# Designing, Implementing, and **Evaluating User-Centered and** Citizen-Centered E-Government

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### ABSTRACT

The effectiveness of user interactions and engagement with e-government hinges on the extent to which the information and services being offered are user-centered, and in particular citizen-centered. E-government is not effectively serving users if they cannot find the information and services that they seek due to organizational, educational, policy, or management issues; do not have the skills to properly interact with e-government; do not understand the results that they get; or do not trust the information that they receive. As such, user-centered design and evaluation must be a key consideration in the development and management of e-government. Building on a range of previous research by the authors, this article will examine the issues of the designing for, evaluation of, and research about user-centered e-government and implications for e-government policy and management.

Keywords: Citizens, Design, E-Government, Evaluation, Interaction, Users

## INTRODUCTION: USERS AND E-GOVERNMENT

E-government includes a wide-range of functions such as e-voting, e-procurement, data collection, management and analysis, interagency collaboration, intra- and inter-agency communication, e-learning, for agency staff, and human resource management. A key focus of e-government development in many nations is on interactions between the government and users and many government agencies view

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e-government as their primary method for interacting with users (Bertot & Jaeger, 2006, 2008; Ebbers, Pieterson, & Noordman, 2008; Steib & Navarro, 2006). Since the early days of e-government, there have been many predictions that e-government will revolutionize democratic participation and the delivery of government services for users (Borins, 2002; Browning, 2002; Noveck, 2003; Prins, 2001; Toregas, 2001). Users of e-government include citizens, other types of residents, businesses, government employees, other government agencies, those looking to immigrate, and those looking to visit, creating a wide range of user groups to consider in the design, implementation, and evaluation

of e-government. And within these user communities there is a wide range of technical, language, and other expertise – or lack thereof – that creates a number of challenges regarding the interaction with and use of e-government services and resources (Bertot, 2003). As such, it is important for e-government research to focus on the issues of how e-government is meeting the needs of users and the ways in which it is possible to improve user-centered e-government.

Designing e-government initiatives and evaluating the results through a citizen-centered lens is essential if e-government is to meet the practical expectations of delivering government information and services more efficiently and effectively and the social expectations of increasing civic engagement and government literacy. Some aspects of application development already have established methodologies for design and evaluation (e.g., functionality, usability, and accessibility), while other aspects of e-government (e.g., service preferences, performance measurement, and outcomes-based evaluation) do not have established methodologies. However, these issues will not be sufficiently addressed if considered in isolation - there is a need to focus e-government design and evaluation on these interrelated issues as the mosaic of user-centered concerns.

Many users look to e-government as a valuable source of information, considering egovernment sites to be "objective authoritative sources" (Anderson, 2002, p. 1). Currently, the primary reason that people use e-government is to gather information (Reddick, 2005). In the United States, 58% of Internet users in the United States believe e-government to be the best source for government information and 65% of Americans expect that information they are seeking will be on a government site, with 26 million Americans seeking political information online everyday (Horrigan, 2006; Horrigan & Lee, 2002). Public satisfaction with the e-government services available, however, is limited.

As commercial sites are developing faster and provide more innovative services than

e-government sites, public satisfaction with government websites is declining (Barr, 2007). Public confidence in government websites has also declined as much of the public policy related to e-government since 9/11 has emphasized the reduction of access to information through e-government (Feinberg, 2004; Halchin, 2004; Kirtley, 2006; Relyea & Halchin, 2003). The types of information that have been affected include many forms of socially useful information from scientific information to public safety information to information about government activities (Jaeger, 2007).

For these and other reasons, the majority of users seeking government information and services, even those with a high speed Internet connection at home, prefer to speak to a person directly in their contacts with the government (Horrigan, 2004). Users still show a strong preference for phone-based or in person interactions with government representatives when they have questions or are seeking services, though individuals with higher levels of education are typically more open to using online interactions with government (Ebbers, Pieterson, & Noordman, 2008; Ebbers & van Dijk, 2007; Steib & Navarro, 2006; van Dijk, J.A.G.M., Peters, & Ebbers, 2007).

Even for technology-savvy users, egovernment services generally are limited by difficulties in searching for and locating the desired information, as well as lack of availability of computers, Internet access, or even basic electrical and telecommunications infrastructure for many segments of the general population (Singh & Sahu, 2008; Bertot et al., 2006). Such problems are exacerbated by a general lack of familiarity with the structure of government, lack of education about the value of e-government, language barriers, and attitudes toward technology and government among many users (Jaeger & Thompson, 2003, 2004). Also, as many e-government sites give more emphasis to presenting political or agency agendas rather than promoting democratic participation, users are less trusting of the sites themselves (Jaeger, 2005, 2007). Some studies have suggested that trust in e-government can

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