Government Information Quarterly 32 (2015) 279–286

Contents lists available at ScienceDirect

Government Information Quarterly

journal homepage: www.elsevier.com/locate/govinf

E-government and organizational change: Reappraising the role of ICT and bureaucracy in public service delivery

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ARTICLE INFO

Available online 12 May 2015

Keywords:
E-bureaucracy
E-government
ICT enabled public sector reforms

ABSTRACT

There is a substantial literature on e-government that discusses information and communication technology (ICT) as an instrument for reducing the role of bureaucracy in government organizations. The purpose of this paper is to offer a critical discussion of this literature and to provide a complementary argument which favors the use of ICT in the public sector to support the operations of bureaucratic organizations. Based on the findings of a case study – of the Venice Municipality in Italy – the paper discusses how ICT can be used to support rather than eliminate bureaucracy. Using the concepts of e-bureaucracy and functional simplification and closure, the paper proposes evidence and support for the argument that bureaucracy should be preserved and enhanced where e-government policies are concerned. Functional simplification and closure are very valuable concepts for explaining why this should be a viable approach.

1. Introduction

The adoption of information and communication technologies (ICTs) in public sector organizations has been often associated with reform programs aiming at reducing the inefficiencies generated by bureaucratic burden (Accounts, House of Commons Committee of Public, 2008; Clegg, 2007; Osborne & Plastrik, 1997). Governments' investments in public sector information systems are generally associated with organizational transformations designed to enhance efficiency and policy effectiveness (Bellamy & Taylor, 1998; Fountain, 2001; Gil-Garcia & Pardo, 2005; Gronlund & Horan, 2004; Kamarck, 2007). In this context ICTs in public sector are deployed to pursue a cluster of ideas and practices that prescribe using private sector and business approaches in the public sector (Cordella & Bonina, 2012; Cordella & Iannacci, 2010; Hood, 1991) to enhance organizational efficiency and effectiveness and hence reduce bureaucratic burden. This paper challenges the vision of public sector ICTs as solutions mainly designed to reduce the span of public bureaucracy, as often proposed by e-government policies informed by the New Public Management (NPM) ideology. The paper offers empirical evidence that ICTs can enable alternative organizational solutions, which make public sector organizations more efficient and effective by supporting the bureaucratic coordination. These alternative solutions are those found in the organizational structures defined by the e-bureaucratic form (Cordella, 2007). E-bureaucracies are organizations that follow the procedural logic of a public bureaucracy, to coordinate the execution of organization activities, and hence to deliver services, but rely on ICTs to sustain procedural efficiency. ICTs are used in order to facilitate and support the fundamental organizational functions of coordination and control of bureaucratic organizations. These functions are defined in the legal-normative set of rules designed to standardize the administrative procedure and the delivery of public services. The paper not only provides empirical evidence to describe the functioning e-bureaucracies, but also offers theoretical insights to explain and justify why ICTs can improve the efficiency of bureaucratic organizations. It is here suggested that ICTs can make bureaucratic organizations more valuable for the delivery of public services than the organizational configurations prescribed by the NPM ideology and materialized in the "Contract State" (Cordella & Willcocks, 2012; du Gay, 1994).

Building on the findings of the case of the Municipality of Venice, the paper will argue that e-government projects can deliver better services by introducing a new inter-organizational layer of bureaucratic coordination. This outcome is discussed and explained by using Mintzberg's (1983) taxonomy of bureaucratic organizations – machinery and professional bureaucracy – in conjunction with theories of technology – functional simplification and closure – as proposed by Luhmann and Kallinikos (Kallinikos, 2005; Luhmann, 2005).

2. ICT reforms and bureaucracy

Bureaucracies have historically been conceived as structures aimed at increasing the efficiency in organizational practices and procedures. According to Weber's (1947) theorization, bureaucracy delivers organizational efficiency by following procedures and coordination

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http://dx.doi.org/10.1016/j.giq.2015.03.005
0740-624X/

mechanisms that incorporate rules and instrumental systems designed to rationalize administrative efficiency (Clegg, 2007). Weber defines a set of attributes that bureaucratic organizations must have in order to fulfill these goals: a formal and explicit hierarchical structure of authority; a detailed, rationalized division of labor; a set of formal, explicit, comprehensive and stable rules that are impersonally enforced in decision making and lead to predictable and determinate results; and the separation of the functions in the organization from the person entitled to exercise that organizational function. These organizational principles, designed by Weber as instruments for maximizing organizational efficiency, also mediate the relationship between citizens and the state and deliver specific democratic values such as equality and fairness (Peters, 2001).

For a long time bureaucracies have successfully – often through struggle – fulfilled the goals of organizing the operation of the administrative apparatus of the state and consistently guaranteed the superior goals of equity and impartiality in public service delivery. More recently, due to the increased areas of public sector interventions – consequence of the expansion of the welfare state – the need for integration within public offices has increased. More integration has fostered the need of producing and exchanging information between citizens, between citizens and the public administration, and among different branches of the public administration, to deliver public services. This has overloaded the bureaucratic organization with information that now needs to be processed in order to provide the services that a more pervasive welfare state has to serve. The increased complexity of administrative processes has dramatically reduced the efficiency of bureaucracy increasing the already evident limitations that bureaucratic organizations have — in their capacity to deliver service consistently and respond to the unpredictable challenges arising in times of higher environmental uncertainty. These failures have generated waves of justified criticisms towards public sector bureaucracies and their ability to fulfill the mandate of delivering efficient and effective services (Heeks, 2002).

While these criticisms are founded and justified by the failures of bureaucracies in delivering public services, the solution of eliminating bureaucracies is not necessary the best one for both the state and the citizens. Bureaucratic organizations do in fact enforce organizational principles that deliver two sets of positive values. On the one hand, bureaucracies rationalize administrative procedures making service delivery more efficient (consistently delivering homogeneous outcomes) and effective (outcomes are determined by process structure); on the other, the bureaucratic principle of rule-bounded behavior — which univocally determines the outcome of administrative procedures, and guarantees their predictability according to the impersonal bureaucratic principle (Kallinikos, 2004; Perrow, 1986) enforces the democratic values of impartiality, fairness and equality in the delivery of public services.

The adoption of ICTs in the public sector has often been driven by a narrow view which favors non-bureaucratic organizational arrangements rather than questioning whether ICTs can improve the ability of public administrations to deliver efficient and effective services by leveraging bureaucracies' ability to perform their mandate fulfilling the superior goals of impartiality, equality and fairness, along with efficient and effective organizational arrangements. Instead, by following the latter view Cordella (2007) suggests reconsidering the role of ICT in public sector reforms and proposes the thinking of ICT as an instrument to support bureaucratic organizations rather than to eliminate them. He advises that the implementation of ICT to automate existing administrative procedures could improve the administrative system's efficiency and effectiveness without changing its underpinning logic (Nohria & Berkley, 1994) which is to grant equal, impartial and fair treatments for every citizen interacting with the bureaucratic organization. The potential of ICTs to support and hence make public bureaucracies more efficient and effective is however not new. It has been well documented in the history of the adoption of ICT in the public sector. Since the 1980s, ICTs have been designed and implemented in order to provide proper and adequate tools and solutions supporting the bureaucratic organization effectively.

Office automation software, database management systems, work flow management systems, automated decision support systems, and more recently web services, e-services and cloud shared systems, are some examples of technology-mediated solutions designed to make bureaucratic organizations more effective and efficient by incorporating into the ICT systems multiple levels of control and standardization of bureaucratic processes. More effective, efficient and transparent monitoring and controlling mechanisms enabled by ICT technologies can indeed prove valuable solutions for the design and implementation of more functional bureaucratic organizations, increasing the homogeneity and predictability of administrative procedures and their alignment with the normative and legal framework which govern every public sector bureaucracy. ICTs in this context can power functions which are needed by bureaucratic organizations to fulfill their mundane tasks and to increase the flexibility and agility of the organization in responding to changing environmental conditions. These organizations also need to overcome the information processing challenges associated with the expanding domain of public intervention. The expanding complexity and uncertainty of this domain are the reason why public sector bureaucracies have to exchange and process more information, exacerbating their becoming more inefficient and ineffective when adequate action is not taken. Organizations that are able to exploit ICT to support the bureaucratic processes in order to overcome these challenges are good examples of e-bureaucracies (Cordella, 2007). The e-bureaucratic form is thus recommended as an e-government policy that helps to improve the effectiveness and efficiency of the action of the public administration while reinforcing the bureaucratic values of equality and impartiality in the state service to citizenship.

In its present formulation, this theory of e-bureaucracy does not account of the different kinds of impact that ICTs can have on bureaucratic organizations, which differ in the nature of the executed tasks, level of uncertainty, and internal coordination mechanisms. To fill this gap, this paper builds on Mintzberg's (1983) taxonomy of bureaucratic organizations which distinguishes machinery bureaucracy from professional bureaucracy on the basis of the nature of the standardization mechanisms used to uniform, rationalize, and coordinate the work procedures and activities involved. Machinery bureaucracies are organizations effective at executing simple tasks, which by their nature can be fully determined in advance of their execution, and whose solutions can easily be predicted and therefore automated. Professional bureaucracies instead deal with complex tasks. These tasks involve uncertainty and ambiguity, and can only be solved in a semi-standardized way by applying general principles to particular cases. Task solutions cannot be automated but only elaborated through application of human analytical skills. As we will explain through the empirical evidence and mobilizing this taxonomy, ICT can be a powerful ally in the effort for offloading, through streamlining and automation, the burden of machinery bureaucracy operations, in order to refocus organizational resources on the execution of professional bureaucracy tasks, requiring human judgment.

In order to explain how information and communication technologies can embed bureaucratic rationality and operationalize associated values and principles, we will draw from a theoretical framework, that of information technology as functional simplification and closure. In the following section we introduce the framework. In so doing, in this paper we aim at building an account able to counter the dominant view in e-government research, which conceives ICT as a solution to eliminate bureaucracies.

3. Functional simplification and closure

While e-government literature has mostly treated ICT artifacts as linear catalysts of transformation of public sector organizations and