Chapter 7
Implementation Success Model in Government Agencies: A Case of a Centralized Identification System at NASA

Yair Levy
Nova Southeastern University, USA

Theon L. Danet
NASA Langley Research Center, USA

ABSTRACT

A recent presidential directive mandated that all U.S. government agencies establish a centralized identification system. This study investigated the impact of users' involvement, resistance, and computer self-efficacy on the implementation success of a centralized identification system. Information System (IS) usage was the construct employed to measure IS implementation success. A survey instrument was developed based on existing measures from key IS literature. The results of this study indicated a strong reliability for the measures of all constructs (user involvement, computer self-efficacy, user's resistance, and IS usage). Factor analysis was conducted using Principal Component Analysis (PCA) with Varimax rotation. Results of the PCA indicate that items of the constructs measured had high validity, while Cronbach's Alpha for each factor demonstrates high reliability for all constructs measured. Additionally, results of a structural equations modeling analysis using Partial Least Square (PLS) indicate that computer self-efficacy and user involvement had positive significant impact on the implementation success. However, the results also demonstrated that user's resistance had no significant impact on IS usage, while end user involvement had a strong negative impact on user's resistance.

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**INTRODUCTION**

In 2004 Presidential Directive (PD) 12 mandated that all United States (US) government agencies enhance security, increase government efficiency, reduce identity fraud, and protect personal privacy (The White House, 2004). All US government agencies should establish a mandatory, government-wide standard for secure and reliable forms of identification issued by the Federal Government to its employees and contractors (The White House, 2004). The PD 12 provided justification for central identification and account administration infrastructure. However, the complexity arises in the implementation of a centralized identification system (CIS). As a result, it was the central aim of this study to look at several constructs that may impact the success (or failure) of a CIS implementation as mandated by the PD 12. Evaluation of information systems (IS) success is a complex and perplexed issue (DeLone & McLean, 1992, 2003). Several factors are believed to impinge upon the success experienced by organizations regarding their deployment of IS (Hunton & Beeler, 1997; Jiang, Waleed, Muhanna, & Klein, 2000; Lane, Palko, & Cronan, 1994). Those factors generating the largest amount of research activity have involved the influence of individual differences upon IS design, implementation, and usage (DeLone & McLean, 1992, 2003). However, very little attention has been given in literature to IS implementation success in the context of government and federal agencies. The assumption taken by this work is that in the context of IS implementation, government and federal agencies can be viewed as a unique sub-set of the general service sector as they provide services to the government and/or other entities. Additionally, if government and federal agencies are being viewed as non-profit service providers, the implementation success of functional systems, such as CIS, may be warranted a separate investigation (Ebbers & van Dijk, 2007). Therefore, this study was aimed at assessing the impact of key user perceptions on the success (or failure) of a CIS in the context of a federal agency.

**THEORETICAL BACKGROUND**

**Introduction**

Prior research has been conducted on various models of implementation success (DeLone & McLean, 1992, 2003). However, such models have been repeatedly validating a somewhat fixed set of constructs such as user satisfaction, system quality, information quality, and IS service quality. Although such construct are valid, the aim of this study was to go beyond such strongly validated constructs and investigate other individual constructs that appear promising as predictors of IS implementation success. Specifically, the implementation success as described under this investigation concentrated only on the constructs of user involvement, user resistance, computer self-efficacy, and IS success. Thus, a brief review of the literature for each of these key constructs is provided and serves as the theoretical foundation for this study.

**User Involvement**

The construct of involvement, defined as a psychological construct, needs to be differentiated from other psychological construct and user perceptions, particularly attitude (Barki & Hartwick, 1994). While many different definitions of attitude have been proposed over the years, the classical work by Fishbein and Ajzen (1975) defined attitude as a general conceptualized construct that is referred to an affective judgment of a person towards another person, object, or an event. User involvement is conceptually different than attitude as it focuses on the feelings one has about his/her own feelings of belonging to a larger group of individuals, rather than his/her own affective judgment of external entities. User involvement
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