Organization Culture Dimensions
as Antecedents of Internet Technology Adoption

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1 Introduction

In recent years, growth of the Internet and the World Wide Web has had an impact on the way local, state, and national governments work. In this research, we examine the factors that influence adoption of Internet technology in a government organization in India using an integrated model, the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh, Morris, Davis, and Davis, 2003). This research examines organizational culture as an important antecedent to the UTAUT to evaluate user acceptance of Internet technology in a governmental organization.

2 Research Model

Based on reviewed literature on research into adoption of Internet technology in a governmental organization in a developing country, and on models that are used to understand user acceptance and use of information and communication technology; we present the model for Internet technology use, the UTAUT model (Venkatesh, Thong and Xu, 2012; Gupta, Dasgupta, and Gupta, 2008; Stafford, Stafford, and Schkade, 2004; Taylor, 2004; Venkatesh, et al., 2003). The UTAUT identified seven factors that influence use of information technology (Venkatesh, et al., 2003): performance expectancy, effort expectancy, and attitude toward using technology, social influence, facilitating conditions, self-efficacy, and anxiety. Performance expectancy is the degree to which an individual believes that using the system will help her to attain gains in job performance. Effort expectancy is the degree of ease associated with the use of the system. Social influence is the degree to which an individual perceives that important others believe she should use the new system. Facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. Recent studies also suggest that the adoption and use of a new technology in an organization might be influenced by organizational culture (Venkatesh and Zhang, 2010; Karahanna, Evaristo,

and Srite, 2005). Schein (1992) defined organizational culture as a pattern of shared set of basic assumptions that a group learned as it solved its problems of external adaptation and internal integration.

In this study we propose organizational culture is an important antecedent to the UTAUT (Venkatesh, et al., 2003). It is important to note that only four of the seven UTAUT factors listed above are represented in the model. The reason is that some of the factors identified above are not expected to impact the intention to use the system. In our study, the intention to use refers to the extent to which individuals would like to use Internet technology in a governmental organization. Gender, experience, age and voluntariness of use were identified as moderating variables in the original UTAUT; we have controlled for age, experience and voluntariness, and therefore, removed them from the model.

In this paper we use Denison and Mishra's (1995) model for understanding organizational culture. Denison and Mishra's (1995) model emphasizes cultural traits and values associated with effectiveness and identified four traits of organizational culture: involvement, consistency, adaptability, and mission. Involvement refers to the extent of participation in the organization. More the involvement of an individual within an organization, greater is the sense of ownership and responsibility. Consistency provides an implicit control system based on internalized values within the organization. It represents the degree of normative integration. Adaptability is a reflection of the norms and beliefs in the organization and provides the capacity for internal change in response to external conditions. Mission trait provides purpose and meaning and long-term vision. We use these four traits, involvement, consistency, adaptability and mission as constructs for organizational culture.

There have been a few studies in the information system literature that have used Denison and Mishra's model. Ahmad (2012) case study of e-government use in Egypt demonstrates that inherent cultural values and beliefs in the organization are critical to e-government adoption of and implementation of new technologies. Cerne, Jaklic, Skerlavaj, Aydinlik, and Polat (2012) argue that innovative firms with strong cultures have employees that tend to have similar beliefs and behavior patterns as identified by Denison and Misra (1995). Fey and Denison (2003) applied the Denison and Misra (1995) framework to compare cultures of Russian and America firms arguing that "organization culture is embedded in and shaped by national culture (pp 687)". In this study, we examined the use of Internet technologies in a government agency in a developing country. We believe that these individual traits will impact an individual's perception of the ease of use and usefulness of the Internet. That is, we propose that organizational culture is an antecedent to the UTAUT. We use the terms Internet technology and system interchangeably in this paper.

3   Methodology

3.1   Sample and Data Collection

This study is aimed at understanding how employees in a government organization, Wildlife Institute of India (WII), use Internet technologies, and how can the acceptance and use of these technologies be enhanced equitably across government

organizations. Wildlife Institute of India (WII) was established in 1986 as a non-profit autonomous Institute of the Ministry of Environment and Forests, Government of India. WII's mandate is to provide research, training and advisory services in wildlife management and nature conservation to officers in various Indian government services and to sensitize people at various strata for nature conservation.

For this study, authors designed the survey and then conducted a pilot study with 5 employees in a department at another government organization in India to test the design efficacy of the survey. Pilot study did not suggest any major changes to the survey research questions except for some minor changes to language in a few questions. After finalizing the research questions, a survey was conducted at WII in India by distributing paper-based surveys to employees over several days. Out of the 110 surveys that were distributed, a total of 102 completed surveys were returned with a return rate of almost 93%. One of the reasons for these high surveys return rate was that one of the authors was able to spend several weeks at the government agency.

3.2   Results and Discussion

We analysed data using multiple regression analysis. Our results show that organizational culture influences information technology adoption. The adaptability and mission cultural traits have a significant impact on performance expectancy. While mission has a positive influence on performance expectancy, adaptability has a negative impact. Only mission has a positive impact on effort expectancy. Involvement and mission cultural traits influence social influence. The only cultural trait that has an effect on facilitating conditions is consistency. In short, our results show that organizational culture affects Internet technology adoption.

According to our results adaptability and mission cultural traits influence performance expectancy. Adaptability is a reflection of the norms and beliefs in the organization and provides the capacity for internal change in response to external conditions. Mission trait provides purpose and meaning and long-term vision. These two components of the culture are related since they are a reflection of the long-term vision of the organization and flexibility the organization has to attain this vision. Effort expectancy is only influenced by the mission cultural trait. This seems intuitive since the mission of an organization helps in focussing effort to achieve certain common objectives.

Involvement and mission cultural traits affect social influence. Social influence is the degree to which an individual perceives that important others believe she should use the new system. Involvement refers to the extent of participation in the organization. More the involvement of an individual within an organization, greater is the sense of ownership and responsibility. Since involvement refers to the degree of participation, it seems likely that someone with high involvement will consider what others want and feel important. Therefore, this individual will use the system. The consistency cultural trait impacts facilitating conditions. Consistency provides an implicit control system based on internalized values within the organization. It represents the degree of normative integration. Facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. An organization that exhibits higher consistency cultural

trait is likely to have a consistent organizational and technical infrastructure in place to support system use. This is confirmed by the results.

We also found support for the traditional UTAUT - performance expectancy, effort expectancy and social influence impact the behavioral intention to use the system. Facilitating conditions also positively influence usage. But, we did not find a relationship between intention to use and actual use. One of the reasons for this could be the fact that Internet technology was already implemented in the organization when we conducted this study. Intention to use is relevant in situations where the technology is very new and the users have not used it, which was not the case here. We also did not find that gender had any significant effect in the model, i.e., there is no difference in the acceptance and use of the Internet technologies among men and women in the organization. Considering all the results, we can say that the UTAUT, which was primarily proposed and tested in a developed country, can also explain information technology acceptance in a developing country such as India.

Overall our results show that organizational culture is an antecedent to the technology acceptance, and UTAUT is a valid model that can explain the acceptance of internet technology in a government organization in a developing country.

4   Conclusion

Our results show that organizational culture has an impact on individual acceptance and use of Internet technology in a government agency in developing country. This implies that organizational culture should be carefully managed for the successful adoption and diffusion of Internet and other technologies. Moreover, greater emphasis should be placed on increasing the capacity for change if the organizational culture promotes stability. Change management techniques may be used to help organizations handle change better.

We believe that we have made a valuable contribution to the literature in the area of cultural research in information systems. We recommend additional research in governmental and non-governmental organizations in different countries for further inquiry into the acceptance and use of Internet technologies.

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