Enhancing the case for Electronic Government in developing nations: A people-centric study focused in Saudi Arabia

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ABSTRACT

The pace of implementing Electronic Government (E-Gov) is rapidly increasing. However, despite high levels of investment, a broad range of applications, and various methods of access relatively low levels of various methods of access, relatively low levels of usage (and even familiarity with e-gov) are still common. For example, in Canada, long recognized as a leader in implementing e-gov, less than 27% of Canadians used E-Gov during the past 12 months and 81% of c non-users report a low level of familiarity with either federal or provincial governmental services available through e-gov (Canada, 2004). Or, consider the showcase e-gov Gyandoot project in the Dhar district in central India, whose population is estimated at 1.7 million. Even after implementing e-gov in a showcase project for the rural poor, a study by the Center for Electronic Governance, Indian Institute of Management, Ahmedabad concluded that this model of "government to citizen" service delivery has serious sustenance problems ('World Bank, 2004). The research reported in this paper takes a step back and focuses on the acceptability of e-gov by individuals. It is a people-centric approach to determine the overall acceptability of e-gov to people in a developing country, Saudi Arabia. Although this research may be generalizable to other situations, the primary intention of this project is to shed light on how to approach and manage implementation projects in developing nations.

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1. Introduction

It has been said that e-gov can provide substantial benefits for citizens, businesses, and governments around the world (Jaeger & Thompson, 2003). E-Gov has been promoted as a key to "radically shrinking communications and information costs, maximizing speed, broadening reach, and eradicating distance" (Norris, 2001). Unfortunately, research has shown that at best, e-gov is only making incremental advances, that progress may be best described as "edging up," regardless of location. There are many explanations for this, e.g. political, institutional, or technological, which are outside the scope of this research. Among other things, West (2005) found that:

- "19% of government websites offer services that are fully executable online.
- 89% of websites this year provide access to publications and 53% have links to databases.
- 18% (up from 14% in 2004) show privacy policies, while 10% have security policies (up from 8% in 2004).
- 19% of government websites have some form of disability access, meaning access for persons with disabilities, up from 14% in 2004.

- Countries vary enormously in their overall e-government performance based on our analysis. The most highly ranked nations include Taiwan, Singapore, United States, Hong Kong, China, Canada, Germany, Australia, and Ireland.
- There are major differences in e-government performance based on region of the world. In general, countries in North America score the highest, followed by Asia, Western Europe, Pacific Ocean Islands, Middle East, Eastern Europe, South America, Russia and Central Asia, Central America, and Africa" (West, 2005).

In addition, while much of the work that has been done on developing e-gov has occurred on what Reddick (2004) called the "supply side" (the development of systems such as infrastructure and policies that constitute "what is available"), while less work explores the "demand side" (whether or not people would actually use e-gov if it were made available). Studies examining the "demand side" have considered what information governments have made available "that people want" (such as databases) and what services people might want use (e.g. paying taxes online, Holmes, 2001). However, this still does not consider why people would use e-gov over other ways of fulfilling their need for government services or obligations.

By focusing attention on whether or not people would use e-gov if it were available this study considers that question. Note that because it does not focus on systems, e.g. hardware or software, this is a slightly different question than that of technology acceptance. Take for

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example, the notion that in some parts of the world people may have to wait in lines for days to renew their driver's license. This, in and of itself, has nothing to do with "how" people accomplish this task — only that they do. Other people in other parts of the world who grumble about having to wait for a couple of hours may find that idea ridiculous (AAMVA, 2001). But if that is the only way of accomplishing a task, "obtaining what people need," then that is what people will do. This statement points to the core result of this research: that people will act in a way to fulfill their needs regardless of geographic location, nationality, gender, race, religion, political system, and so on. This is a direct manifestation of the concept of personal utility. In this regard, this study has found that despite many issues facing individuals, such as the perception of security or the lack thereof, the development, implementation and usage of e-gov is no different. If it were available and if it were to their benefit people would use e-gov.

Saudi Arabia is one of the developing countries that are attempting to establish e-gov in its daily communication with citizens, local departments and other countries. The primary objective of this research was to examine whether the people in Saudi Arabia would use e-gov if it were available. This research uses correlation and descriptive techniques to analyze its data. A decision model was created to analyze the attitudes, knowledge and skills residents would need to have to support e-gov. The model functioned well, showing the flow of choices respondents could make regarding whether they would use e-gov. While the data collected did display some unexpected results, none of those results substantially worked against the model. Overall, it appears that people in Saudi Arabia would use e-gov. Of 453 valid responses from random people, 65% (294) would be willing to use e-gov, had the skills, and considered the means (kiosk, home PC, work PC, and internet café) useable and secure. The overwhelming conclusion of this research is that the people of Saudi Arabia would use e-gov, if it becomes available. Individual motivation for deciding that e-gov is acceptable is discussed in the paragraphs immediately below. What will remain to be determined is why there exists such a large difference between the conclusions reached by this research and the actual usage of e-gov.

1.1. The Theory of Reasoned Action

The surveys conducted for the study in Saudi Arabia measured individual beliefs and attitudes regarding e-gov and areas related to the government. This study is a predictive study that examines attitudes and beliefs of individuals prior to the existence of e-gov. Understanding and predicting behaviors is at the base of the Theory of Reasoned Action created by Fishbein and Ajzen (1975).

The Theory of Reasoned Action predicts an individual's behavior based on their beliefs and society's norms. In brief, it says, "Generally speaking, the theory is based on the assumption that human beings are usually quite rational and make systematic use of information available to them. We do not subscribe to the view that human social behavior is controlled by unconscious motives or overpowering desires, nor do we believe that it can be characterized as capricious or thoughtless. Rather, we argue that people consider the implications of their actions before they decide to engage or not engage in a given behavior. For this reason we referred to our approach as 'a theory of reasoned action'" (Fishbein & Ajzen, 1975).

This theory says that there are two basic components that make up how an individual will act. The first component is a person's nature, or personal beliefs. The second component is societal beliefs. According to Fishbein and Ajzen (1975), "The personal factor is the individual's positive or negative evaluation of performing the behavior; this factor is termed attitudes towards the behavior." Fishbein and Ajzen (1975)

also write that, "The second factor is the person's perception of the social pressures put on him to perform or not perform the behavior in question".

1.2. The Technology Acceptance Model

Perceived Usefulness, Perceived Ease of Use and User Acceptance of Technology is a later work that is built on The Theory of Reasoned Action and was written by Fred D. Davis (Davis, 1985). Davis' theory was that a number of things come together to determine whether or not a given technology will or will not be accepted. The model created by Davis was called the Technology Acceptance Model (TAM). Davis defined five (5) elements that are a part of the Technology Acceptance Model:

- External variable
- Perceived usefulness
- Perceived ease of use
- Behavioral intention
- Behavior

The Technology Acceptance Model is shown below in Fig. 1.

In any new technology, all user variables are ultimately external. Given a new technology, all impressions are new. These new, external variables provide input into perceived usefulness, as well as perceived ease of use. First, with regard to perceived usefulness and the issue of e-gov in Saudi Arabia, this study addresses the fact that one of the primary goals of a successful implementation of e-gov would be to make it highly useful and readily available. Some of the factors cited by study participants that would make e-gov useful and available are: equal access to government services by all people everywhere, immediate access to government services any time and any day, convenient locations for access to government services, and accuracy of data involved in transactions with the government. Additionally, this study collected information regarding preferred access locations and method of access. These issues relate to the Technology Acceptance Model above in terms of perceived ease of use. Clearly, perceived ease of use is critical to a successful implementation of e-gov in Saudi Arabia. If any offerings of E-Gov are widely thought to be difficult to use or access, then the initiative is likely to fail, as it would likely result in negative behavioral intentions.

1.3. Individual utility and decision-making

The utility of e-gov extends benefits to government and to individuals. One of the potential benefits of e-gov is a lower cost of government. This is generally irrelevant to this study, because individuals pay no income or sales taxes in Saudi Arabia. Therefore, any benefits of lower government cost relates very little to the individual. The Technology Acceptance Model as it relates to
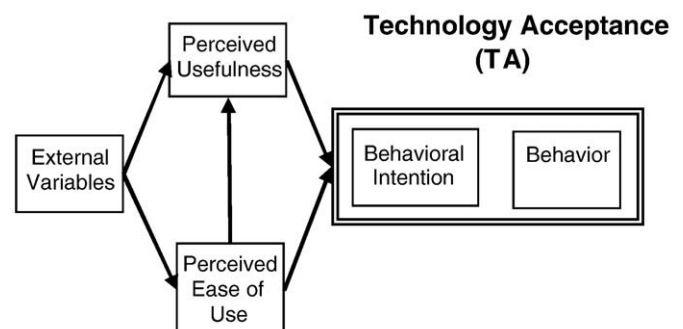

Fig. 1. Technology Acceptance Model (Davis, 1985).