Digital Government and Administrative Burden Reduction

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ABSTRACT

Administrative burden represents the costs to businesses, citizens and the administration itself of complying with government regulations and procedures. The burden tends to increase with new forms of public governance that rely less on direct decisions and actions undertaken by traditional government bureaucracies, and more on government creating and regulating the environment for other, non-state actors to jointly address public needs. Based on the reviews of research and policy literature, this paper explores administrative burden as a policy problem, presents how Digital Government (DG) could be applied to address this problem, and identifies societal adoption, organizational readiness and other conditions under which DG can be an effective tool for Administrative Burden Reduction (ABR). Finally, the paper tracks ABR to the latest Contextualization stage in the DG evolution, and discusses possible development approaches and technological potential of pursuing ABR through DG.

CCS Concepts

• **Applied computing~E-government**

Keywords

Administrative Burden; Administrative Burden Reduction; Digital Government; Societal Adoption; Organizational Readiness; Digital Government Evolution; Contextualization

1. INTRODUCTION

Over the last years, Administrative Burden Reduction (ABR) has been identified as a key priority to improve government efficiency and effectiveness. However, while complaints from citizens regarding high costs of interactions with government are not new, recent developments that allowed for the measurement of the level of administrative burden and the gains resulting from its reduction were decisive in putting ABR on the policy agenda.

A well-known framework for determining administrative burden and a methodology for quantifying the burden is the Standard Cost Model (SCM) [1]. According to SCM, "administrative burdens are the costs imposed on business, when complying with information obligations stemming from government regulation". However, given its narrow focus, SCM "does not provide for the assessment

of the impacts of information obligations within a cost-benefit framework" [2].

The Dutch government pioneered the ABR process by committing to reduce administrative burden in the Netherlands by 25% from 2002 to 2006. UK and Denmark rapidly adopted similar procedures. See [2] for an analysis of the UK's case, [3] for Portugal, and [4] for Germany, France, Italy and Spain.

Research on administrative burden has also increased in recent years. Besides the costs of compliance with government-imposed obligations to provide information, other administrative burdens have been considered. Taking into account different research lines [5] developed a common and expanded concept of administrative burden that considers all learning, psychological, and compliance costs that citizens face in their interactions with government. Such a broad definition applies to any situation in which the state regulates private behavior or structures how individuals seek public services. Learning costs result from the search process for acquiring information about public services and determine if they are relevant for the individual. Psychological costs are associated with the stigma of participating in unpopular programs, while compliance costs refer to the burdens of following administrative rules and requirements.

Recently, the EU has identified policy measures to reduce administrative burdens [6]. These measures, which are to be implemented at the national and European levels over the 2014-18 period, rely mostly on Information Communication Technology (ICT) and Digital Government (DG). In addition, a survey of programs intended to reduce regulatory transaction costs, implemented in 28 OECD countries, showed that at least 26 governments included ICT in their programs [7]. According to [3], the pioneering approach adopted by the Dutch government already considered DG as being fundamental to achieving the ABR goal. ICT-based solutions allow for a reduction of time, paper handling, waiting times and search and coordination costs for citizens, businesses and government [8].

The rest of this paper is structured as follows. Section 2 describes the policy problem deriving from administrative burden. Section 3 discusses the conditions that enhance the willingness and readiness to adopt DG projects for ABR. Section 4 briefly presents the main ICT and DG solutions adopted for ABR. The final Section 5 highlights the need for a holistic approach to underpin EGOV initiatives for ABR, and presents venues for future research.

2. ADMINISTRATIVE BURDEN AS A POLICY PROBLEM

Despite the broad definition of administrative burden presented by [5], the policy problem that ABR usually seeks to address relates to information obligations imposed upon citizens and businesses by government legislation and regulations, which cannot decline fulfilling such obligations without disobeying the law. The extent

to which these obligations generate inefficiencies requires an analysis of the costs and benefits associated with them.

Over time, several methodologies have been applied for evaluating ABR measures. Besides SCM, impact analysis, customer satisfaction surveys and cost-benefit analyses have been implemented. Although the accuracy of the aggregate measures of administrative burden is questionable, these measures provide estimates of the costs involved, and a rationale for the adoption of reforms to reduce administrative burden and improve efficiency. For example, the study on DG and ABR [6] implemented a cost-benefit analysis in three countries that are the leaders in the implementation of the "once only" principle and digital-by-default initiatives in the EU: Denmark, Netherlands and UK. Based on these measures, [6] estimated the potential impact of the adoption of similar measures at the EU28 level and provided a roadmap for future action.

Several factors may influence the emergence and persistence of inefficiencies deriving from information obligations. On the one hand, considering the policy-makers' and government officials' perspective, reduced awareness of the societal costs when deciding on the form and scope of the government-imposed information obligations reduces the incentives to adopt ABR. Additionally, bureaucratic interests may oppose ABR measures as they are expected to give rise to lower levels of government activity and fewer opportunities for rent extraction. Finally, as administrative burdens are usually understood poorly by policy actors, they may be used to serve political ends [5]. On the other hand, from the society perspective, because information obligations are usually dispersed through a large number of affected organizations, and their impact on each of them is relatively low, the incentive to oppose additional obligations tends to be weak.

These information obligations generate costs that may also have indirect effects on innovation, productivity and growth. Firms devote considerable resources to fill tax declarations, manage their employees' social security status, and apply for permits to carry out certain activities. These requirements represent fixed costs that are particularly harmful for smaller businesses that have fewer opportunities to lower costs. Indeed, firm size is negatively correlated with the propensity to go informal, while financial constraints induce informality among smaller firms but not in larger ones [9].

Several studies have analyzed the impact of administrative burden on the size of the shadow economy, the level of corruption and tax evasion [10]. Analysis of large panels of countries also revealed that higher levels of administrative burden are associated with larger sizes of the shadow economy and higher levels of corruption [11].

By increasing firm registration at the tax authority, ABR allows for an increase in revenue from taxation. Recently, a growing body of literature emphasizes that ICT innovations in the tax system, and particularly online account systems where consumers can verify receipts reported by firms, allow for the establishment of a direct communication between the tax authority and consumers and consequently reduced tax evasion. Changes in the availability of information trails and third party reporting can also improve tax compliance [12] [13]. Consumers can act as whistle-blowers by filling complaints, thus reducing the need for external audits. Offering consumers monetary rewards, such as lottery incentives, further enhances tax enforcement. Finally, in the case of income taxation or eligibility to participate, having third-party reported income is more likely to be accurate than self-reported income.

3. REQUIREMENTS FOR SUCCESSFUL IMPLEMENTATION OF EGOV POLICIES FOR ABR

Effective ABR measures require the engagement of all relevant agents in the process, including but not limited to the national, regional and local authorities, the business sector and civil society. See [14] for a proposal of DG typologies of stakeholder roles and benefits, whose involvement will increase the pressure on officials and politicians towards adopting ABR policies.

Although the opportunities of applying ICT and DG for ABR can be easily articulated and understood, the practical implementation of DG for ABR initiatives encounters a range of policy, legal, institutional, technological and even cultural constraints.

For example, in order for electronic public services to deliver reductions in administrative burden, it is necessary for citizens and businesses to adopt these services. At the same time, electronic public service that increase administrative burden on the recipients are less likely to be used. Therefore, it is important to study the willingness of citizens and business to adopt electronic public services and the ability of government entities to implement public service delivery systems with decreased administrative burden.

The success in adopting information systems has been extensively studied from a user's acceptance of technology [15], diffusion of innovations within social systems [16], and organizational perspectives [17]. Citizen's willingness to adopt electronic public services depends on both proximity of the delivery channels, and the natural ways for such services to interact with citizens' everyday needs. Proximity has a clear technological dimension. A typical example is the increasing relevance and ubiquity of mobile channels, creating opportunities to strengthen the relationships between citizens and government and, thus, contributing indirectly to the effectiveness of ICT-driven ABR initiatives. ICT-enabled processes structured around citizens' everyday life is another key ingredient to success. An example are life-event portals that understand user circumstances and provide services to meet their needs. Another example is personalized DG services which improve the interaction between governments and users. The gathering and processing of data about user behaviors, preferences and actions are the key aspect to analyze interactions with an administrative system and design personalized services. ICT are well suited to support these processes in a systematic way, e.g. through semantic web, linked data and big data analytics.

However, the case studies focused on the use of DG for ABR are still scarce. For example, [18] analyzes the infrastructure for business-to-government information transfer. Using a large-scale survey conducted amongst Dutch businesses using business-to-government systems, they conclude that positive perceptions of the gains in terms of cost savings prevail, and that organizational characteristics such as size, attitude and capacity of ICT staff, are positively correlated with perceived burden reductions and effectiveness of implementation.

4. DG FOR ABR INITIATIVES

Considering the DG evolution [19], the application of ICT to ABR clearly goes beyond the Digitization stage where technology digitizes existing processes without transforming them. The use of ICT for ABR has a transforming effect on the working of government, i.e. it falls under the Transformation or Electronic Government (EGOV) stage. Therefore, any ICT for ABR initiative is more accurately classified as EGOV for ABR initiative. In addition, ABR is supposed to positively affect relationships

between government and various external actors, i.e. EGOV for ABR also belongs to the Engagement stage. Finally, given the origins of administrative burden in particular legal, institutional and cultural contexts, dependence of the ABR strategies on such contexts, and variations in ABR performance between contexts, EGOV for ABR also belong to the Contextualization stage.

Government initiatives to ease the handling of administrative tasks, mostly through ICT, are explicitly aimed at reducing administrative burden. Some of these solutions include the integration of DG tools, smart use of information provided to public authorities by citizens and businesses when implementing administrative procedures, the implementation of the principles of a once-only registration of relevant data and digital-by-default requirements. The once-only principle ensures that citizens and businesses supply standard information to government only once, while government offices share this information internally so that no additional reporting burden falls on citizens and businesses. By integrating data systems across administration offices, the state reduces the need for citizens to provide the same data multiple times, while improving the accuracy of the same data [20]. Digital-by-default refers to the requirement to make electronic procedures the main channel for delivering DG services.

The implementation of DG policies and the availability of public services online are insufficient to ensure a widespread use of such services among citizens. Personalization and proactive delivery are also strategies that can play a role towards this goal. Personalization requires that a customer can express its preferences for interacting with government agencies, and government agencies apply such preferences to make the interactions with their customers as simple as possible. Proactive delivery requires that government agencies know the circumstances of their customers and proactively deliver information and services that they know their customers need.

In line with the DG evolution and related DG innovation flow [19], ICT-enabled ABR can be considered as a particular form of institutionalized DG. Related forms include citizen-centric government, government as a platform, lean administration, trusted government and others. All new forms of institutionalized DG start with pressure on government from citizens, businesses, international community, other governments, and complex and dynamic political and socio-economic conditions where governments and policymakers have to make decisions. In our case, such pressures include decreasing tax evasion, limiting corruption, reducing shadow economy, removing regulatory irritants, and unleashing productive activities in the larger society and economy. Governments respond to such pressures by innovating with available digital technologies such as big data and analytics, event-based systems, legal and normative frameworks, legal text and workflow analysis, and the web. These innovations, most discussed in the paper include: administrative performance management, administrative process reengineering, digital by default, electronic public services, government information sharing, legislative stock review, once only principle, online accounting systems, online information trails, organizational interoperability, personalization, and proactive service delivery. The innovations, repeated over time, become institutionalized and part of the regular government practice. The ABR-focused DG innovation flow is presented in Figure 1.
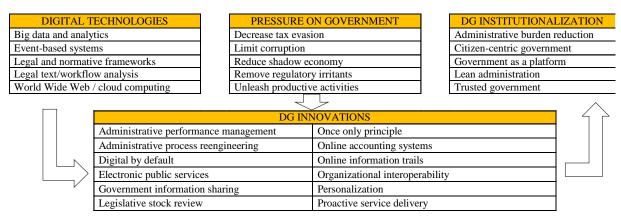
DIGITAL TECHNOLOGIES	PRESSURE ON GOVERNMENT	DG INSTITUTIONALIZATION
Big data and analytics	Decrease tax evasion	Administrative burden reduction
Event-based systems	Limit corruption	Citizen-centric government
Legal and normative frameworks	Reduce shadow economy	Government as a platform
Legal text/workflow analysis	Remove regulatory irritants	Lean administration
World Wide Web / cloud computing	Unleash productive activities	Trusted government

DG INNOVATIONS	
Administrative performance management	Once only principle
Administrative process reengineering	Online accounting systems
Digital by default	Online information trails
Electronic public services	Organizational interoperability
Government information sharing	Personalization
Legislative stock review	Proactive service delivery

Figure 1. Digital Government innovation flow [19] focused on Administrative Burden Reduction

5. DISCUSSION

The use of DG and online public services in particular has a strong potential to reduce administrative burden, and promote innovation and economic growth. Additionally, it may contribute towards decreasing the number of activities developed outside the formal economy, increasing tax compliance, and reducing corruption. In order for DG and ABR activities in particular to best support the overall government performance and performance of the socio-economic system regulated by government, adopting a holistic approach to designing and implementing DG initiatives is key. First, DG implementation is not only about technology, it is a multifaceted operation requiring a multidisciplinary approach and a scientific discipline. Second, to ensure awareness regarding the costs of administrative burden and willingness and commitment to implement DG measures aimed at reducing this burden, it is necessary to take into account the perspective of all stakeholders

involved in the process. Third, there is a common belief in the DG community is that standardized ICT-enabled processes somehow fit with different sectors and levels of public administration. However, standardized, generic processes may fail to comply with some implicit requirements, i.e. practices and processes emerging from the local organizational culture that may play a major role in building confidence in the new DG solutions among public workforce and the public itself, and even constrain local context-specific requirements. The discussion about scalability and adaptability of the DG solutions, and the integration versus autonomy decisions are very relevant to the ABR debate.

In any case, it is safe to say that digital technology has a clear potential for supporting ABR efforts. This potential, however, goes far beyond the use of digital technologies to mediate the interaction between citizens and administration. Actually, the whole legacy of information engineering including models, techniques and tools has

the potential to contribute to re-engineering of administrative processes and analysis and redesign of normative and legal frameworks. In other words, information engineering can help reduce the risk that such frameworks creates administrative burden in the first place based on the use of computational tools, e.g. model-checkers, modelling languages, simulators and constraint-solvers, in validating and improving the quality of law, as well as simplifying and improving relevant norms and legal dispositions. The application of well-established Computer Science methods to model, analyze and validate legal and normative texts at both static (e.g. legal texts) and dynamic (e.g. administrative workflows) levels of law and regulations, has an enormous potential for ABR.

In conclusion, despite increasing relevance of ABR in the policy agenda and the potential offered by DG for ABR, research on this topic is still scarce and a research roadmap is yet to be defined. This paper is a small step in this direction.

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