31	-0.11	0.40	-0.27
EOU2	4.11	1.31	-0.12	0.20	-0.57	0.05	0.40	0.12
EOU3	3.85	1.29	-0.27	0.20	-1.31	0.28	0.40	0.70
EOU4	3.65	1.28	-0.13	0.20	-0.65	0.09	0.40	0.23
Trusting Intention - Willingness to Depend on Technology								
TBC1	4.83	1.26	-0.67	0.20	-3.33*	0.47	0.40	1.16
TBC2	5.09	1.09	-0.88	0.20	-4.35*	1.72	0.40	4.27*
TBC3	5.08	1.17	-0.76	0.20	-3.75*	0.64	0.40	1.58
TBC4	5.06	1.14	-0.81	0.20	-4.00*	1.40	0.40	3.49*
Trusting Belief - Reliability of Technology								
TBR1	4.56	1.42	-0.62	0.20	-3.05*	0.05	0.40	0.13
TBR2	4.34	1.41	-0.39	0.20	-1.93	-0.18	0.40	-0.44
TBR3	4.32	1.47	-0.52	0.20	-2.59*	0.02	0.40	0.06
Trusting Belief - Oracle Corporation Helpfulness								
TBOC1	4.76	1.24	0.05	0.20	0.25	-0.02	0.40	-0.05
TBOC2	4.68	1.29	-0.09	0.20	-0.45	-0.01	0.40	-0.01
TBOC3	4.64	1.20	-0.08	0.20	-0.37	0.43	0.40	1.07

Table 3. Correlation of Constructs and Composite Reliabilities

Constructs		Mean	Std. Dev.	ICR[a]	Correlation of Constructs and Average Variance Extracted[b]						
					(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	Intention to Explore	4.38	1.38	0.74	0.91						
(2)	Perceived Usefulness	4.49	1.18	0.90	0.57	0.88					
(3)	Perceived Ease of Use	3.85	1.18	0.92	0.41	0.72	0.91				
(4)	Trusting Intention - Willingness to Depend on Technology	5.02	1.09	0.95	0.31	0.56	0.49	0.94			
(5)	Trusting Belief - Reliability of Technology	4.41	1.34	0.93	0.33	0.59	0.56	0.58	0.94		
(6)	Trusting Belief - Oracle Corporation Benevolence	4.69	1.17	0.92	0.22	0.42	0.41	0.58	0.57	0.94	
(7)	Subjective Norm	4.08	1.36	0.91	0.46	0.59	0.49	0.34	0.39	0.33	0.96

[a] To assess reliability and validity using PLS, we calculated a block of indicators' composite reliability and average variance extracted (AVE). To be reliable, a construct should have an ICR > .70 and an AVE > .50

[b] The diagonal of the correlation of constructs is the square root of the average variance extracted. To be discriminant, this value should be greater than the correlation between the construct of interest and other constructs in the research model.

Table 4. Item Loadings and Crossloadings [ab]

Items	Intention to Explore (ITE)	Perceived Usefulness (PU)	Perceived Ease of Use (EOU)	Trusting Intention - Willingness to Depend on Technology (WTD)	Trusting Belief - Reliability of Technology (TBR)	Trusting Belief - Oracle Corporation Benevolence (TBOC)	Subjective Norm (SN)
ITE1	0.88	0.46	0.39	0.23	0.31	0.22	0.46
ITE2	0.93	0.60	0.41	0.35	0.31	0.21	0.42
ITE3	0.92	0.49	0.34	0.26	0.28	0.17	0.39
PU1	0.50	0.85	0.64	0.54	0.61	0.41	0.48
PU2	0.49	0.87	0.59	0.44	0.51	0.34	0.52
PU3	0.52	0.89	0.67	0.48	0.46	0.35	0.50
PU4	0.50	0.90	0.64	0.50	0.51	0.38	0.58
EOU1	0.47	0.71	0.90	0.45	0.56	0.34	0.55
EOU2	0.31	0.61	0.87	0.45	0.48	0.37	0.36
EOU3	0.37	0.64	0.91	0.44	0.48	0.34	0.46
EOU4	0.35	0.66	0.93	0.44	0.51	0.43	0.42
WTD1	0.32	0.54	0.50	0.90	0.57	0.54	0.37
WTD2	0.27	0.54	0.48	0.95	0.56	0.56	0.30
WTD3	0.24	0.44	0.40	0.92	0.48	0.49	0.25
TBR1	0.32	0.56	0.45	0.96	0.55	0.59	0.35
TBR2	0.36	0.60	0.52	0.57	0.93	0.54	0.39
TBR3	0.26	0.49	0.47	0.51	0.86	0.48	0.31
TBR4	0.30	0.57	0.58	0.54	0.96	0.58	0.39
TBOC1	0.26	0.40	0.36	0.58	0.53	0.91	0.28
TBOC2	0.18	0.40	0.41	0.50	0.54	0.95	0.35
TBOC3	0.18	0.38	0.37	0.56	0.54	0.95	0.32
SN1	0.48	0.53	0.45	0.34	0.35	0.35	0.96
SN2	0.41	0.61	0.51	0.31	0.40	0.29	0.96

[a] To be discriminant, an item's loadings must be higher on the construct of interest than on any other construct

[b] Factor loadings were extracted from PLSGraph 2.91 and then correlated with items using SPSS 11.5.

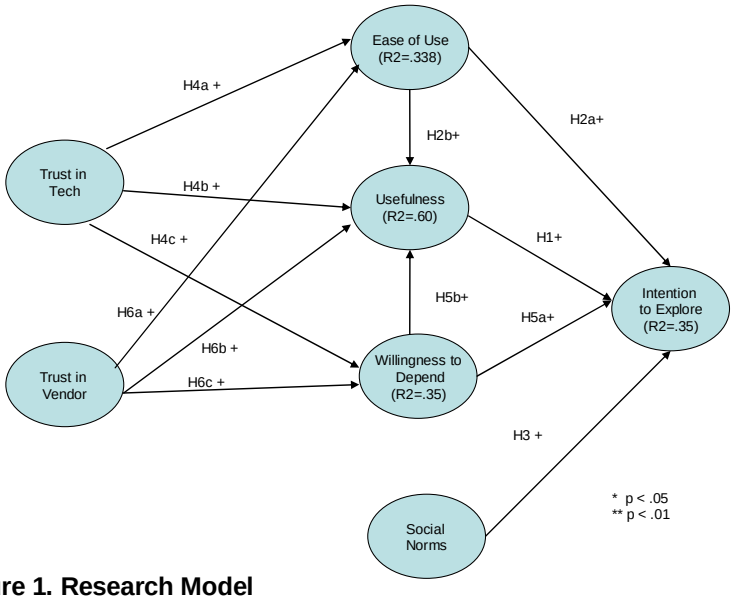

Figure 1. Research Model

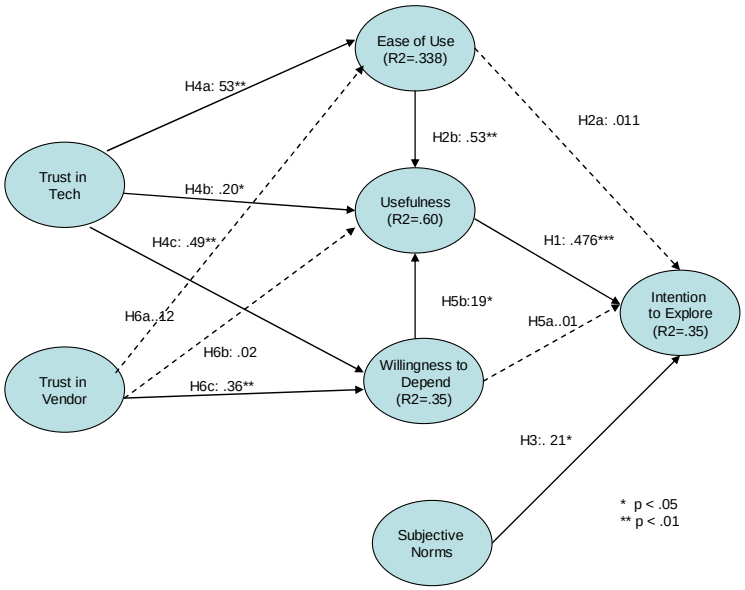

Figure 2. Structural Model Results

Appendix A. Items, Item Loadings, and Outer Model Loadings

Constructs		Outer Model Weight	Outer Model Loading
Intention to Explore (1 = disagree, 4 = neutral, 7 = strongly disagree)			
ITE1	I intend to spend considerable time exploring uses of Oracle Developer2000.	0.35	0.88
ITE2	I intend to explore Oracle Developer2000 for enhancing the effectiveness of my classwork.	0.41	0.93
ITE3	I intend to explore Oracle Developer2000 for potential applications in my project.	0.34	0.92
Perceived Usefulness (1 = disagree, 4 = neutral, 7 = strongly disagree)			
PU1	When completing projects, I find Oracle Developer2000 useful.	0.29	0.85
PU2	Using Oracle Developer2000 improves my performance in school.	0.27	0.87
PU3	Using Oracle Developer2000 enhances my effectiveness in completing projects.	0.29	0.89
PU4	Using Oracle Developer2000 enhances my productivity in completing projects.	0.28	0.90
Perceived Ease of Use (1 = disagree, 4 = neutral, 7 = strongly disagree)			
EOU1	I find it easy to get Oracle Developer2000 to do what I want them to do.	0.31	0.90
EOU2	It is easy for me to become skillful at using Oracle Developer2000.	0.25	0.87
EOU3	Learning to operate Oracle Developer2000 is easy for me.	0.27	0.91
EOU4	I find Oracle Developer2000 easy to use.	0.28	0.93
Trusting Intention - Willingness to Depend on Technology (1 = disagree, 4 = neutral, 7 = strongly disagree)			
WTD1	When I have an important class assignment, I feel I can depend on Oracle Developer2000.	0.38	0.93
WTD2	I can always rely on Oracle Developer2000 in completing a tough class assignment.	0.32	0.92
WTD3	Oracle Developer2000 is a product on which I feel I can fully rely when working on an essential class assignment.	0.37	0.96
Trusting Belief - Reliability of Technology (1 = disagree, 4 = neutral, 7 = strongly agreee)			
TBR1	I think Oracle Developer2000 is a very reliable product.	0.28	0.90
TBR2	Oracle Developer2000 is not going to fail me.	0.27	0.95
TBR3	To me, Oracle Developer2000 is extremely dependable.	0.23	0.92
TBR4	Oracle Developer 2000 behaves in a highly consistent way.	0.28	0.96
Trusting Belief - Oracle Corporation Benevolence (1 = disagree, 4 = neutral, 7 = strongly agreee)			
TBOC151	I have a great deal of confidence in the people who work at Oracle.	0.36	0.91
TBOC152	When I need something more than online help, the Oracle help desk person is always very helpful.	0.35	0.95
TBOC153	I can always quickly get the help I need from the Oracle help desk person.	0.36	0.95
Social Norms (1 = disagree, 4 = neutral, 7 = strongly agreee)			
SN1A51	Classmates who are important to me think that I should use Oracle Developer2000.	0.54	0.96
SN1A52	Classmates who influence my behavior think that I should use Oracle Developer2000.	0.50	0.96