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Political determinants of e-government performance revisited: Comparing democracies and autocracies



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ABSTRACT

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Keywords: Comparative politics E-government Regime type Democracy Autocracy While the literature analyzing the cross-national determinants of e-government performance reports robust results for structural variables, the level of agreement regarding political factors remains low. Deriving theories from comparative political science, this article hypothesizes how regime type and government capacity determine the global variation in e-government. Methodologically, the paper adds several points to improve accuracy in statistical analyses using the United Nations E-Government Development Index, which have often been afflicted by improper model specifications. Empirically, all seven editions of the index are tested under a common framework in cross-sectional regression analyses, revealing several interdependent trends. While the innovation-friendly environment of democracies was the primary political source of e-government development, autocracies are catching up in order to enhance pro-regime activism on the internet and legitimize their rule by improving economic performance. Government capacity also grows in importance, as e-government programs have become more technologically sophisticated.

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1. Introduction

E-government is an integral part of administration modernization, a challenge that every government in the world faces in the information age. After more than a decade of cross-national empirical research, we know that the levels of human and technological development of a country are driving forces of e-government (Helbig, Gil-García, & Ferro, 2009; Kim, 2007; Rodríguez Domínguez, García Sánchez, & Gallego Álvarez, 2011; Rose, 2005; Siau & Long, 2009; Singh, Das, & Joseph, 2007; West, 2005). With regard to political determinants of e-government, regime type as the overarching political environment and government capacity as the bureaucratic context have been identified as important factors determining e-government performance. However, there are severe disagreements in previous studies that can be explained by differing conceptualizations and by changes over time, since most studies are cross-sectional analyses for only one year each.

The contribution of this article is threefold: First, it proposes a theory that aims to explore the global variation in e-government performance from a comparative politics perspective. Multiple hypotheses are derived to explain how regime type and government capacity influence e-government performance. Second, the paper adds several points to improve methodological accuracy in statistical analyses of the United Nations E-Government Development Index (in the following: "UN

http://dx.doi.org/10.1016/j.giq.2015.05.004 0740-624X/© 2015 Elsevier Inc. All rights reserved. Index"),¹ which have often been afflicted by improper model specifications. Third, all seven editions of the UN Index, including the recently published data for 2013, are tested under a common framework in cross-sectional regression analyses. Using a dichotomous conceptualization of regime type, this article unveils a democracy advantage in egovernment until 2007 with a catching-up of autocracies afterwards. The relationship between e-government and government capacity is also subject to change, with the trend indicating that administrative capabilities grow in importance in times of sophisticated e-government websites.

The article proceeds as follows: Section 2 summarizes the previous literature on political determinants of e-government and presents the theoretical framework of this paper. Section 3 outlines the data and methodology used, before the results of the statistical analyses are presented and discussed in Section 4. The final section concludes.

2. Political determinants of e-government performance

There are myriad definitions that attempt to adequately conceptualize e-government programs (Yildiz, 2007). Here, I refer to e-government as "government's use of technology, particularly web-based Internet applications, to enhance access to, and delivery of, publicly funded services to citizens, business partners, employees, and other government entities"

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¹ When mentioning the UN E-Government Development Index or "UN Index", the present study refers to its core measurement, the *Online Service Index*, which is the assessment of the national e-government websites.

(Brown & Brudney, 2001, p. 1).² E-government has two immanent dimensions: internally, improving efficiency and decreasing costs; externally, enhancing transparency and accountability, providing citizencentric online services and stimulating economic growth (OECD, 2003). With regard to political outcomes, e-government programs can reduce corruption (Andersen, 2009; Bertot, Jaeger, & Grimes, 2010), modernize bureaucracy (Ahn & Bretschneider, 2011) and improve trust in local government (Tolbert & Mossberger, 2006). In contrast to these studies that take e-government as an independent variable, this article investigates which political forces drive e-government programs themselves. The literature review and the novel theoretical approach presented in the following concentrate on political determinants at the macro level, since digital administration modernization is deeply rooted in these contextual conditions. Thus, there is a need to bridge the gap between studies of e-government and comparative politics, from which the article derives its hypotheses.

2.1. Regime type

The empirical literature shows inconsistent results with regard to the political determinants of e-government performance. Several studies reveal a positive relationship between democracy and e-government (Bussell, 2011; Gulati & Yates, 2011; Gulati, Yates, & Williams, 2012; Kim, 2007; Rose, 2005). Others report insignificant results (Bussell, 2011; Lee, Chang, & Berry, 2011; Moon, Welch, & Wong, 2005; Rodríguez Domínguez et al., 2011; West, 2005) or a negative impact of democracy on e-government (Williams, Gulati, & Yates, 2013).³

The ambiguous results are related to changes over time, which remain unconsidered by cross-sectional studies (cf. Karpf, 2012). But the ambiguity can also be traced to the conceptual equivocality that still remains regarding the nexus between regime type and e-government. Most of these works conceptualized regime type as a gradual degree of democratization, operationalized by either institutional characteristics or the protection of civil liberties. Such an argumentation assumes a linear relationship between the openness of a political system and its e-government performance. It is argued that democratic politicians use e-government to increase their electoral chances by improving public service provision and by engaging with citizens (Bussell, 2011; Moon et al., 2005; Rose, 2005). The prevalent view is that "a less democratic government is less likely to advance e-government because the government might not support transparent and interactive relationship with citizens" (Moon et al., 2005, p. 4). However, the incentives that induce non-democracies to implement e-government programs remain opaque.

Williams et al. (2013, p. 195) make several ex-post arguments how less democratic states "may be utilizing e-government to maintain the status quo". However, the argumentation of the authors suffers from shortcomings in terms of conceptualization and operationalization. They state that e-government fulfills different functions in democracies and autocracies, yet the usage of gradual regime measurements obfuscates these differences and implies that similar causal mechanisms take effect in both regime types. However, while the electoral pluralism in democracies may induce e-government development to supply citizen-centric services, the missing pluralism in autocracies could also contribute to equivalent e-government programs that are designated to instate previously absent two-way-interactions between citizens and political leaders. Since gradual measurements of civil or political rights display myriad aggregated institutional configurations, the causal link between democratic institutionalization and e-government remains unclear.

Contradictions are apparent in the works of Gulati and co-authors. On the one hand, they report in Gulati and Yates (2011) and Gulati et al. (2012) "that there is a strong connection between the presence of democratic political institutions and processes and the extent of egovernment services" (Gulati et al., 2012, p. 2545), while also finding insignificant or even negative effects of civil liberties on e-government. On the other hand, when analyzing the same UN edition using the Unified Democracy Scores (UDS), which merges ten indicators of democracy into one index, the same authors report a "negative relationship between the level of democracy and online government" (Williams et al., 2013, p. 195). To add to the confusion, the UDS also includes the Polity and Freedom House's civil rights indices that have previously led to diverging effects when included separately in regressions. In summary, we do not know if or how the degree of democracy and egovernment performance is related. Taken together with the contradicting empirical results of other studies, one has to conclude that the theoretical understanding of the political determinants of e-government is vet limited and a sound theoretical framework that could explain convergences in e-government across regime types is still missing.

The present paper uses a dichotomous conceptualization of regime type, which enables us to analyze the variation in e-government performance in a way that suits several theories discussed in the literature better: by looking at regime differences in kind, instead of looking at differences in degree of democratization, since these are two distinct research questions (Collier & Adcock, 1999). As Sartori argues, political regimes have to be regarded as "bounded wholes" (Sartori, 1987, p. 184) that reflect unique configurations of institutional characteristics and therefore should be distinguished based on classificatory reasoning (cf. Collier & Adcock, 1999, p. 548–550). Accordingly, regime types are defined qualitatively in this paper. A polity is coded as a democracy when the following conditions are present:

"(1) A civilian government (as opposed to military or royal court) provides the main source of policy making; (2) Political leaders form multiple and competitive parties, and the parties interact and run the government through a legislature; (3) The executive is institutionally constrained or checked by other parts of the government; (4) Elections are used to select the political leadership, and they are largely open, competitive, and free and fair" (Magaloni, Chu, & Min, 2013, p. 6).

Political systems lacking these requirements are regarded as autocracies,⁴ which typically maintain a greater repressive capacity than democracies. A dichotomous classification of political systems allows us to theorize more precisely how regime type affects e-government performance. Since democracies and autocracies follow distinct political logics, the rationales for e-government policies diverge too fundamentally, as to be put on a continuous scale.

2.1.1. Democracy and e-government

When speaking of a "democracy advantage" with regard to public policy outcomes, scholars often refer to the greater innovative capacity of democracies (Acemoglu, 2014; Acemoglu & Robinson, 2012; Halperin, Siegle, & Weinstein, 2010; Knutsen, 2012; Schmidt, 2012). In particular, technological innovation depends on the exchange of ideas and information and prospers in market-oriented environments. Through myriad feedback loops, responsive political systems enhance their adaptability and therefore the efficiency of policies, government programs and political-economic instruments. Furthermore, the more open democracies have an advantage over autocratic regimes in absorbing technological change from abroad (Knutsen, 2012). Due to inherent technological characteristics, especially internet-related technological change has been related to regime type. The web increases the number and diversity of information sources and is an interactive and

² This narrow definition of e-government excludes e-participation features in order to avoid prescribing a democracy advantage, since democracies should adapt more easily to these participation-oriented applications. Nevertheless, prior studies did not identify regime effects (Åström, Karlsson, Linde, & Pirannejad, 2012; Lee et al., 2011), which could be due to validity problems in e-participation measurements (Lidén, 2014).

³ Bussell (2011) finds a positive relationship between democracy and e-government using the UN Index, but gets non-significant results for the e-government indicator by West (2005).

⁴ The terms autocratic and authoritarian are used interchangeably in the article.

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