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Carlos Navarrete  
*Claremont Graduate University*

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# Cultural Perceptions about Trust and the Utilization of Electronic Government Services

Celene Navarrete A.  
Claremont Graduate University  
[celene.navarrete@cgu.edu](mailto:celene.navarrete@cgu.edu)

## ABSTRACT

According to the 2005 Global E-Government Readiness Report, the use of electronic government services by citizens is still not an extended practice even in countries that lead the world in e-government technologies. E-government research has failed to address the fact that the cognitive processes that take place when individuals evaluate the degree of trustworthiness of information and communication technologies (ICTs) are not uniform across cultures. This study will study how perceptions of trust in the government and the Internet influence the use of e-government services in two different cultural contexts: Mexico and the United States. Theories from different disciplinary perspectives will guide this study. A mixed-research design will be used for the collection and analysis of data. This research will contribute to the production of a more culture-sensitive base of knowledge that supports the formulation and enhancement of e-government initiatives and technologies intended for different populations.

## Keywords

Electronic government services, trust, uncertainty avoidance, cultural differences.

## INTRODUCTION

An increasing number of government initiatives focused on the implementation of online services are being established in several countries. In nearly every country the government has some sort of Internet presence (United Nations, 2005; West, 2005). However, the use of electronic government (e-government) services by citizens is still not an extended practice, even in countries that lead the world in e-government systems. According to the Pew Internet and American Life Project, 34% of American adults have used government websites (Larsen and Rainie, 2002). In fact, a recent report shows that Americans are more likely to contact the government via telephone rather than face-to-face or online (Horrigan, 2004). In Europe, citizens show a higher preference (more than 50% of adults) to use government services through traditional delivery channels (face-to-face, telephone, fax and mail) (Graafland-Essers and Etedgui, 2003). In less industrialized countries, little published information exists about individuals' use of e-government services. Research has mostly been conducted at the macro level to understand the socio-economical factors that impact the successful implementation and development of e-government initiatives (e.g. political stability, adequate legal framework, economic environment, culture of services) (Basu, 2004).

Recent research in Information Science (IS) and Political Science suggest that a cognitive process takes place when individuals evaluate the degree of trustworthiness of the factors that intervene in the online government-citizen relationship (Carter and Belanger, 2005; Welch, Hinnant and Moon, 2004; West, 2005). Lack of trust in the government and in the reliability of the Internet to conduct transactions has been found to be an important determinant of use of online services (Carter and Belanger, 2004; Welch et al., 2004; West, 2005). However, little has been said about the process of formation of perceptions of trust in e-government services from the perspective of culture. Moreover, studies that consider the effect of local constraints and conditions in the use of Internet-based government technologies are still limited and country specific. Previous research suggest that uncertainty avoidance, a cultural dimension that refers to the degree of ambiguity (or risk) that a particular society finds tolerable (Hofstede, 1993), influences the production of trust of potential customers of online stores (Doney, Cannon and Mullen, 1998; Lundgren and Walczuch, 2003). Because of the impersonal nature of the online environment, individuals in societies that do not tolerate high levels of uncertainty tend to more deeply value the ability (or competence) of the online vendor and strive for clear rules that provide a feeling of security and normality about the online transaction (e.g. seals of secure transaction, use of data encryption, privacy policy statements, etc.) (Lundgren and Walczuch, 2003).

This study argues that the process citizens use to develop trust in e-government services will also depend on cultural norms and values. Uncertainty avoidance will influence individuals' expectations of trustworthiness related to the reliability of the

Internet to conduct transactions, and the ability (Lundgren and Walczuch, 2003) and integrity (Carter and Belanger, 2005) of the government, ultimately influencing their use of online government services (Carter and Belanger, 2005; Reddick, 2005; Welch et al., 2004). Because trust is still a critical element in online services that involve the disclosure of personal and financial information, distrust about the online transaction might be more accentuated in societies that have historically coped with corruption in public services (Trasparencia Mexicana, 2005), or which are less habituated to the self-service or credit card cultures (Garcia-Murillo, 2004; Viswanathan and Pick, 2005). It is expected that individuals in societies that have less tolerance to uncertainty, need higher levels of trust to engage in transactions with the government (Doney et al., 1998; Lundgren and Walczuch, 2003).

This study will employ a cross-cultural approach to study how perceptions of trust in the government agency and the Internet influence the use of e-government services in different cultural contexts. Mexico and the United States will provide the settings for this research. A cross-cultural understanding of the relation between trust and use of e-government services will be relevant for the creation of a more culture sensitive theory that supports the formulation and enhancement of e-government initiatives and solutions, especially those intended for different populations. The delivery of government services through electronic channels has been promoted to benefit citizens' lives in several ways (e.g. more convenient, efficient and cost effective, greater empowerment, reduced corruption) (United Nations, 2004) and to reduce government costs (Graafland-Essers and Etedgui, 2003; Reddick, 2005; West, 2005).

This paper is organized as follows: First, I provide an analysis of the literature on culture, trust and e-government. Second, I describe the theories that will be used to analyze the effect of culture on the formation of perceptions of trust about e-government services, and finally, the research methodology that will guide the collection of evidence.

## LITERATURE REVIEW

### Culture, Trust and E-Government Services

The effect of trust on online shopping has been extensively reported in electronic commerce studies (Carter and Belanger, 2005; Chopra and Wallace, 2003; Gefen, Karahanna and Straub, 2003; Gefen, Rao and Tractinsky, 2002; Jarvenpaa, Tractinsky and Saarinen, 1999). For the purposes of this study, trust is defined as the set of beliefs about the online vendor and online channel (the Internet) that lead to the willingness to engage in an online transaction (Gefen et al., 2003). Recent research in IS and Political Science also suggests that citizens need to trust the government and the Internet to obtain e-government services (Carter and Belanger, 2005; Graafland-Essers and Etedgui, 2003; Reddick, 2005; Welch et al., 2004; West, 2005). Perceptions of e-government services are usually based on people's impressions about the attributes of public institutions. For instance, people who have confidence in the ability, integrity and benevolence of the government are more likely to interact with the public sector online (Carter and Belanger, 2005; Reddick, 2005). Trust is a critical element in e-government services that involve financial transactions (e.g. tax declaration, car registration, driver's license request, reporting crime).

In addition, research has reported the influence of culture in the production of perceptions of trust about online stores. For example, according to Doney and colleagues (1998) the cognitive process that takes place to assess the trustworthiness of an online store depends on cultural values (e.g. individualism, collectivism, masculinity, power distance and uncertainty avoidance). They proposed a model that describes the effect of national culture on five cognitive trust-building processes: calculative, prediction, capability, transference and intentionality. Subsequently, Lundgren & Walczuch (2003) tested this model to understand the effect power distance and uncertainty avoidance on the trust formation process in e-retailing in Italy and the U.S. Their findings suggest that consumers from high power distance and high uncertainty avoidance societies are more likely to develop trust through a calculative process based on a cost-benefit analysis of the potential risk involved in the online transaction, and tend to make less use of second hand information to determine the seller's trustworthiness. Low power distance and uncertainty avoidance countries generally trust more in online shopping. Finally, Gefen et. al. (2005) found that cultural similarity (a shared code of ethical values) between potential users of online services and the governmental agency contributes to trust in the government, ultimately influencing perceptions about the usefulness of e-voting systems.

In short, the analysis of the literature suggests that research on culture, trust and e-government utilization is still limited and country specific. Studies have been mostly conducted in developing countries (U.S.A. and the European Union Member States). This might be due to the fact that e-government is an emergent area of research, and that the implementation of e-government initiatives is still in its early stages in many countries (United Nations, 2005). However, the socio-cultural characteristics of the environment where technologies are implemented shape the way in which people perceive, evaluate and make choices with respect to technologies (Kling, 1999). The proposed research aims to fill this gap in the literature by

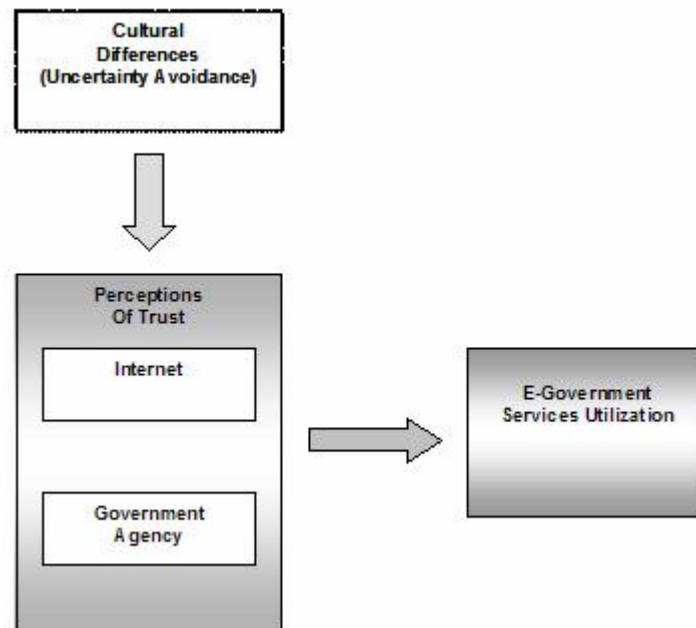
studying whether the assimilation of e-government services is uniform across cultural borders. This study seeks to answer the following research question:

- How does trust shape the utilization of electronic government services in different cultural contexts?

Specifically,

- Does cultural tolerance of uncertainty affect perceptions of trust in the Internet and the government? How does this impact the use of e-government services?
- Do perceptions about the reliability and security of the Internet affect trust in relation to utilization of electronic government services?
- Do expertise and familiarity with the online environment affect trust in relation to utilization of electronic government services?
- Do the perceived capability, benevolence and integrity of the government agency influence trust in relation to the utilization of electronic government services?

Figure 1 illustrates the research purpose of this study.



**Figure 1. Research Purpose**

Because e-government presence has been reported in Mexico and the U.S.A. (United Nations, 2005), two countries that significantly differ in culture (House, Hanges, Javidan, Dorfman and Gupta, 2004) and in ICTs perceptions (Mejias, Shepherd, Vogel and Lazaneo, 1997; Navarrete and Pick, 2003), they will provide the research ground for this study. For example, it can be speculated that Mexicans, a society with high uncertainty avoidance, will tend to make a more detailed analysis of the potential risks involved in e-government transactions in contrast to Americans (a society with low intolerance to uncertainty). That is, people in Mexico may deeply value the *ability* (or competence), *integrity* and *benevolence* of the government, and rules that provide a feeling of security and normality about online transactions before they decide to engage in an online transaction (McKnight, Choudhury and Kacmar, 2002). Thus, it is expected a stronger effect of perceptions of trust on the utilization of e-government services in the Mexican context.

### PROPOSED RESEARCH FRAMEWORK

Theories from different disciplinary perspectives will guide this study. First, this study will use the dimension of uncertainty avoidance in the GLOBE Study (Global Leadership and Organizational Behavior Effectiveness Research Program) (House et al., 2004) to understand cultural variations between Mexico and the U.S.A. Second, research on trust from the field of Sociology (Zucker 1986) will provide a theoretical foundation for exploring the effect of trust in e-government services.

Zucker's measures of trust have been successfully applied in e-commerce and e-government studies (Carter and Belanger, 2004; 2005; Jarvenpaa et al., 1999; McKnight et al., 2002). Zucker (1986) describes *institution-based trust* as the perception of the characteristics of the institutional environment. Institution-based trust has two dimensions: structural assurance and situational normality. Structural assurance refers to the belief that "structures like guarantees, regulations, promises, legal recourse, or other procedures are in place to promote success" (p.339) (McKnight et al., 2002). In the context of e-government, this refers to the guarantees that ensure a secure transaction in the Internet (e.g. seals of secure transaction, use of data encryption, etc.).

Situational normality refers to the belief that "the environment is in proper order and success is likely because the situation is normal or favorable" (p.339) (McKnight et al., 2002). It is based on the perceived characteristics of the entity of trust or trustee (e.g. integrity, benevolence and ability), -- in this case the government agency. The present study will use structural assurance and situational normality to assess perceptions of trustworthiness about the Internet and the government respectively.

### PROPOSED RESEARCH METHOD

This study will use a cross-cultural research approach (van de Vijver and Leung, 1997) with a sequential-mixed research design for the collection and analysis of quantitative and qualitative data (Tashakkori and Teddlie, 1998). The use of a mixed-method approach has been proposed as a helpful alternative to understand the socio-technical aspects of e-government technologies (Gil-Garcia and Pardo, 2006). The sequential-mixed design will consist of a qualitative research phase, which will use a focus group interview to collect data about perceptions of e-government services in Mexico (since little published information exists about Mexicans' perceptions in relation to e-government use), and a subsequent quantitative phase that will use a structured survey applied in the U.S.A. and Mexico. Participants will be recruited in colleges in Claremont, California and Aguascalientes, Mexico using purposive sampling (Newman, 2003).

The focus group results will be analyzed using the content analysis technique (Stewart and Shamdasani, 1990) to identify possible themes or issues that are relevant for the Mexican culture, and that have been overlooked in previous research. Results will be compared with existent research about use of e-government services in the U.S. Emerging themes will be included in the structured survey that will be designed and conducted in the second phase of this study. The analysis of data collected through surveys will consist of two distinct components: First, factor analysis will be used to detect possible inconsistencies in the conceptual definition of constructs across countries, (Matsumoto and Juang, 2004; van de Vijver and Leung, 1997). This is particularly relevant for the proposed study because the measures of trust and e-government service use come from studies performed in the U.S.A. (van de Vijver and Leung, 1997) and have not been previously validated in the Mexican context. Second, a multiple-group path analysis (Muthen and Muthen, 2003) to determine the extent to which the influence of personal (prior experience, demographic characteristics) and cultural factors (uncertainty avoidance) on trust and e-government service use differs across countries. This is a research in progress. Collection of data through the focus group is currently under way.

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