Chapter 10
Human Factors in Implementing E-Government in Developing Countries

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ABSTRACT

Even today only modest gains have been made since the implementation of E-Government. A veritable plethora of human factors affect the success, or failure, of technology initiatives like E-Government. These human factors include everything from simple resistance to change and peer pressure to more complex factors brought about by the value pluralism that exists in today’s increasingly global society and its impact on technology acceptance. This chapter seeks to initiate a dialogue in which the broad range of issues and challenges for implementing E-Government can be discussed. It includes data and anecdotal information acquired from citizens, government managers, and experts in the field. This chapter also includes a discussion about reducing the risk associated with ICT initiatives such as E-Government by applying principles of systems engineering, usability engineering and human-computer interaction. Further, this article describes how risk reduction can be achieved by taking a phased approach to E-Government implementation.

INTRODUCTION

Thurow (1997) was right in his discussion about the loss of “classical comparative” advantage. “Brain power” industries and knowledge workers were (are) the “neo comparative” advantage of the future (Thurow, 1997). However, it is not clear that even Thurow could foresee all the ways the “neo comparative” advantages would appear. The benefits of E-Government for citizens, business and governments have been extolled for years (Jaeger, 2003). Claims have been made that E-Government will

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help government with everything from “radically shrinking communications and information costs, maximizing speed, broadening reach, and eradicating distance” (Norris, 2001, p 232) to increased efficiency of government agencies, enhanced service delivery to citizens and improved public management (Srivastava, 2007). In fact, Carnoy (2000) said that societies that are unwilling or unable to develop such public policies and supporting systems will suffer economically. Even so, many public initiatives, such as E-Government, are usually less than fully successful and some are outright failures.

There are many reasons E-Government initiatives do not succeed. Information and communication technology (ICT) initiatives themselves are inherently risky (Magda, 2009; Davis et al. 1989). But “human” factors appear to play the biggest role in the success, or failure, of E-Government initiatives. Issues and challenges with technology acceptance and usage abound. And, there is no single E-Government solution that countries wishing to launch an E-Government initiative can point to for guidance. In fact, local customization of E-Government plays a large role in its success. This is in part because of the broad, very diverse nature of countries and their citizens around the world. But it is also due to the different views, missions and requirements of the stakeholder groups E-Government typically seeks to integrate. Moreover, there will always be some resistance to change, some need for additional knowledge, skills and abilities, some concern about privacy and security.

BACKGROUND

This article considers human factors that affect the implementation of E-Government. Data and information was acquired from citizens, government managers and experts with regard to E-Government requirements and benefits. These data were compiled, analyzed and used to demonstrate how systems engineering can be applied to address human factors in implementing E-Government. A phased approach to E-Government implementation in which existing government processes and procedures can be maintained while implementing E-Government is discussed. And, using principles from usability engineering and human-computer interaction to design and develop a locally customized E-Government system is discussed. The background material below establishes a foundation so that these issues and challenges in human factors can be discussed, addressed, and, solutions and recommendations can be created.

Models of Acceptance and Behavior

In the real world many things affect whether an individual will use a technology as part of their personal or professional life. Often the factors that affect the individual’s decision have little or nothing to do with technology. Resistance to change is often cited as a challenge to overcome in technology initiatives. But resistance to change can not explain why someone with every intention of using a technology does not actually use it. The sections below discuss additional factors that affect whether or not an individual uses technology.

The Technology Acceptance Model (TAM)

Since its beginning, information technology (IT) has diffused throughout the world. However, both the rate of IT diffusion and the rate of its acceptance have varied widely. Sometimes it is easy to understand this variation. Sometimes understanding has proved elusive. For example, lack of access to technology can be an effective barrier. However, even when sufficient infrastructure exists and service is readily available at affordable costs, technology is still under-utilized.

The technology acceptance model (TAM) is one of the models built to test variables that impact actual IT usage. The TAM (Davis, 1986)
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