Torsten J. Gerpott/Nima Ahmadi

Use levels of electronic government services among German citizens: An empirical analysis of household and personal predictors

Work in Progress # 146

October 2015

Abstract

Work in Progress # 146

www.zftm.de

Use levels of electronic government services among German citizens: An empirical analysis of household and personal predictors

Univ.-Prof. Dr. Torsten J. Gerpott

Chair of Corporate and Technology Planning, Mercator School of Management, University of Duisburg-Essen, Lotharstr. 65, D-47057 Duisburg.

Dr. Nima Ahmadi

Research assistant at the Chair of Corporate and Technology Planning, Mercator School of Management, University of Duisburg-Essen, Lotharstr. 65, D-47057 Duisburg.

In many countries, state institutions have launched e(lectronic) platforms which enable citizens to voluntarily access information provided by and to interact with public authorities over the Internet. Frequently, citizens' use intensity of such e-government service offerings has remained far behind expectations. To better understand this phenomenon, quite a number of studies examined correlations between various attitudinal constructs related to public e-service offerings and citizens' service adoption (intentions), often with small convenience samples. This investigation takes a different angle by exploring associations between a set of 11 objectively identifiable household and individual behavioral as well as socio-demographic characteristics on the one side and three levels of e-government service use on the other. The empirical analysis is based on survey responses of a random sample of 17,012 individuals residing in Germany. Ordinal logistic regression analysis suggests that non-adopters of public e-service offerings are most likely younger male persons with low computer literacy, Internet affinity and educational level who have a migration background and live in small mid-level income households located in rural communities. Results are discussed in terms of their implications for strategies trying to increase the use level of public e-services as well as theories and future research concerning the extent of citizens' e-government service use.

Keywords: Adoption; citizens; electronic (e-)government; Germany; individual/household characteristics; level of service use; ordinal logistic regression; service acceptance; survey data

Contents

1. Introduction

The term electronic (e-) or digital government describes the utilization of information and communication technologies (ICT), predominantly Internet-based applications, by administrative institutions to provide citizens and other stakeholders with directions and services related to a wide field of state functions (e.g., registration matters, education, health care, safety, taxes; see Carter & Bélanger, 2005; Lee, Kim & Ahn, 2011; Organisation for Economic Co-operation and Development [OECD], 2015).[1] Public bodies commonly introduce e-government as a means to improve the efficiency of ser vice delivery, but also in response to public requests to "reduce administrative burdens" (Arendsen, Peters, Ter Hedde & Van Dijk, 2014, p. 161) and to increase participation, transparency as well as accountability in administrative procedures and decision-making processes (Al-Hujran, Al-Debei, Chatfield & Migdadi, 2015; Arduini, Belotti, Denni, Giungato & Zanfei, 2010; Chatfield & Al-Hujran, 2009; Gil-Garcia, 2012; Gulati & Yates, 2011; Rowley, 2011). Since the late 1990s, national and supranational government institutions worldwide have published numerous declarations of intent, action plans and strategy documents dealing with the technological advancement of interactions of various stakeholders with government authorities (see European Commission, 2015b; Relyea, 2002; United Nations [UN], 2014). As a result, at all administrative levels (i.e., supranational, national, regional) a wide range of e-government services has already emerged either as a supplement or a substitute for the "traditional" provision of public information and services.

However, scholars and practitioners alike frequently emphasize the very limited success of many e-government projects reflected in unexpectedly low levels of platform visits and service uptake by citizens. This in turn hampers the full exploitation of potential benefits from e-government deployments (e.g., European Commission, 2015c; Foley & Alfonso, 2009; Guha & Chakrabarti, 2014; Initiative D21 & Institute for Public Information Management [IPIMA], 2015; OECD, 2009; Rehman, Esichaikul & Kamal, 2012; Savoldelli, Codagnone & Misuraca, 2014; Styvén, Wallström, Engström & Salehi-Sangari, 2011; Susanto & Goodwin, 2011; UN, 2014). Given that administrations devote considerable and growing resources to the development, deployment and operation of advanced public e-services, it is pivotal to identify citizen-related attributes which are associated with use intensities of e-government offerings at the level of the individual citizen. Unfortunately, the imbalance between the relatively advanced availability of e-government services on the one hand and the "customer" uptake of these offerings on the other is also reflected in the thematic priorities of extant scholarly research: The vast majority of empirical e-government publications analyzes supply-side characteristics (e.g., Arduini et al., 2010; Cegarra-Navarro, Pachón & Cegarra, 2012; Ho & Ni, 2004; Lakka, Stamati, Michalakelis & Anagnostopoulos, 2015; Stier, 2015). Comparatively few studies take a closer look at the demand-side (see Rana, Dwivedi & Williams, 2015; Reddick, 2005). They are frequently based on rather small convenience samples of citizens of developing countries and explore only a limited range of potential antecedents of individuals' e-government usage (see Section 2).

Against this background, the purpose of the present study is to empirically explore associations between household and individual characteristics and e-government use intensity in a sample of more than 17,000 citizens living in an industrialized country (Germany). This analysis supports public bodies and ICT corporations in gaining a better understanding of the characteristics of target groups which are currently hesitant in adopting e-government offerings and of measures which might increase citizens' attraction to public e-service platforms.

The remainder of this article is organized as follows: Section 2 lays the groundwork for our quantitative empirical analysis by reviewing previous field work seeking to "explain" individual adoption of electronic government-to-citizen offerings by subjective perceptions and objectively measurable household- as well as person-level variables. The review results in 11 research hypotheses. Section 3 introduces the dataset and the statistical methods applied to address the hypotheses. Section 4 reports the empirical results. Section 5 concludes with a discussion of the main implications of our findings and suggests directions for future research.

E-government projects targeted at citizens are commonly labeled as "government-to-citizen" service offerings. Other initiatives are directed primarily toward corporations ("government-to-business"), government staff ("government-to-emloyee") or other public institutions ("government-to-government"; Joseph, 2013). Since the main emphasis of this study is the exploration of predictors of *citizens'* e-government use, we focus at offerings