Chapter 3
Using Duality Theory to Reframe E-Government Challenges

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ABSTRACT
The design of information and communication systems for e-government is burdened with a host of conflicting objectives. For example, systems should be standardized and stable, but at the same time they should also be flexible and responsive to the needs of various stakeholder groups. When systems are designed properly, ICT (information and communication technologies) features can help resolve some of the tensions created by conflicting objectives. This chapter uses duality theory as a basis for a new framework that demonstrates how many of the tensions found at various stages of e-government (development, implementation, and adoption) can be reframed as dualities. When e-government systems are designed for duality, ICT mitigates many of the barriers and obstacles and increases the system’s effectiveness and acceptance by the citizenry.

INTRODUCTION
E-government systems are found throughout the world (Lee, Tan, & Trimi, 2005). Computer-based information and communication technologies (ICT) enable governments to provide electronic forums to support citizen debate, communicate with internal and external stakeholders, execute transactions, and capture, store, and analyze data from a vast array of sources. E-government applications create channels for executing transactions (e.g. paying taxes, obtaining permits) and disseminating information (e.g. tax codes), as well as, creating more chances for secondary use of data. These technological implementations are advantageous to both the government and the citizenry because they lessen the spatial and temporal barriers that inhibit processes of informing and educating stakeholders (Becker, 2001).

DOI: 10.4018/978-1-4666-9905-2.ch003
ICT have reinvented how governments can serve, protect, and tax their citizens and also take advantage of expanded opportunities for data surveillance. In an environment where technological capabilities are evolving so quickly, it is difficult, if not impossible, to fully understand the potential consequences of new computerized applications. Even more difficult is the attempt to precede the introduction of these applications with comprehensive, workable sets of policies when a national strategy to guide e-government adoption and growth are not in place (Rabaiah & Vandijck 2009; Ebrahim & Irani, 2005). Furthermore given the rate of technology-related change and the potential impacts of those changes, such as cost reduction, power redistribution, greater transparency, increased data surveillance, and the exposure of the private lives of individuals, there is disagreement among stakeholders regarding how, and to what extent, new ICT applications should be used to govern (Åström, 2001; Mahrer & Krimmer, 2005).

Duality theory is used as a lens in this chapter to examine government mandates and strategies that appear to be in contention, such as the obligation of government to protect its citizens from physical harm while maintaining an individual’s right of privacy. Duality theory addresses how seemingly conflicting goals can be viewed as complementary, contiguous requirements for successfully fulfilling responsibilities (Graetz & Smith, 2009; Sutherland & Smith, 2011). Dualities, often seen as paradoxes, are goals, values, or characteristics that seem dichotomous but exist in bipolar pairs (Seo, Putnam, & Bartunek, 2004) where changes in one of the pair affects the other and vice versa. Wareham, Fox, and Cano Giner (2012, 2014) identified such dualities in a technology ecosystem with a focus on managing the dualities for improved performance.

This chapter begins by discussing what e-government is in terms of the various stakeholders, functions, technologies, and data uses and abuses. Challenges and controversies of e-government are then identified. Next, the utility of using duality theory as a means to reframe the inherent barriers and tensions are explored. Illustrating the dualities in e-government, a model presents a useful way to contemplate its challenges, as well as current and future research opportunities. The chapter concludes by advocating the critical need for e-government strategies that are inclusive of diverse views which embrace duality.

BACKGROUND

ICT, which have the capability to store and process data as well as to connect people and organizations, have revolutionized the way businesses are managed, people cooperate, and governments interact with the citizenry. This is particularly true when technology is used to secure the country, but the same effort may erode citizen privacy through surveillance activities. As technological capabilities change, both adoption and implementation of e-government services also bring their own set of unique changes to the relationship between the government and its citizenry. E-government can ‘cut out the middle man’ by delivering a standardized process more directly to citizens, but it can also be depersonalizing (or de-individuating) and lack flexibility. Standardization leads to increased efficiency but less capacity for flexible action.

E-government can enable massive citizen participation in the operations of government, but this can bring about several tensions. For example, the tension between participation and control: as more individuals participate and share information and opinions, the amount of data the government has associated with those people increases. While the collection of the data itself may not be controversial, citizens may be concerned with the secondary uses of the data. In many communities, the residences of registered sex offenders are available publicly by the government, but many people would balk at the idea