The Role of Trust in the Successful

Implementation of Information Systems

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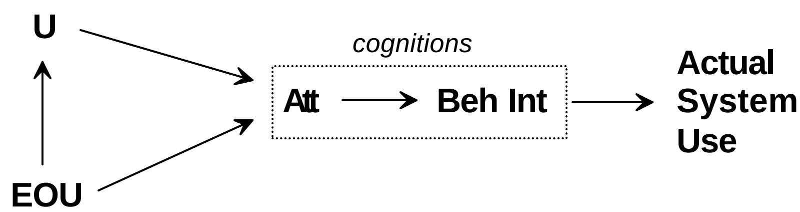
Increasingly, chief information officers (CIOs) in major corporations face critical decisions relating to the successful development, deployment, adoption, and management of information technology (IT) systems. In 1995 alone, software project spending in the U.S. reached nearly $250 billion, while U.S. companies found themselves facing cost overruns estimated to be $59 billion and canceled projects amounting to $81 billion (Johnson 1995). With over half of spending on IT systems devoted to overruns and abandoned projects, CIOs must not only weigh carefully decisions to embark on new projects, but also manage such projects effectively. In a study of nearly 14,000 UK organizations, Clegg et al. (1997) found that 80-90% of IT investments failed to achieve their performance goals. Furthermore, failures could extended beyond purely technical considerations to encompass a wide variety of organizational and human factors.

Theoretical Perspective:

The Technology Acceptance Model

One major theoretical approach to understanding IT implementation success is the Technology Acceptance Model (TAM), developed by Davis (1986). Based upon Fishbein and Azjen's Theory of Reasoned Action (1975, Azjen & Fishbein 1980), the theory posits that user acceptance of an information system, as indicated by his/her usage of the system, depends upon two key beliefs: (1) that the system is easy to use, and (2) that the system is useful. Ease-of-use (EOU) represents the extent to which a user perceives that use entails little effort, while perceived usefulness (U) reflects the user's belief that the system will contribute to his/her individual productivity and/or job performance. Venkatesh and Davis (2000) noted recently, that "[a]s of January 2000, the Institute for Scientific Information's *Social Science Citation Index* listed 424 journal citations to the two journal articles that introduced TAM [within the professional literature] (i.e., Davis 1989, Davis et al. 1989)" [p. 187]. The original Technology Acceptance Model (TAM) is illustrated in Figure 1.

Figure 1.
Technology Acceptance Model (Davis 1986)



The popularity of TAM stems not only from its apparent ability to predict system usage, but also from its parsimony. However, in spite of the elegance and simplicity of TAM, the model still accounts for only a small amount of the variance in system usage. For example, Adams et al. (1992) examined the model's ability to predict usage among a wide variety of applications. The model explained 15.5% of the variance in email use, 17% for voicemail, 35% for *Lotus 1-2-3*, 29% for *Harvard Graphics*, and only 4% for *Wordperfect*. Clearly, a great amount of the variance in system usage lies beyond the explanatory power of TAM. In a review of the literature, Clegg et al. (1997) noted the apparent lack of attention to the diverse multivariate nature of users' reactions to information technology, suggesting that the next wave of progress in the field would require attention to the multiplicity of causal factors involved.

TAM largely addresses rational concerns surrounding system design: the match between the system and the tasks to which it is to be applied and the user-interface which addresses human-system interaction. While such concerns are no doubt important, the social and organizational context in which system implementation occurs is largely ignored by the model. One alternative approach to investigating system success is the natural systems perspective (Kling & Jewett 1994, Scott 1998). Here, design and development of the system can be seen as merely the beginning of a larger process of organizations adapting to the new information system. As such, implementation involves reactions of users to the system introduction as constrained by the organizational and social environment. Thus, any understanding of information system implementation success must take cognizance of the social and organizational embeddedness of information technologies. Another way of looking at the design versus use distinction was offered by Ein-Dor and Segev (1978), who suggested that the field of management information systems be conceptualized as concerned with two distinct areas of inquiry: (1) design-oriented, focusing on the physical realization of an information system, and (2) use-oriented, focusing on the organizational environment in which an information system is embedded and will be used.

The important point to be made is that in order to more fully understand information technology use TAM should be extended to include individuals' perceptions of their organizational and social relationships, since these provide the context in which behavioral intentions to use the system are formed (DeLone 1988, Franz & Robey 1986, Goodman et al. 1990, Hu et al. 1999, Igbaria et al. 1997, Lea et al. 1995, Raymond 1990, Raymond & Bergeron 1992, Rosenbaum 1999, Zinatelli et al. 1996). The study proposed here expands TAM in two ways. First, beliefs about system usability and usefulness are conceptualized as being influenced not only by system attributes, but framed within the organizational context. Hence, one's beliefs about the system may be more or less positive depending upon how one views one's relationship with the organization and its members. Second, use of a system will be *directly* impacted by perceptions of the organizational environment, and not exclusively mediated by beliefs regarding system usability and usefulness. As a test of these propositions, users' perceptions of trust will provide the key organizational context variable.

Two additional concerns relating to the boundary conditions appropriate to TAM also motivate the research proposal offered here. First, TAM has largely been tested at the time of introduction of new information systems. The question remains as to whether beliefs about usefulness and ease-of-use influence attitudes and behavioral intentions to use the system and ultimately actual system usage at points in time long after initial system implementation. Certainly, Fishbein and Azjen's (1975) Theory of Reasoned Action does not suggest that the attitude → intention → behavior link would be any different depending upon the age of the belief. However, it is possible that beliefs other than usefulness and ease-of-use determine usage patterns *in the long term*. A second concern relates to the extent that system use is volitional. In many (if not most) situations in which automated office systems are implemented, users do not have the choice to *not* use the system. TAM has generally been applied to situations in which users can elect to use or not use a system or application. Examples of volitional systems or applications include voicemail, email, and particular software applications that may or may not be seen as aiding the individual in his or her work. While actual usage may be expected to vary according to user perceptions, such discretion may be greatly constrained by organizational policies that mandate system use. In such cases, TAM may possibly explain far less of the variance in system use compared to volitional use situations. The study proposed here attempts to address both of these boundary constraints, and suggests that TAM still provides important explanatory power even when system use is mandated and long after initial rollout and implementation of an information system have occurred. We turn, in the next section, to the rationale for choosing trust as a critical aspect of organizational and social context.

Trust in the Organizational Context

As early as 1938, Chester Barnard stressed that a major function of the executive-leader is the promotion of trust within the organization, since a positive organizational climate promotes cooperation and frees the individual worker to focus on his/her task. Unfortunately, conceptions of trust in psychological and organizational research have frequently been vague (Barber 1983). For purposes of the present investigation, trust is conceptualized as the belief of a person that another party upon whom the individual is dependent will act in his/her interests. As with other beliefs, therefore, trust can be defined as consisting of three key dimensions. First, trust has a cognitive component. An individual may trust more or less based on a cognitive accounting of another's motives and an analysis of the attendant costs and benefits of trusting another. Second, trust will have an affective component, since one's beliefs come with emotional baggage that provides a sense of psychological well-being and belongingness with others. Finally, trust will also exhibit a behavioral component since individuals will look to past behaviors and another's behavioral reliability in order to make predictions about the likelihood of trustworthy behavior. Such a three-dimensional view of trust is consistent with work on beliefs in general (Bem 1970). This view has also been espoused by scholars studying trust (Barber 1983, Lewis & Weigert 1985, Luhmann 1979).

Another important aspect relevant to conceptualizing trust relates to the *target* of the trusting belief. Thus, workers may exhibit generalized (or swift) trust, which reflects their own personal proclivities to trust a nonspecific other. This type of trust can be viewed as a general personality trait of the individual which reflects a propensity to trust others. A second potential target of one's trust is the organization and its management. Here, the trust extends to organizational decision-makers as a group and reflects the relationship between employer (organization) and employee. A third relevant target within the organizational context is one's immediate supervisor, who may have the most direct impact on an individual's day-to-day work. Finally, trust can extend to one's coworkers with whom the person must cooperate on a day-to-day basis to accomplish tasks. Thus, one cannot really speak of trust without also specifying a target about whom the belief is formed and directed.

A number of positive impacts accrue to the organization as a result of a trusting environment. A climate of trust increases workers' motivation and hence their job performance (Becker et al. 1996, Brudney & Condrey 1993, Costigan et al. 1998, Earley 1986, Iaffaldano & Muchinsky 1985, Robinson 1996). In fact, trust by subordinates improves the effectiveness of executives (Gabarro 1978). This effect also extends to improved performance among teams (Porter & Lilly 1996) and problem-solving effectiveness (Zand 1972). People also feel more satisfied with their jobs (Butler et al. 1999, Iaffaldano & Muchinsky 1985) and thus are less likely to leave (Costigan et al. 1998). And organizational citizenship behavior (organizational altruism) also increases with high levels of trust (Kanovsky & Pugh 1994, McAllister 1995).

A major benefit of a high degree of organizational trust is the acceptance of organizational change and negative outcomes (van den Boss 1998). Trust has been shown to be an important ingredient in the successful implementation of human resource systems and changes in pay structures (Brudney & Condrey 1993, Condrey 1994, Condrey 1995, Costigan et al. 1998, Folger & Kanovsky 1989) as well as in acceptance of and conformity to executive decisions (Tyler & DeGooey 1996, van den Boss 1998). A climate of trust can also improve the acceptance of electronic monitoring of work (Brockner et al. 1997, Westin 1992). Several studies have also demonstrated how important trust can be in framing reactions to negative outcomes, such as pay cuts and downsizing (Brockner et al. 1997, Brockner & Siegel 1996, Luthans & Sommer 1999, Robinson 1996).

A variety of other benefits accrue when organizations exhibit a climate of trust. Fairhurst et al. (1997) found that trust enhanced the effectiveness of communicating the organization's mission statement. La Porta et al. (1997) demonstrated how cooperation is enhanced by trust. With respect to communication, trust is associated with improved quality of communication (Muchinsky 1977b, Yeager 1978), an increase in the amount of communication (Wells 1998), and greater communication satisfaction (Muchinsky 1977a). Individual cognition is also affected. Kikuchi et al. (1997) found that those who were more trusting were also more likely to attend to information indicating non-trustworthy behavior. O'Reilly and Roberts (1974) showed that people filter messages differently depending upon whether they trust the communication source or not. Finally, in an interesting study of the reciprocal effects of trust, Butler (1983) demonstrated that trust begets trust, so much so that the reciprocal effects strongly overshadowed other variables. Along this same line, McAllister (1995) found that some level of cognitive trust (rational-based trust) was necessary before affect-based trust could develop in organizational relationships.

Generally, research demonstrates the importance of intraorganizational trust in fulfilling a firm's business mission and enhancing the value of work for individuals. The benefits of organizational trust are many. At the most fundamental level, trust is essential to coordinating collective action. Organizations simply could not exist without trust. On a more concrete level, trust aids organizations in three ways.

First, trust enhances job satisfaction, worker motivation, and thus work performance. This increase in performance extends beyond the individual to encompass team- and group-based activities as well as the effectiveness of managers and executives. Second, a climate of trust frames workers' interpretations of organizational action. Workers' acceptance of organizational changes and conformity to policies, for example, strongly depend on the level of trust within the organization. Third, communication is enhanced when there exists a strong sense of trust. This is important, because communication feeds back into the organization to produce even greater levels of trust.

Based on the foregoing discussion, one can see that trust plays an important role in framing the reactions of individuals to organizational actions. Conditions of trust also free the individual to focus on task, thus enhancing his/her performance. In spite of the renewed interest in organizational trust among researchers in the organizational behavior discipline, research on trust within the context of information technology implementation is limited to issues of consumer trust in the promotion and expansion of e-commerce. Because most thinking about information system implementation has focused on system characteristics, research on TAM and other models of system acceptance has not addressed the larger organizational context in which system introductions occur. The connection between system characteristics and user cognitions seems obvious; less obvious are organizational and social factors that may contribute greatly to users' cognitions about a new information system. And because an environment of trust within the organization has been shown to be critical in the implementation success of many types of organizational policies, it is reasonable to expect that trust might play an important role in users' acceptance of new information systems and applications.

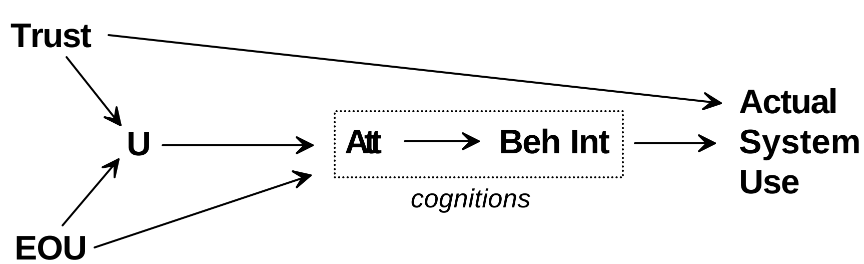
The purpose of the present paper is to test an expanded Technology Acceptance Model, in which trust plays an important role in determining system use. Not only does trust impact directly on usage, but it also contributes to usage indirectly by framing cognitions about the information system. Specifically, workers' perceptions of trust provide an important context for judgments about system usefulness. Figure 2 illustrates the modified model proposed in the present paper. The specific hypotheses proposed in the present study can be stated as follows:

Hypothesis 1: Trust provides a direct positive effect on system usage.

Hypothesis 2: Trust indirectly impacts system usage by framing beliefs about system usefulness, such that greater levels of trust are associated with more positive perceptions of system usefulness.

Hypothesis 3: A model inclusive of the trust variable will provide significantly better fit to the data than TAM alone.

Figure 2.
Revised Technology Acceptance Model



Therefore, in addition to confirming the original TAM, the hypotheses above suggest that the addition of trust as a variable in the model will greatly enhance predictions of system usage. The hope is that by embedding TAM in a larger model of organizational behavior, the reactions of workers to new information system initiatives can better be explained. Thus, those who embark on major new information system projects might best be served by addressing the organizational context and climate as well as rational concerns of system design in order to ensure the most successful implementation possible.

Research Methodology

In 1996, the Federal Government made funds available to the states for the computerization of Child Welfare case management. The Federal Government agreed to provide financing for computer equipment if the states designed and implemented information technology for tracking and managing child abuse and neglect cases. While states welcomed the opportunity to modernize their Child Welfare Systems, the challenge to them was daunting — namely, to have a system up and operational within a single year, or funding for computer equipment would be lost. In New York State, the Department of Social Services contracted with Arthur Andersen Consultants to adapt the child welfare case management system used by the state of Texas to the special requirements of New York. The project was called *Connections*.

The *Connections* system did not meet with immediate success, and a substantial period of system modification was necessary. Finally, by 1998, New York had a reasonable Child Welfare case management system up and running. Private child welfare agencies were beginning to come on board, and the state undertook a major training effort geared toward training all child welfare caseworkers statewide on the new system. Today, most experienced child welfare case workers have been using the system for at least two years, and new caseworkers are trained on the system as part of their "new worker" training.

The study proposed here involves an examination of attitudes and usage patterns among users of the *Connections* system. While the technology acceptance model (TAM) has typically been applied to systems upon their introduction, this study hopes to extend the model to systems-in-use, and importantly to a system in which use is not voluntary or discretionary.

Sample

Two sampling frames were identified in order to obtain participants for the current study, representing child protective service workers employed by (1) the state, and (2) voluntary agencies contracted by the state, and further limited to those persons who use the *Connections* system as part of their work. To obtain state workers, commissioners of local departments of social services in the 57 counties in New York State and the head of the Child Welfare Administration which oversees child protective services in the 5 boroughs of New York City will be contacted in order to solicit their cooperation with the study. Each county that agrees to participate will be asked to supply a listing of child protective service workers currently employed by them, all of whom use the *Connections* system as part of their work duties. Based on this information, 1000 workers will be selected at random for participation in the study.

Voluntary agencies in child protective services will be identified by a listing of all such agencies contracting with the New York State Department of Social Services to perform child protective services. Directors of the voluntary agencies will be contacted and asked to participate in the study.

Participating agencies will be asked to provide a listing of its child protective service workers who use the *Connections* system. From among these voluntary agency workers, 1000 will be randomly selected for participation in the study.

A total sample of 2000 is planned due to concerns with providing sufficient statistical power to allow testing of the competing models presented here. The test of the underlying models involves replicating the structure in both the state worker and voluntary worker samples independently. Furthermore, to allow model modification, initial tests will be performed on only half of the sample (selected at random), then the modified model fitted to the remaining cases. This would therefore allow a sample size of 500 for each test of the model, a figure that is well larger than the 200-300 generally recommended for a model of this size (based on the number of variables being tested).

Procedures

Caseworkers will be contacted and the confidentiality of their responses assured. The general purpose of the study will be explained (study of organizational characteristics and the *Connections* system), and workers will be asked to complete a questionnaire consisting of several sections: demographics, organizational characteristics, organizational variables (organizational commitment, trust, job satisfaction, etc.), attitudes toward and satisfaction with *Connections*, computer-based skill assessment (computer self-efficacy, prior training, etc.), and system use. Workers will also be informed that, as part of the study, some aspects of their system usage will be monitored. Those who agree to participate will sign a consent form that outlines their rights under Federal human-subjects protection guidelines.

Dependent variable — usage

Each caseworker's usage of the system will be measured by three variables, one a self-report measure and the other two provided by computer-based records obtainable from the *Connections* system: (1) self-report of the extent to which the respondent uses the system (1 = I try to use the system as little as possible, to 7 = I use the system at every opportunity), (2) total hours logged on the system for the week during which the study was conducted, and (3) frequency that the caseworker logged onto the system for the week of the study. Figures will be adjusted for time spent "in the field" since no access to the system is possible outside of the office setting. The measurement model for usage involving the three manifest variables described above will be assessed using confirmatory factor analysis.

Independent and control variables

Usefulness. Consistent with prior studies, perceived usefulness will be assessed using Davis' (1989) measure. The six items will be modified to apply to the *Connections* system and will be measured using a 7-point Likert scale format with responses ranging from strongly disagree to strongly agree. The items are listed below:

1. *Connections* enables me to accomplish tasks more quickly.
2. Using *Connections* increases my productivity.
3. Using *Connections* improves my job performance.
4. Using *Connections* enhances my effectiveness on the job.
5. Using *Connections* makes it easier to do my job.
6. Overall, I find the *Connections* system useful in my job.

Internal consistency for the scale will be computed using Cronbach's alpha, and the measurement model will also be assessed using confirmatory factor analytic methods.

Ease of use. Ease of use will be measured using the items proposed by Davis (1989), using a 7-point Likert scale format ranging from 1=strongly disagree to 7=strongly agree. The items are listed below:

1. Overall, I find the *Connections* system easy to use.
2. Learning to operate the *Connections* system is easy for me.
3. I find it easy to get the *Connections* system to do what I want it to do.
4. The *Connections* system is rigid and inflexible to interact with.
5. My interaction with the *Connections* system is clear and understandable.
6. I find it takes a lot of effort to become skillful at using *Connections*.

Scale reliability will be assessed using Cronbach's alpha, and individual item reliabilities will be computed as part of the confirmatory measurement model process.

Attitudes toward system. Attitudes toward the system will be measured using the several semantic differentials proposed by Fishbein and Ajzen (1975, Ajzen & Fishbein 1980) as part of their Theory of Reasoned Action. Response format involves a 7-point scale with values of 1=extremely, 2=quite, 3=slightly, 4=neutral, 5=slightly, 6=quite, 7=extremely, for each adjective pair. Respondents will be asked to answer the question: All things considered, my using *Connections* in my job is. . . . Then they will rate their opinion with respect to the following adjective pairs, using the 7-point scale described earlier:

1. bad - good
2. foolish - wise
3. unfavorable - favorable
4. harmful - beneficial
5. ineffective - effective
6. negative - positive

Again reliability will be assessed as outlined previously.

Trust. For purposes of the present study, three measures of trust will be used reflecting three key targets of the trusting relationship: organization, supervisor, and coworkers. Organizational trust will be measured using the trust subscale of Roberts and O'Reilly's (1974) *Organizational Communication Questionnaire* (see Muchinsky 1977a). Trust of the worker in his/her supervisors will be measured using Butler's (1991, Butler & Cantrell 1994) *Conditions of Trust Inventory* (CTI), designed to assess trust relationships in vertical dyads. Coworker trust will be assessed using the *Trust Among Coworkers Scale* (TACS), a scale developed by the author as part of an earlier research project. The 10-item scale is shown below:

1. I can depend on my co-workers because I know they don't want to let me down.
2. My co-workers are generally forthright and honest.
3. My co-workers have been very reliable in the past.
4. My co-workers don't let me down.
5. I can depend on my co-workers.
6. I have confidence in my co-workers.

7. The effort of my co-workers is highly consistent.
8. My co-workers are competent.
9. My co-workers go out of their way to be helpful.
10. My co-workers are very responsible in their work.

In each case, Cronbach's alpha will be computed to assess internal consistency, and individual item reliabilities will be computed for each manifest variable as part of validating the a measurement model in which trust exhibits a higher-order factor structure determined by latent variables associated with each of the three targets.

Statistical analysis

Initial model fitting. The state and voluntary worker samples will be randomly split into two sets of respondents, with half of the cases reserved for assessing fit after model modifications on the basis of Wald and LaGrange statistics. Model fitting will proceed as follows: First, measurement models will be assessed for each independent variable within each sample (state and voluntary workers). This involves fitting several confirmatory measurement models to the data and computing item reliabilities on the basis of factor loadings. In addition, where appropriate, Cronbach alphas will also be computed to assess internal consistency of measurement scales and inventories.

Once measurement models have been assessed, the structural relationships among latent variables will be assessed using structural equation modeling. First, TAM will be fitted to the data and various measures of fit computed (including GFI, AGFI, NFI, chi-square, normed chi-square, and RMSEA). Next, TAM+trust will be fitted to the data and the same fit measures computed. Finally, because the two models are nested, a chi-square test of model improvement will be performed in order to assess the improvement in fit provided by the addition of the relationships involving the trust variable.

Support for hypothesis 1 should be evidenced by a statistically significant direct path from trust to usage. This should hold across each of the state and voluntary-agency worker samples. Support for hypothesis 2 should be evidenced by a statistically significant path from trust to usefulness, demonstrating the framing effect that trust has on beliefs about usefulness. Furthermore, consistent with original TAM, usefulness should be significantly related to attitudes toward the system and attitudes should, in turn, be significantly related to usage. Support for the third hypothesis (superiority of TAM+trust over original TAM) should be evidenced by a significant improvement in model fit, computed using a chi-square differences test with appropriate degrees of freedom.

Once the importance of adding trust to TAM has been established, model modification can proceed on the basis of LaGrange tests (which show where additional paths should be added in the model) and Wald tests (which show where links might reasonably be deleted) in order to improve model fit. This part of the process is largely exploratory, but must proceed with caution, since decisions of modification should be based on theoretical concerns and not simply the available data set. Once all modifications and "tweaking" of the model have concluded, the fit of the revised model will be substantiated using the reserved half of the data. Target fit indices are as follows: normed chi-square less than 2.00; GFI, AGFI, and NFI greater than .90; and RMSEA less than .08. Unfortunately, there is no single universally-accepted index of model fit, and so a variety of measures will be examined to determine the final fit of the model. A standardized model solution will be presented and the proportion of variance in system usage computed under assumptions of the model.

Discussion

The study proposed here extends current research into information system implementation by incorporating users' perceptions of organizational and social environment into TAM. Because trust has been shown to be a significant factor in explaining workers' reactions to a wide variety of organizational changes, it constitutes an excellent choice for an initial test of the model extension. The study also seeks to extend the applicability of TAM to systems in which acceptance is nonvolitional, and to cases in which systems have been in operation for some time (rather than initial introduction). While some scholars in the MIS field are beginning to add social and demographic variables to TAM (as evidenced by recent paper submissions to annual conferences), the choice of variables has largely been opportunistic rather than based upon a clear understanding of organizational variables shown to be key to other areas of organizational change.

Provided that the model proposed here garners support based on analysis of the data, the next step would be the development of a larger theory of organizational change and adaptation — one that applies to system implementations of all types, whether HR, IS, or other organizational-based system. Furthermore, the precise dynamics of trust's effect upon usage should be further elaborated theoretically. For example, the effects of trust on usage may occur because trust engenders compliance to organizational changes, increases an individual's tolerance for low system usability (ease-of-use) and task disruption, and enhances one's motivation to engage in greater adaptive effort in order to perform individual work tasks and achieve larger organizational goals.

The study proposed here does, however, have some weaknesses. First, there is the risk that levels of trust may not vary sufficiently in the population studied here to reasonably assess its impact on system usage. Historically, public sector and government workers have much lower levels of trust than their counterparts in the private sector (e.g., Carnevale & Wechsler 1995). However, in spite of this, many studies have demonstrated significant relationships involving trust within governmental and public agencies (see, for example, Condrey 1995, Daley 1999, Gilbert & Tang 1998). Furthermore, variability should be enhanced by surveying multiple county units, which vary greatly in geographic and demographic characteristics. Finally, although perceptions at the organizational level may exhibit lower variability, one would expect a fair degree of variation in trust at the supervisor and coworker levels. By including multiple measures of trust which address perceptions at multiple organizational levels, there should be sufficient range in trust to assess key relationships with TAM.

Another potential problem with the proposed study is that the new information system may have been in operation sufficiently long that system usage is a given. After all, system use is not volitional, and any workers who could not adapt to using *Connections* have probably left their jobs or moved to other positions that do not involve working with the system. Examination of the distribution of usage should be instructive in this regard. Figures can be compared to previous research on office-based systems and software packages in order to provide some insight into the possibility of this phenomenon. On the other hand, if human systems rearrange themselves and adapt to the information system, particularly when its use is not voluntary, concerns with user acceptance addressed by TAM may simply be irrelevant. Such a situation would provide important information regarding the necessary boundary conditions for TAM to hold.

Finally, as with most one-shot survey research and the application of structural equation modeling, the time-dependency of causal relationships is inferred rather than being directly assessed. A longitudinal design would allow superior inferences to be made concerning the progression of beliefs and behaviors. And experimental laboratory-based research may be necessary to clearly establish the definite causal connections implied by TAM. In a recent longitudinal study of an enhanced TAM, Venkatesh and Davis (2000) could not apply structural equation modeling techniques because of their low sample sizes, opting instead for standard regression and path-analytic methods. As such, their analysis only demonstrates that motivation to comply influences intentions of use and that a variety of factors contribute to users' perceptions of the usefulness of an information system. However, outside of subjective norms and pressures to conform to use expectations with respect to the system, their study did not establish what role organizational context might play in *framing* cognitions about usefulness. The hypotheses regarding both indirect (framing) and direct effects of trust on usage can still reasonably be tested with data collected at a single point in time.

The study proposed here would contribute to a greater understanding of system implementation by suggesting a larger, more inclusive framework within which to view information system development and introduction. I have suggested that implementation extends beyond initial introduction to encompass longer-term acceptance. I have also stressed that implementation must be seen beyond the conceptual blinds of physical system characteristics, but extends to the organizational context in which system implementation occurs. Because trust has been shown to play a pivotal role in many areas of organizational change, its presence or absence within an organization should be included in any planning designed to maximize users' acceptance of new information systems. The study I have proposed takes an initial step in the direction of expanding empirical modeling efforts to include concerns over organizational context, a concern often voiced in qualitative works but so far lacking in major structural models of information system implementation.

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