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# Trust, Felt Trust, and E-Government Adoption: A Theoretical Perspective

Ali Dashti

*Kuwait University, ali@sauder.ubc.ca*

Izak Benbasat

*University of British Columbia, izak.benbasat@sauder.ubc.ca*

Andrew Burton-Jones

*University of British Columbia, andrew.burton-jones@sauder.ubc.ca*

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## Trust, Felt Trust, and E-Government Adoption: A Theoretical Perspective

Ali Dashti

Kuwait University, Kuwait

Izak Benbasat

University of British Columbia, Canada

Andrew Burton-Jones

University of British Columbia, Canada

### Abstract

The level of trust citizens have in e-government has been proposed as an important impediment to increased utilization of e-government. Although there is a large amount of literature on online trust, the impact of felt trust - the feeling of being trusted - on the adoption of electronic business in general, or online government services in particular has never been investigated. This felt trust construct, which is new to the IS literature, has received the attention of scholars in other disciplines; their empirical works have shown that perceptions of felt trust lead to trust-related behavior and other considerations (e.g., satisfaction and loyalty). This article introduces felt trust as a construct to the IS community by extending traditional adoption models currently used in predicting adoption intentions.

**Keywords:** Trust, felt trust, technology adoption, e-government.

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## INTRODUCTION

Trust has been long proposed as the social glue that individuals use to overcome complexity and uncertainty in interacting with one another. Although it has been studied in many disciplines, it holds an important place in information systems (IS) research because systems are often delegated to perform important tasks on behalf of people. Thus whenever a new system is put in place to perform an important task, the question can be asked “do I trust it?”

In this paper, we aim contribute to the IS literature on trust in three ways. First, motivated by research on trust reciprocity, we introduce the notion of felt-trust and explain how felt-trust and trust relate reciprocally. Second, we specify the causal pathways through which felt-trust and trust can be improved (i.e., their antecedents) and how felt-trust and trust influence technology adoption (i.e., their consequences). Third, we apply our arguments to the e-government context to show how the novel perspective on trust that we are contributing could potentially lead to improvements in e-government adoption, which has been noted to be a critical problem in practice.

At the outset, we should emphasize that trust is a complex notion. In its simplest form, it can be thought of as unidimensional (e.g., trustor trusts trustee). However, this form is often the exception rather than the rule. More

complex conceptions treat trust as reinforcing, reciprocal and cyclical (Butler, 1991; Fox, 1974; Zand, 1972). According to Sztompka (1999), trust can be anticipative, responsive, and/or reciprocal: 1) anticipative trust is based on the expectation that the trustee will act in a trustworthy fashion, 2) responsive trust is placed in a trustee based on the expectation that he will act in a trustworthy manner as a result of the trustor's actions (i.e., placing trust in the trustee), and 3) reciprocal trust is based on the "belief that the other person will reciprocate with trust toward ourselves" (p. 28). This type of trust can be initiated either by the trustor or the trustee.

These complex notions of trust are interesting because they identify additional ways to improve trust. For instance, to increase individuals' levels of trust proactively, the trustee can improve her reputation for being trustworthy, thereby evoking anticipative trust, and/or place trust in the trustor first to provoke reciprocal trust. The latter strategy for improving trust is intriguing because it has received scholars' attention in public administration, and organizational behaviour disciplines. Making trustor *feel trusted* has been shown to have an influence on trust in government, organizations or employers (Braithwaite et al., 1994; Carnevale, 1988; Deutsch-Salamon, 2004; Deutsch-Salamon and Robinson, 2008; Fox, 1974; Lester and Brower, 2003; Levi and Stoker, 2000; Lines et al., 2005; McCauley and Kugner, 1992; Peel, 1995; Pettit, 1995). A definition of "felt trust" developed by Deutsch-Salamon (2004) is adapted for this paper. It refers to the trustor's

perceptions about the level of trust bestowed upon him/her **initially** by the trustee.

Both trust and felt trust are attitudinal beliefs held by the perceiver (i.e., trustor). Thus, it is the *trustor* who places trust in trustee and perceived to be trusted by the trustee. “Trust” and “felt trust” diverge however in terms of the object of trust. *Trustee’s* attributes are the object of trust while it is the *trustor’s* attributes that are the object of felt trust. Finally, as we shall discuss later, the antecedents for these constructs are also different further supporting the conceptual distinction between trust and felt trust.

Empirical evidence shows that “felt trust” is more important than “trust” when it comes to dyadic relationships. For example, Lester and Brower (2003) found that, between subordinates and managers, felt trust had a more significant influence on individuals’ attitude than trust did. However, past literature on trust in online service providers has focused on the role of trust in website adoption and on mechanisms that can increase that trust. Despite empirical evidence that shows the influence of individuals’ felt trust on trust and trusting behaviour in the offline world, felt trust has not been examined as it relates to the electronic medium (such as in online service providers). This research explores the applicability of felt trust in e-government and explicates the relationship between felt trust and trust.

E-government context was chosen because the lack of trust has long been recognized as an impediment to adoption of e-government (Bélanger and Carter, 2008; Carter, 2008; Carter and Bélanger, 2005; Gefen et al., 2002; Gefen et al., 2005; Horst et al., 2007; Lee and Rao, 2009; Tan et al., 2008) limiting people to window shopping tasks and archival based activities (Webber, Leganza, and Baer, 2006).

### **TRUST RECIPROCITY THEORY (TRT)**

Table 1 lists the studies that have used different theoretical frameworks and methodologies to investigate the impact of felt trust on other constructs. Only studies that explicitly measured felt trust through self-reported instruments were included in this review, although other studies that have used qualitative research methods like case studies and interviews were not listed but reported similar results (e.g., Dawson and Darst, 2006; Klitzman and Weiss, 2006). Felt trust was found to have a positive relationship with trust in those who initially bestowed it (Butler, 1986; Murphy, 2004; Zand, 1972), and with the responsibility to act in a trustworthy manner (Deutsch-Salamon and Robinson, 2008; Harrell and Hartnagel, 1976) which basically cover the reciprocal and responsive types of trust classified by Sztompka (1999).

Table 1: Felt Trust Literature					
Authors (year)	Context	Theory	Subjects	Dependent Variable	Key Findings
(Murphy, 2004)	Tax evasion	None	2292 tax payers	Trust in government institutions and resistance toward rules and decisions	Felt trust increased trust and reduced resistance
(Zand, 1972)	Team work	Spiral-Reinforcement Model	64 upper-middle managers	Trust and problem solving effectiveness	Felt trust builds trust and improves problem solving effectiveness
(Lester and Brower, 2003)	Leader-subordinate	Social Exchange Theory	188 dyads (subordinates and leaders)	Job satisfaction, organization citizenship behavior, and performance	Felt trust had a positive relationship with job satisfaction, organization citizenship behavior, and performance.
(Harrell and Hartnagel, 1976)	Assembly line	Responsibility Norm	84 subjects	Stealing	Felt trust leads to moral behavior
(Lagace, 1991)	Leader-Subordinate	Leader-Member Exchange Theory, Social Exchange Theory	55 dyads (sales persons and sales managers)	Job satisfaction, manager satisfaction, role conflict and evaluation of manager.	Felt trust had a positive relationship with opinion about manager, job and manager satisfaction and lower role conflict.
(Butler, 1986)	Female-Male relationships	None	98 dyads (females and males)	Trust in partner	Felt trust had a positive effect on trust in partner.
(Deutsch-Salamon and Robinson, 2008)	Leader-subordinate	Appropriateness framework	8434 employees	Responsibility norms	Felt trust was positively related to responsibility norm

Deutsch-Salamon (2004) identified the theories that justify the relationship between felt trust and trust. Social Exchange Theory, developed by Blau (1964), postulates that people seek balance in their exchanges to eliminate dissonance or stress caused by unbalanced relationships. Stress caused by unbalanced relationships can come in the form of debt or lingering obligation as a result of an inability to reciprocate equally in a relationship. People avoid being in debt by undertaking equal reciprocation in order not to risk losing the relationship. In other words, consistent with the norm of reciprocity developed by Gouldner (1960), a person who seeks benefits and receives them from a provider feels obligated to return the benefits if they are sought by the provider, contingent upon the receiver's interest in maintaining a relationship with the provider.

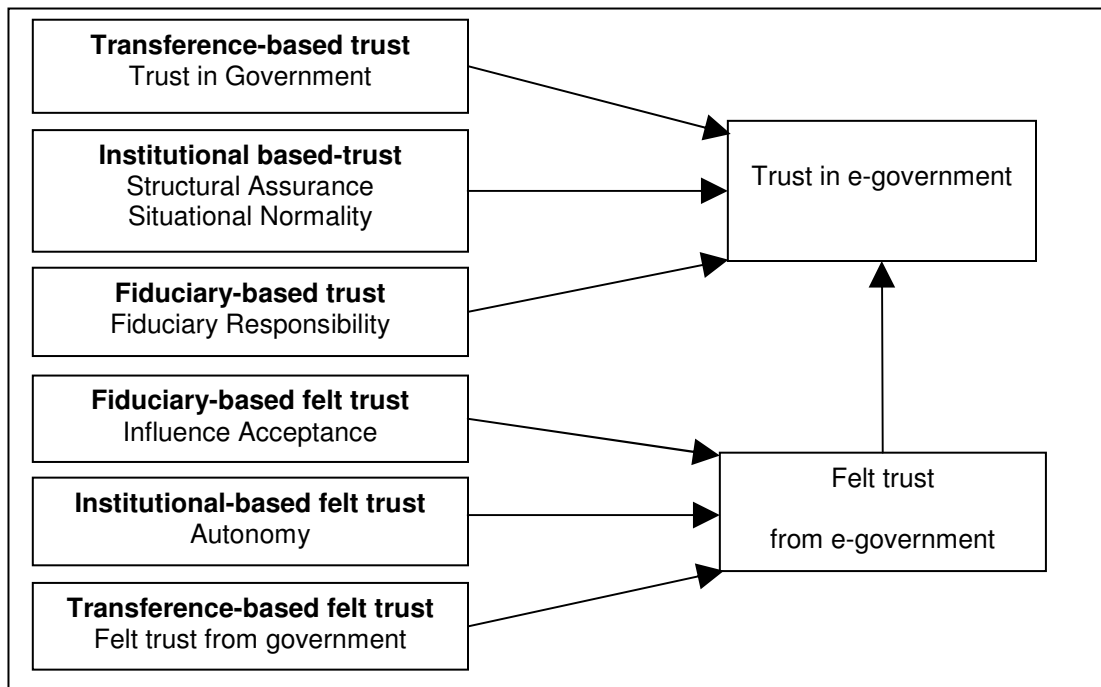
In this paper, e-government user places trust in e-government based on his or her belief that e-government is trustworthy, which is the definition used for "trust in e-government". Alternatively, a user's belief that e-government is designed in a way as if it places trust in the user is what is referred to as "felt trust from e-government". When a user thinks that the e-government trusts her, as indicated by the website's design elements and processes, then she will reciprocate that trust in e-government when it asks for it. Citizens would want to reciprocate trust because they seek balance in the relationship (e.g., they don't want to take advantage or be taken advantage of). Thus, if they perceive that trust has been given to them, they will trust e-government in



return in order to reach balance. Obviously, if they don't trust e-government, then there is no relationship. Users will decide not to use the website and the relationship will be terminated. Therefore:

**Hypothesis-1: felt trust from e-government positively affects trust in e-government.**

The reverse however is not true (i.e. trust placed in e-government does not cause feeling of being trusted by e-government). When a user places trust in e-government, she expects e-government to honor that trust and not act in an opportunistic manner. It is expected of e-government to perform a task that is of interest to the user and reciprocating trust in a user will not add any utilitarian value to the task at hand from the user's perspective. For example, when a user wants to file tax returns online and trusts e-government to keep her personal or financial information private and protected, whether e-government trusts the user or not is not something a user needs at this stage for it has no impact on the final outcome (i.e. privacy or security of information provided). Nevertheless, trust bestowed by e-government will prompt users of e-government to reciprocate that trust in return. In the next section, the antecedents for these two constructs will be discussed (figure 1).



**Figure 1. The Antecedents of Trust and Felt Trust**

## THE ANTECEDENTS OF FELT TRUST AND TRUST

Figure 1 shows the theoretical model developed after a review of trust formation processes and theories establishing the causal link between felt trust and trust. The following sections discuss the antecedents of trust, and the antecedents of felt trust.

### Antecedents of Felt Trust

The relationship between the antecedents of felt trust and felt trust is justified under the umbrella of Attribution Theory developed by Heider (1958) who distinguished between two explanations that people assign to events around them:

- Personal/Internal attribution: explanations are framed based on actor attributes (e.g., John Elway won the Super Bowl because he practiced on daily basis).
- Situational/External attribution: explanations are framed in terms of external factors that are not under the actor's control (e.g., John Elway won the Super Bowl because Terrell Davis was the MVP).

Internal attribution supplied the basis for Jones and Davis (1965) Correspondence Inference Theory. According to their theory, when an observer observes actor's behaviour, it is possible for that observer to infer the intentions and dispositions the actor had before behaving that way. This theory is almost identical to the Theory of Reasoned Action (Fishbein and Ajzen, 1975). Correspondence Inference Theory explains how people infer others' beliefs from their behaviours, while the Theory of Reasoned Action explains how people's behaviour is influenced by their own beliefs and disposition.

Since felt trust as a construct has not been studied within an information system context, its determinants were first solicited after examining comparable literature (i.e., the relationship between employees and organizations). In view of that, we found that researchers of organization behavior literature argue that employees will examine organization environment to see what the processes, structures, and roles convey about how much top management trusts them. When employees feel they are

being trusted and respected by management, they will form positive attitudes toward management and organization in general and respond back by dedicating more effort in achieving organization goals. If they think they are being treated as criminals (e.g. not having integrity or moral values), then they will respond by enforcing that expected behavior (Fox, 1974; Lines et al., 2005; McCauley and Kugner, 1992; Cialdini, 1996; Lester and Brower, 2003).

Zand (1972) showed that felt trust is influenced by 1) information disclosure 2) influence acceptance, and 3) control. McKnight and Chervany (2001) claim that trust related behavior include cooperation, information sharing, informal agreement, decreasing control, accepting influence, granting autonomy, transacting businesses. Other trust related behaviors are expressed in terms of task delegation, risk taking, defending in terms of dispute, and less monitoring (Lines et al., 2005; Whitener et al., 1998). Performing the above trust-related behavior shows trustor assessment and appreciation of trustworthiness beliefs of trustee.

Since felt trust in e-government has not been studied before as we have indicated earlier, the literature above was used as guidance when analyzing the results obtained from a study that asked participants about actions that may make them perceive the trustee to be behaving in a trusting way (i.e., similar to the method used to extract salient beliefs as suggested by Ajzen

(2006)). Building on insight gained from the our preliminary empirical studies, government trust related behavior was solicited from participants in two separate online surveys that asked participants to answer open-ended questions about what a government does to show how much it trusts citizens. Participants were recruited using a marketing panel and were rewarded for participation with points that they could redeem for merchandise. Two hundred eighty one (n=281) participants gave answers that were qualitatively coded of which two hundred and two (n=202) were usable. Responses such as “the government trusts me” were excluded because they added no value to the study and some respondents did not know how to answer because they indicated that they speak only French (the survey was in English). .

Table 2 lists the themes of activities identified that the government can engage in to show it trusts its citizens. The themes were derived from the literature highlighted earlier that illustrates trust related behaviour. Only the top two are included in our model because they are the most frequently mentioned. In addition, the selected themes are applicable to the electronic medium, whereas the others are not (e.g., information disclosure is not applicable because governments cannot disclose sensitive information over the internet for national security or other legal reasons).

Table 2: Felt Trust Related Behavior		
Theme	Frequency	Percentage
Influence Acceptance	59	29%
Autonomy	50	25%
Other (tax breaks)	23	11%
Information Disclosure	21	10%
Control Reduction	18	9%
Approval	15	7%
Respect	8	4%
Reward	8	4%
Total	202	100%

### Influence acceptance

Influence acceptance refers to the degree to which users believe that those in charge are willing to listen and respond to users' demands about improving the website. It shows government trust in citizens by taking their opinions into consideration before launching any new initiatives or new designs. Twenty-nine percent of the respondents stated that a government that seeks public view points and acts on these suggestions/comments shows that it values their knowledge about the topic. Influence acceptance also indicates government recognition of how much the citizens care about the well-being of the country as a whole, in addition to being honest in providing feedback.

Some have argued that influence acceptance is behaviour that shows trust in the other party (Blau, 1964; Zand, 1972). A website that allows citizens to participate in governance issues through its design features makes the users feel appreciated and valued for the knowledge they are sharing, as opposed to a website that only offers products and services and does not take people's advice/support into consideration. For example, when e-

government asks users to rate the website, users are perceived to have the capacity to evaluate the website and suggest ways to improve it. It would not be logical for the government to seek citizens' feedback if it perceives them to be inexperienced with websites or unknowledgeable about content or public issues. Exploiting citizens' feedback also facilitates monitoring website performance and assists in generating new ideas that officials might have missed during website planning and development. Therefore:

**Hypothesis-2: perceived influence acceptance positively affects felt trust from e-government.**

Influence acceptance can be classified under role-based felt trust formation processes<sup>1</sup> (the perception that one is being trusted because of the role she occupies). E-government bestows trust because being a "user" is a role in which a user is expected to implicitly abide by moral principles and demonstrate honesty when providing information. Users are considered to be volunteers who are helping evaluate how the website is designed, and it is the users who know how they want government services to be delivered over the electronic medium and what web components to include. Influence acceptance is not an institutional/rule-based felt trust formation process (the perception that felt trust is mandated according to online rules/regulations) because e-government is not obligated to respond to users' demands nor required to obtain their opinions when designing government portals.

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<sup>1</sup> Trust formation processes will be explained when discussing the antecedents of trust.

However, autonomy, which we discuss next, can be classified under the institutional/rule-based felt trust formation process.

### **Granting autonomy**

The second most frequently cited behaviour that government can undertake to show trust in citizens is granting autonomy. Autonomy refers to the degree of which users believe to have the freedom to act as they desire over e-government without any monitoring. Twenty five percent of the participants said that the government should leave them alone and not monitor everything they do. Granting discretionary power shows that government has confidence that citizens can take care of themselves without government supervision. Granting autonomy is a sign of trust (Zand, 1972).

To illustrate autonomy within the realm of e-government, some websites deploy forums in their portals so citizens can open topics for discussion and express their views and opinions. Discussion on forums can take the form of text response, audio or video. Some websites monitor forum postings to remove content that is considered not suitable, while other websites leave it to the users to judge the content and flag postings that may be seen as inappropriate or offensive (figure 2). E-government that deploys forums demonstrates faith in citizens to act responsibly and not to post anything others might find offensive. Citizens are expected to share their ideas in an open and friendly environment and to use the forum for discussion, rather



than for posting links or content for commercial purposes. In other words, forums indicate government officials' expectations of users' honesty. E-government also perceives users to understand what is being discussed, so allowing them to share their ideas on the forum indicates e-government's perceptions of users' ability to engage in fruitful and productive discussions. Therefore:

**Hypothesis-3: perceived autonomy positively affects felt trust from e-government.**



**Figure 2. Forums on E-government**

Granting autonomy and influence acceptance will trigger internal attribution because the conditions of internal attributions as discussed by Jones and Davis (1965) are in place. E-government has a choice/full control over engaging in these actions. They are not required to take users feedback into consideration before making any decisions (e.g.; launching changes to a government website, implement new policy...etc) nor are they expected to leave users act in any way they please without at least some unobtrusive monitoring. They are expected to trust those who are honest but keep an eye on those who might have the intentions to do harm to system operations (e.g., hackers). In other words, e-government web administrators are required to trust, but verify and be vigilant at the same time. Finally, it is not socially desirable for the government to take people's feedback into consideration or grant autonomy because it will not be able to make everybody happy, nor can it be 100% sure of who to trust or not trust, partially because of the characteristics of the electronic channel that makes users' verification hard. Nevertheless, not restraining users' actions and listening to their comments make users feel they are being trusted by e-government which, as I argued before, will improve trust in e-government.

### **Felt trust from government**

Users who believe that e-government trusts them rely on other sources to corroborate these beliefs, consistent with the line of argument in Doney et al.

(1998) regarding trust transference. That is, users who feel trusted by e-government will reflect on their experience with government in the offline world to validate their judgments. If users find evidence that e-government is replicating what the government is doing offline, then users will most likely conclude that e-government's trusting actions are sincere, lessening any ambiguity surrounding e-government's true intentions. In other words, users' attitude about government in the physical world helps shape their attitudes about government in the virtual world.

**Hypothesis-4: felt trust from government positively affects felt trust from e-government.**

### Antecedents of Trust

Table 3 lists the definitions of trust formation processes that scholars have used in identifying antecedents that lead to the development of trust. The last column in table 3 lists IS studies investigating these antecedents.

Table 3: Trust Formation Processes			
Trust Formation Process	Definition	Author	IS Literature
Transference-based Trust	The idea that trust can be transferred from a known entity to unknown entity based on a strong link between the former and the latter.	(Doney and Cannon, 1997; Doney, Cannon, and Mullen, 1998; Kramer, 1999; Luo and Najdawi, 2004)	(Stewart, 1999, 2003, 2006)

**Table 3: Trust Formation Processes**

Trust Formation Process	Definition	Author	IS Literature
Knowledge-based Trust	Confidence that a desired behaviour can be forecast based upon a history of interaction and direct experience with the trustee	(Doney and Cannon, 1997; Doney et al., 1998; Lewicki and Bunker, 1996; Luo and Najdawi, 2004; Nyhan, 2000; Zucker, 1986)	(Gefen, 2000; Gefen et al., 2003; Komiak, Wang, and Benbasat, 2005; Luo, 2002; McKnight, Choudhury, and Kacmar, 2000)
Institution-based Trust	The belief that laws, rules and regulations are in place to guarantees that the trustee will behave as expected	(Kramer, 1999; Zucker, 1986)	(Akhter, Hobbs, and Maamar, 2004; Balasubramanian, Konana, and Menon, 2003; Bart et al., 2005; Borchers, 2001; Chellappa and Pavlou, 2002; Corbitt, Thanasankit, and Yi, 2003; Gefen et al., 2003; Kim and Ahn, 2005; Koufaris and Hampton-Sosa, 2004; Liu, Marchewka, and Ku, 2004; Liu et al., 2004; Luo, 2002; McKnight et al., 2002a; Pavlou and Gefen, 2004)
Identification-based Trust	The trustee's attributes that are shared with the trustor, including values, gender, ethnicity, and nationality	(Kramer, 1999; Lewicki and Bunker, 1996; Zucker, 1986)	(Aberg and Shahmehri, 2000; Aberg and Shahmehri, 2001; Basso et al., 2001; Luo, 2002)
Fiduciary-based Trust	The belief that the trustee will not engage in any opportunistic behaviour as a result of the role/position the trustee holds	(Kramer, 1999)	
Calculative-based Trust	Trust based on the trustor's calculation of the cost and benefits (or positive and negative consequences) the trustee will face if it engages in opportunistic behaviour	(Doney and Cannon, 1997; Doney et al., 1998; Lewicki and Bunker, 1996)	(Chau et al., 2007; Gefen et al., 2003; Komiak et al., 2005)
Intentionality-based Trust	Trust based on the trustor's assessment of the trustees' motives	(Doney and Cannon, 1997; Doney et al., 1998; Luo and Najdawi, 2004)	(Komiak, Wang, and Benbasat, 2004)
Capability-based Trust	Trust formed after examining the skills and competencies of the trustee's capacity to carry out what has been promised	(Doney and Cannon, 1997; Doney et al., 1998; Luo and Najdawi, 2004)	(Komiak et al., 2004)

To explain the antecedents of trust in e-government, this section focuses on all of these trust formation processes except knowledge, identification,

calculative, intentionality, and capability-based trust. Familiarity with the trustee is the cornerstone of knowledge based trust (Gefen et al., 2003) but users who had no prior direct experience with e-government would not be able to predict its trustworthiness. Identification based trust was excluded because users do not know who exactly developed e-government websites and thus would be hard for them to assess the shared attributes (e.g., nationality, ethnicity, gender...etc). Calculative-based trust was excluded primarily because it is not applicable over e-government context. Theoretically speaking, the goal of e-government is effective governance, not profit maximization (i.e., e-government is not concerned about shareholders' wealth). Public administrators deploying e-government will not gain anything when acting in an opportunistic manner and there are implemented mechanisms in place (e.g., checks and balances) in most advanced democracies that would hold them accountable if they do so. Intentionality-based trust and ability-based trust were excluded because, rather than viewing the trustee's motivations and abilities as influencing the formation of trust, we take the view of McKnight et al. (2002a) that motives and abilities are captured within the trustworthiness dimensions of ability, and benevolence.

### **Transference based trust**

An important concept in the trust literature is trust transference. When insufficient information is available, individuals count on other sources of

evidence to transfer trust from “known” to “unknown” parties (Doney et al., 1998), using information furnished by the “known” party to predict how the “unknown” party will behave. For example, Koufaris and Hampton-Sosa (2004) found that users’ experience with a company in the offline world shaped their level of trust in that company’s website, with which users were unfamiliar.

The difference between trust in “government” and trust in “e-government” is the reference point. Trust in “government” is based on the trustworthiness attributes of public servants and politicians in the public eye. Since individuals are more familiar with government operations than e-government procedures, in part because of government visibility and its interaction history with these individuals, they evaluate e-government’s trustworthiness based on their personal experience with the offline government. Put differently, citizens’ levels of trust in government in the offline world supports their assessment of e-government trustworthiness. Therefore:

**Hypothesis-5: trust in government in the offline world will have a positive effect on trust in e-government.**

### **Institutional based trust**

McKnight et al. (2002a) defined institution-based trust as “the belief that needed structure conditions are present (e.g., in the internet) to enhance the probability of achieving successful outcome” (p. 339). They divided

institution-based trust into structural assurance, defined as “guarantees, regulation, promises, legal resources, or other procedures ... in place to promote success” (p. 339), and situational normality, defined as “one’s belief that the environment is in proper order and success is likely because the situation is normal” (p. 339). E-government users who have high levels of structural-based trust feel safe conducting transactions with the government over the electronic medium because the users believe they can remedy any problems that may result from any e-government opportunistic behaviour. For example, users who use credit cards in making payments for government services rendered online can get a full refund from credit card companies if they feel that e-government charged them erroneously.

Institutional-based trust will be eroded if situational cues (design elements) trigger suspicion (e.g., a website asks for a Personal Identification Number instead of a credit card number). In other words, users look for situational normality in how the website is designed and the processes associated with it when assessing its trustworthiness (Corritore, Kracher, and Wiedenbeck, 2003). Therefore:

**Hypothesis-6: structural assurance will have a positive effect on trust in e-government.**

**Hypothesis-7: situational normality will have a positive effect on trust in e-government.**

### **Fiduciary based trust**

Fiduciary-based trust is embedded in the role played by the trustee as part of an institution. For example, a landlord seeking firemen's help with a fire that broke out in her building believes that it is the firemen's duty to act in a trustworthy (benevolent) manner and provide assistance because of what their job description mandates. Similarly, users of e-government assume that web administrators must be trustworthy because of the role/responsibility given to them. Web administrators work for the government, which mandates that employees who serve the public abide by ethical standards set by government officials and do their best when delivering government services online.

**Hypothesis-8: fiduciary responsibility will have a positive effect on trust in e-government.**

### **TRUST AND FELT TRUST CONSEQUENCES**

Information Systems adoption literature is largely framed within the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975). According to the TRA, object-based beliefs—information that one has about an object by linking that object to an attribute—form one's attitude toward that object. Attitude, a person's favourable or unfavourable evaluation of an object, forms the person's intent to engage in behaviours with respect to that object. Therefore, behaviours (overt actions) with respect to that object are a function of those intentions. In other words, beneficial attributes of a website



as perceived by a user (beliefs) results in favourable evaluation of that website (attitude) and, when a user has a favourable attitude toward a website, he will form the intention to engage in behaviours on that website.

Fishbein and Ajzen (1975) later clarified that attitude toward an object is not sufficient to predict the intent to engage in a behaviour related to that object because the attitude toward the behaviour itself should also be taken into consideration. One's attitude toward a behaviour is a function of the expected outcome of that behaviour (behavioural beliefs) (Wixom and Todd, 2005). However, the general attitude toward an object also influences beliefs about behavioural consequences (Ajzen and Fishbein, 2005).

Following the IS literature, trust in e-government is conceptualized as an attitudinal belief (Gefen et al., 2003; Wang and Benbasat, 2005) wherein the object is evaluated using trustworthiness as the criteria. When e-government is judged to have favourable attributes that make it trustworthy, the expected positive outcomes of engaging with it improve, and perceptions of the expected negative outcomes decrease (Fishbein and Ajzen, 1975).

The Technology Acceptance Model (Davis, 1989) delineates two constructs that are commonly used within the IS literature: perceived usefulness and perceived ease of use. When the website is perceived to be trustworthy, users save the energy required to monitor interactions with it, thereby

reducing the effort required (Pavlou, 2003). In addition, using a trustworthy government website is perceived to be useful when providing advantages that users consider beneficial (e.g., saving time), thereby improving users' performance when dealing with the government (Gefen et al., 2003). Perceived usefulness and ease of use are categorized under Wixom and Todd's (2005) behaviour-based beliefs, mediating the relationship between trust (which is classified as object-based belief using Wixom and Todd's framework) and attitude toward using e-government. The literature on e-government adoption has shown that trust in e-government impacts perceived usefulness (Gefen et al., 2005; Horst et al., 2007; Lee and Rao, 2007; Lee and Rao, 2009; Phang et al., 2005; Wu and Chen, 2005), ease of use and perceived risk (Bélanger and Carter, 2008; Gefen et al., 2002; Lee and Rao, 2007). Therefore:

**Hypothesis-9: trust in e-government positively affects perceived ease of use of e-government.**

**Hypothesis-10: trust in e-government positively affects perceived usefulness of e-government.**

Even though felt trust is an attitudinal belief held by potential users of e-government, the focal point in felt trust are users' trustworthiness attributes (not e-government) and thus have no direct impact on behaviour based beliefs associated with using the object of interest (i.e., e-government). Consistent with Wixom and Todd's (2005) framework, felt trust will not have a

direct impact on perceived usefulness and perceived ease of use because, as we vindicated earlier, its influence will be mediated through trust in e-government.

For trust and felt trust to be relevant, perceived risk must be present, as vulnerability is the basis of trust (and felt trust). In the online world, the relationship between trust and perceived risk is well established. Although there no agreement on which comes first, it is well known that both have an impact on intention to transact online. Many studies have found that trust negatively influences perceived risk, which then mediates its influence on intention (Borchers, 2001; Cho, 2006; Jarvenpaa and Tractinsky, 1999; Jarvenpaa et al., 2000; Kimery and McCord, 2002; Liang et al., 2004; Pavlou and Gefen, 2004; Pavlou, 2001; Pavlou, 2003; van der Heijden et al., 2003). Others have argued that perceived risk moderates the relationship between trust and intention to shop online (Bart et al., 2005; McKnight et al., 2003), and some have argued that perceived risk is an antecedent of trust (Corbitt et al., 2003) but have found no supporting evidence. McKnight et al. (2002b) found that perceived risk and trust both predict intention, and Warkentin et al. (2002) hypothesized that trust is an antecedent of perceived risk in an online setting, and that perceived risk mediates trust's effect on intention to use e-government; this hypothesis was supported by Gefen et al. (2002).

We believe that felt trust does not have a direct impact on perceived risk but is mediated by trust in the website. In a risky setting, being trusted by e-government will not motivate the user to form a positive attitude and intention to use the website unless the user finds it to be trustworthy. For example, a website that claims to be willing to ship products before authorizing payment from the user, based on her prior purchase history, is not reducing the uncertainty associated with possible late delivery unless the e-vendor is perceived to be trustworthy in the first place.

**Hypothesis-11: trust in e-government negatively affects perceived risk.**

A citizen will evaluate e-government favourably if its use is expected to provide an advantage over alternatives (perceived usefulness). If a citizen expects that using e-government will be free of effort, then her attitude toward using it will be positive because the expected behaviour will not cause inconvenience, difficulty, or frustration. Furthermore, the easier the adoption of e-government, the more useful it is perceived to be (Tan et al., 2008; Wang, 2003; Warkentin et al., 2002). Hence:

**Hypothesis-12: perceived usefulness positively affects positive attitude toward adoption.**

**Hypothesis-13: perceived ease of use positively affects positive attitude toward adoption.**

**Hypothesis-14: perceived ease of use positively affects perceived usefulness**

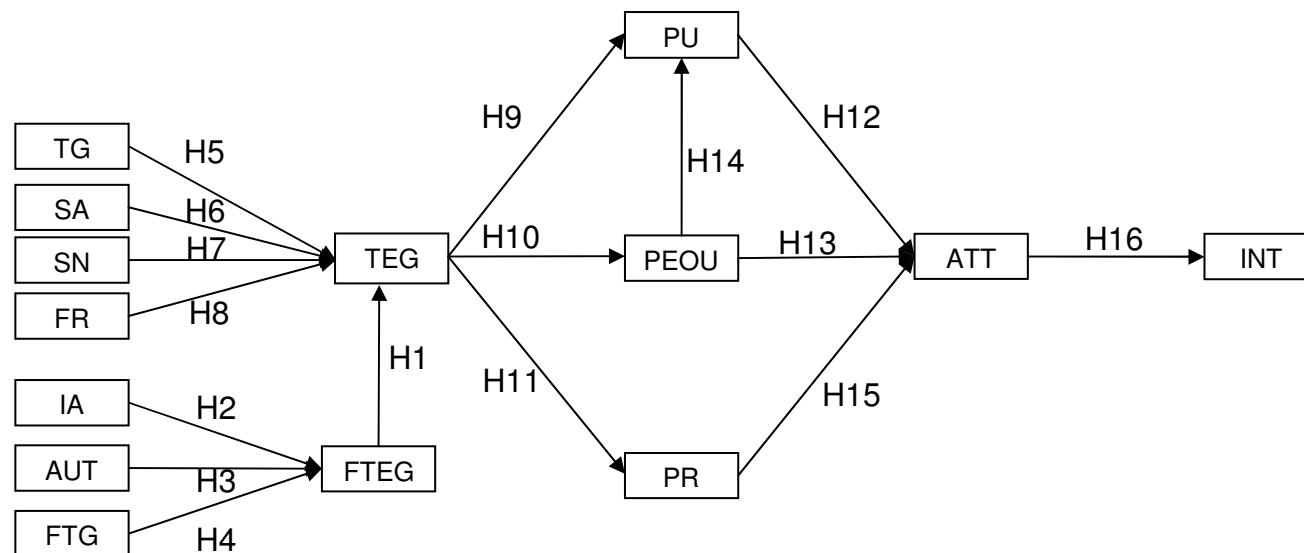
Users of e-government also consider the expectations of negative outcomes (e.g., privacy and security concerns, identity theft, and fraud) as a result of engaging with e-government. When citizens believe that, because of security mechanisms, transacting with the website will not jeopardize their privacy nor will they suffer financial, emotional, or psychological harm, their attitude toward using the website is expected to be positive.

**Hypothesis-15: perceived risk negatively affects positive attitude toward adoption.**

According to the Theory of Reasoned Action and Theory of Planned Behaviour (Ajzen, 1985; Fishbein and Ajzen, 1975), attitude toward behaviour acts as an antecedent to behaviour intention. When a person forms a favourable attitude toward a behaviour, she is more likely to intend to engage in that behaviour, and when she forms an unfavourable attitude toward a behaviour, she will avoid engaging in it. Therefore:

**Hypothesis-16: Positive attitude toward adoption will positively affect intentions to adopt.**

The theoretical model is depicted in figure 3.



ATT: Attitude	FTG: Felt trust from Government	PR: Perceived Risk	SN: Situational Normality
AUT: Autonomy	IA: Influence Acceptance	PU: Perceived Usefulness	TEG: Trust in E-government
FR: Fiduciary Responsibility	INT: Behavioral Intentions	SA: Structural Assurance	TG: Trust in Government
FTEG: Felt trust from E-government	PEOU: Perceived Ease of Use		

**Figure 3: Theoretical model**

## CONCLUDING REMARKS

This paper introduced the construct of felt trust and proposed its role as an important determinant of users' evaluations of e-government. This construct has been largely overlooked in management research and completely ignored in information systems research. Felt trust is distinguished from the plethora of constructs delineated in traditional adoption models by focusing not only on users' beliefs about the e-service provider, but further on the subset of these beliefs concerning how the e-service provider views them. Hence, its inclusion not only help enhance our understanding of the factors affecting how users evaluate and use e-government, but also elucidate the reciprocal nature of users' interactions with e-government in specific, and other e-service providers in general.

The paper also makes a general contribution to adoption research that relates to the role of trust. Trust in e-government (or any e-service provider) is a critical factor that improves users' adoption intentions. However, the literature on trust in e-government examined only few antecedents like trust in government and technology (e.g., Bélanger and Carter, 2008; Carter and Bélanger, 2005; Horst et al., 2007). This research broadens our understanding about the causes of trust. It supports Sztompka's (1999) trust antecedents' categorization (i.e., anticipative, responsive, and reciprocal factors). Based on trust formation processes commonly found in the trust literature, this paper showed that trust in e-government is not only a function

of trust in technology (i.e., structural assurance and situational normality) and in government (anticipative factors), but also based on perceived e-government's responsibility (responsive factor), and users' perceptions about the level of trust bestowed by e-government through its different design features, functions, and processes (i.e., felt trust from e-government as reciprocal factor). Furthermore, by using Correspondence Inference Theory (Jones and Davis, 1965), we identified the antecedents of felt trust and differentiated them symmetrically from those used in building trust in e-government. All together were included over the nomological network of e-government adoption model.

## **FUTURE RESEARCH**

The IS research community can dedicate more attention to this under-researched construct by investigating its impact on outcome variables like trust, and other variable like satisfaction with trustees. IS researchers can also investigate the antecedents to this construct and identify ways to manipulate or create it in a variety of contexts. Research on felt trust could improve our understanding of inter-organizational knowledge-sharing, the productivity of virtual teams, outsourcing relationships and the dynamics within online communities and online market places. In fact, further establishing the importance of felt trust could lead to a paradigm shift in how online vendors design their portals, the issues IS managers address in



outsourcing relationships, and the structures and procedures to implement within knowledge management systems to promote distributed teamwork.

Second, existing IS research findings can be re-evaluated in light of the introduction of this new construct in order to determine whether existing IT artifacts used or systems implemented to build trust were successful because they improved trust directly, or whether they were successful because they triggered felt trust, which improved trust. Differentiating trust-enhancing IT artifacts from those that build felt trust can lead to the development of a typology that online vendors can employ in designing their websites.

Finally, upon understanding the role of felt trust in predicting e-government initial adoption intentions, future research can shift focus to investigating its possible role in the continuous use of e-government.

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*Office:*

Sprouts  
University of Amsterdam  
Roetersstraat 11, Room E 2.74  
1018 WB Amsterdam, Netherlands  
Email: admin@sprouts.aisnet.org