CHAPTER #

Evaluating e-Government Implementation: Opening the Interdisciplinary Door

Abstract

The emergence of the digital government (or e-government) has sparked debates on its social, political and economic consequences across the world. Despite a certain rhetoric on the changes envisioned, it is as yet unclear to what extent this kind of initiative can help provide solutions to problems of public import. In this chapter, we maintain that the problem of e-government evaluation needs to be addressed by first focusing on the conceptual aspects before the tools and methods. From among the various disciplinary contributions we can draw on for this purpose, we will seek to demonstrate how, despite being inexplicably neglected, the theory of organization provides a core reference point. In particular, the studies that perceive the organization as a process of bounded rational actions and decisions can provide a point of convergence for the different branches of knowledge needed to analyze and evaluate complex social phenomena such as those connected to digital government. The chapter concludes by underscoring how the building of a new and truly interdisciplinary theoretical framework is never easy, but is the only road that can advance our learning on e-government implementation. It is our hope that the view proposed here will contribute to better informing public management praxis.

Keywords
1. Introduction

e-government is not only growing in importance, but is increasingly put to debate across the world. The OECD (2004) associates e-government – by which term they mean the public sector’s deployment of ICT technologies, including internet – with objectives, such as efficiency, quality of services, effectiveness of the public action, accountability, and a renewing of the political agenda that are ambitious to say the least. Precisely due to the importance of the theme and the significant economic resources invested (Cresswell, Burke and Pardo, 2006; EITO, 2007), the observers, the national and supranational regulatory authorities and the press are increasing their focus on the implementation phase, i.e. on the concretization phase of the initiatives and projects, for the purpose of evaluating its post-implementation effects (Dunleavy et al., 2002).

Many people underscore that “the need to tie in more closely the state budget to the efficacy of public spending (...) has grown in recent years, (...) the administrative action must be verified in terms of its economics, efficiency and efficacy, according to adequate and transparent models and tools of measurement” (CNIPA 2007, p. 6). Costs are a growing concern as local, state, and national governments face budget deficits and have to balance information technology spending with that for health, education, welfare, and defense (West, 2005). The challenge is huge. Indeed, e-government implementation remains “difficult, risky and expensive” (OECD, 2004, p. 93).

Despite recognizing the importance of evaluating the work of the public administrations (for example, in many countries, the evaluation has been institutionalized as a typical
organizational function), the state of knowledge concerning the effects of e-government is relatively underdeveloped. That means we are far from being able to draw on a conceptual framework that describes the overall picture of the initiatives, their reciprocal relations, the effects envisioned and the effects actually produced.

But on which basis can we evaluate the success of an e-government program? At present, there are no tried and trusted, shared criteria capable of responding to this essential question. Not even the regular surveys carried out by authoritative institutions such as the OECD reflect the widespread perception of the inadequacy of the knowledge that informs concrete practices. In one of its latest reports, referring to Holland, which is certainly one of the most technologically advanced countries on the digital government front (OECD, 2007, p. 17), we read: “The purpose (of the government officials, editor’s note) of monitoring and evaluating activities primarily seems to be that of tracking user take-up of e-services, not determining whether overarching e-government goals of efficiency and effectiveness are being met”.

The diffusion of e-government is documented by huge quantities of data. Thanks to computer platforms, Database Management Systems (DBMS), and web browsers, reporting programs have become within reach of many public officers as well as the vast public. For example, in Italy, e-government action at the national level is guided by legislative objectives defined by the Minister for Innovation. In all its annual reports, CNIPA (the independent authority that monitors and assists all Italian government bodies involved in computerization programs) illustrates the state of progress of each objective/project on the basis of indicators set up at national level. Today any citizen who wants to know the updated situation of the 134 e-government projects co-financed by the Italian government can visit the CNIPA website (www.cnipa.it) and use the “monitoring dashboard” to get detailed information, also in graphic format, on programs implemented by the local administrations.
Are we by any chance looking at examples of e-government evaluation systems? The answer can only be no: all the cited examples are at most systems of indicators useful for formalizing the end of the project/s in question or to communicate to the outside world the outputs achieved to date.

We maintain in this chapter that to overcome the evaluation hurdle we need to first focus on the conceptual aspects of e-government – before we even start to look at the tools and methods (see Gupta and Jana, 2004).

From among the various disciplinary contributions that we can draw on for this purpose, we will seek to demonstrate how the theory of organization provides a fundamental reference point, even though it continues to be inexplicably neglected. In particular, the studies that perceive the organization as a process of bounded rational actions and decisions can be a point of convergence for the different branches of knowledge needed to analyze and evaluate complex social phenomena, such as those connected to digital government (Scholl, 2005).

Naturally, we neither attempt to solve nor address the issue of the best criteria, measures, and methods to use in dealing with the problem of e-government evaluation. Indeed, we believe that the knowledge of the conceptual underpinnings of the diverse proposals is an essential condition for laying the cornerstones of a debate that is truly interdisciplinary (given the nature of the problem) and that, in time, that knowledge will help enrich the implementation research agenda.

Therefore, in the following pages we will:

- provide a map that enables us to better understand the existing perspectives that have already addressed the implementation evaluation;
- explain why the commonly used theoretical frameworks do not adequately represent the phenomena related to e-government implementation; and
take a first step towards an alternative interpretive proposal that incorporates and adopts the contributions from organization science.

Our analysis identifies e-government output as those “products” generated by the work of the PA – e.g., services, certificates, permits and other services. On the other hand, e-government outcomes are the short- or medium-term effects that emerge when the output reaches the target market – citizens, businesses, other PA. Ultimately, the impacts refer to the capability of the program to address underlying problem/s. Among the many examples is the reduction of social unrest, greater democratic participation, the narrowing of the digital divide, and citizen perception and engagement, etc. Compared with the effects mentioned earlier, the impacts are more ambitious as these “force one to ask what is the final significance of what we are doing” (Regonini, 2001, p. 163).

The chapter proceeds as follows. Section 2 explains why evaluating e-government is particularly difficult and complex, while Section 3 briefly reviews the relative literature, first from the ICT and then the Policy Studies viewpoint. Section 4 highlights the key assumptions underpinning these approaches. In Section 5, we propose the Theory of Organizational Action as an interdisciplinary meeting place for analyzing e-government implementation. Ultimately, in the conclusions, we discuss the implications of this perspective for the research and practice of e-government evaluation.

2. Unraveling the e-government Evaluation Puzzle

Whoever ventures into the broader terrain of e-government performance evaluation – in this paper we use the words “performance” and “results” to mean the whole of the
outputs, outcomes and impacts – finds his/herself facing a variegated landscape through which it is hard to chart a path, due to the diverse features, mechanisms and clusters of stakeholders (institutional and social) involved at different levels in the implementation process. This produces a mixed picture of the realm of technology and public sector (‘both encouraging and discouraging messages’ according to Rainey, 2003, p. 218). Despite the diversity of the approaches adopted, the scholars all agree that e-government reveals its nature (and both its positive and negative consequences) during implementation, thus debunking the concept of implementation as purely an execution activity, as if we were dealing with something automatic or to be taken for granted (Pressman and Wildawski, 1973; Sorrentino, 2007).

As the chapters of this book make clear, despite the fact that e-government themes have spawned a profusion of fast-developing literature, the more general concept of public-sector performance still remains ambiguous and problematic and is a recurring topic in the social and political debate (Stewart and Walsh, 1994). For example, the variability of the starting conditions and their evolution in the timeframe in question means there can be no single and precise answer to the question of how we evaluate the effects of an e-government program at national level. Likewise, nothing can guarantee that the use of ICT and the accompanying organizational changes will contribute to the improvement of public services and democratic processes (Capgemini and TNO, 2004; Bhatnagar, 2004).

Goggin (1986, p. 331) invites us to look carefully at the implementation problem (and its results), starting with the assumption that there are diverse levels of implementation performance in line with a scale of possibilities in order of relevance: (1) total failure (“no implementation at all”); (2) “paper” implementation (implementation “appears effective in theory, but when put into practice, does not perform to expectations”); (3) “adjusted” implementation (“conflict has been resolved through a series of accommodations that
modify considerably the original statutory intent”) and, ultimately, (4) “coordinated”
implementation (“an implementation style that is more administrative than political”). The
picture is further complicated by the fact that we need to make the analytical distinction
between implementation and programmatic performance: “successful implementation is
no guarantee of programmatic success” (Goggin, 1986, p. 330).
The existence of a number of objectives to pursue and a wide and differentiated group
of stakeholders does not permit shortcuts when it comes to developing evaluation
systems. As rightly observed by Regonini (2001, p. 105), the negative and positive
consequences of public policies are rarely concentrated on a single stakeholder group.
If public decisions mean that some people are “better off” and some “worse off”, how
can we evaluate the results and compare these with the original situation?
A study carried out in eight European countries (Capgemini and TNO, 2004)
underscores the crucial role of partners from the private sector (e.g., banks,
outsourcers, service operators and trusted third parties) in supporting fully digital
transaction processes. A role that is increasingly determining also to ensure the
success of the e-government initiatives. In addition, the study cited (ibidem, p. 46)
underscores that, instead of developing a new method for authentication, the European
governments decided to use the already available unique codes that internet banking
customers use. This saves development costs and is also user-friendly since customers
do not have to get (used to) a new code for government transactions. A choice that has
proved winning for the diffusion of new services to a vast public. A higher user uptake,
in turn, influences time and cost savings for public authorities and an improved image of
governments.
The area of e-government research is still in its infancy (Ferlie, Hartley and Martin,
2003; Grönlund and Andersson, 2004; Grönlund and Horan, 2004; Löfstedt, 2007;
Scholl, 2006). The first e-government research contributions had as their object the
description of individual case studies at the central or local government level to identify
the critical success factors that might explain the effects (generally positive) of the
different experiences. In other words, the researchers were primarily interested in
highlighting the tangible effects of the projects (often carried out in a pioneering way), in
terms of the artifacts created, the types of services offered through electronic channels,
the user uptake, etc., aimed at pinpointing the best practice to advise. However, these
unquestionably interesting studies are unable to clarify what really happens in that black
box called e-government (Yildiz, 2007). e-government has remained opaque despite the
successive research that started to harness more sophisticated tools and investigative
methods than merely the analysis of the individual case studies. Let us briefly indicate
some of the reasons behind that opacity.

a) Technical and contextual complexity
The complexity of the public sector lies in the highly mixed scenario in terms of
functions, size, organizational structure and resources. In parallel, there is the presence
of numerous critical factors, many of which are outside the direct control of the
administrations, including: the scale of the projects, especially if nation-wide, the lack of
the necessary technical skills by the public entities in question, the mechanisms for
finding the technical and professional resources, the multitude of stakeholders, the
vulnerability of the political scenario (‘policy swings’) and the difficulty of respecting the
timetable (Prospect Magazine, 1995). Unless each of these factors is managed in an
appropriate way – so the prevailing theory has it – they will end up influencing the
performance of the computerization projects (Pardo and Scholl, 2002).
On the difficulty of decoding what happens in the public administrations in terms of
technological innovation, Newcomer and Caudle (1991) refer explicitly to: “(...) the
intentions of the users, the types of decisions that the IS system is called on to support
and (...) the temporal and public responsibility constraints” (p. 378). According to other
studies, the complexity and fragmentation of the institutional context of the public administrations give rise to unforeseen effects in the implementation phase, often generated unknowingly by the opportunist behaviors of the diverse actors (Rebora, 1999, p. 28). Bellamy and Taylor (1996) say in no uncertain terms that the reasons for the failure of innovative ICT projects in the public sector should be looked for in the political arena (“information polity”) rather than in the technical sphere.

b) Pervasiveness of e-government
The effects of e-government are rarely attributable to one factor alone (e.g. the technology). Often, the introduction of a new ICT-based service or application is accompanied by changes, for example, in the regulatory framework, in the operational practices of the public agencies, in the organizational coordination and control systems, and in the technical management decisions, etc. Therefore, it can be hard to establish firmly (and demonstrate) the weighting of each relevant variable also in the case of better performances.

The situation is further complicated by the fact that many of the requirements (e.g. ICT investments) of e-government implement are of the infrastructural type because these enable other services and/or applications. Therefore, it is far from easy to identify the real effects of the investments, given that these are manifested only when the applications developed on the infrastructure effectively come on stream.

The extent and the diffusion of the social problem (e.g., the digital divide) addressed by the service program complicate the efforts of the evaluators, as shown by recent research (Avgerou et al., 2006) on two diverse national projects for offering online tax-collection services in Chile and Brazil. The researchers admitted the impossibility of evaluating the impacts in terms of what is a highly qualifying aspect in this kind of initiative, that is, the citizens' trust in the public institutions.
We then need to take into account that the returns can vary widely, according to whether one is analyzing, on the one side, the citizens and businesses or, on the other, the single agency or the public sector as a whole (Capgemini-TNO, 2004). On the other hand, the politicians often judge the success of an e-government program by the assets or the financial and human resources that they can reroute to a specific administration sector, preferably located in their constituency (Regonini, 2001). Therefore, we should not be surprised by the fact that many public administrations involved in e-government prefer to focus on the least problematic aspects of the post-implementation phase, or what is called ‘delivery benchmarking’ (for example, many countries have successfully set up systems of indicators for measuring progress in the development of the information society). Often these are presented as given indicators of success, but, in reality, simply document the results obtained in the timeframe in question: the economic and technical investments, user categories, user satisfaction levels, level of interaction, and compliance with international standards, etc. (for a review, we refer the reader to, for example, West, 2006). Even such an advanced country as Norway “a whole-of-government framework for monitoring and evaluating e-government at the ministry and agency level is still not in place” (OECD, 2005, p. 147).

To illustrate the debate, the next section presents literature – from two key reference disciplines, i.e., ICT studies and Public Policy studies – that has inspired the theme of e-government and its evaluation. Clearly, this does not exhaust the possible branches of study applicable to these topics and the reader will find additional references at the end of the chapter.

3. E-government and Reference Disciplines
The e-government debate is fed by a number of reference disciplines (e.g. economics, computer science, management studies, sociology, law, psychology, etc.). In this chapter, we will focus on the contributions from ICT and Public Policy studies given that we believe these disciplines best reflect the evolution of the current scenario, as described by West (2005), who observes (p. 168-170): “for much of its history, e-government has fit within the area of low conflict, low partisanship, limited visibility, and narrow benefits represented by constituent policies. Conflict has been muted because digital policy is a technocratic area dominated by experts. (…) Digital government is moving towards the characteristics of other policy types, however. It is becoming more partisan and more controversial. (…) Political partisanship, more aggressive union organizing and more critical news coverage undermine the technocratic vision of e-government that has sustained this domain since its inception”.

We will refer to some studies that have generated a wide variety of research results and technical tools that have successively been applied in practice. Our brief review attempts to highlight how the content and the purpose of the evaluation can differ in line with the perspective adopted. In addition, we will see how an analysis close to the underlying assumptions that inform the evaluation enable us to distinguish the various approaches, underscoring some of their limitations.

3.1 ICT Studies

Information systems lie at the genesis of e-government infrastructures (Irani et al., 2005). It will come as no surprise that the inspiration for the e-government analysis and debate and its consequences comes from ICT studies (primarily Computer Science, Software Engineering and Information Systems). Over the years, scholars and practitioners have prepared an infinity of proposals and recommendations for
implementing computer-based information systems (IS) in cost-efficient ways, for monitoring project schedule compliance, for analyzing user requirements, for developing and testing systems and incorporating these into the existing information infrastructures, for assessing performance. The literature abounds with suggestions on how to measure the success of information systems (Seddon et al., 1999); several methodologies purport to be useful in assessment of effectiveness (Symons and Walsham, 1991). Therefore, it seemed fairly clear that, when e-government started to gain importance and visibility, ICT studies were looked to as one of the key reference disciplines.

Mainstream literature distinguishes between formative and summative evaluation (e.g. see Kumar, 1990; and cited references). The former “produces information that is fed back during development to help improve the product under development. (…) Summative evaluation is done after the development is completed”. Summative (or post-implementation) evaluation provides information about the effectiveness of the product to those decision-makers who are going to be adopting it.

The formal-rational approach to the evaluation of information systems boasts the greatest level of diffusion. This approach has tended to dominate both the literature and managerial practice, largely because of its concern with the prevention of failure (Fincham, 2002). It is no coincidence that it is a consistent factor wherever the success of information systems of public program needs to be evaluated or measured (Symons and Walsham, 1991). Hirschheim and Smithson (1999) say that where costs and benefits are easy to identify and quantify, cost-benefit analysis has many advantages in terms of acceptability and comprehensibility: “information systems are themselves objective and rational and thus capable of being evaluated in an objective/rational fashion” (ibidem, p. 398).

An alternative perspective, formulated by a group of authors who adhere to the current known as ‘social studies of IT’ (Avgerou, Ciborra and Land, 2004), highlights the
problems inherent a purely technocratic and objective approach to the analysis of the relationship between IT and organizational change. Interestingly, the base of these critiques is not linked only to the complexity of the phenomena under scrutiny or to the over-simplification that is typical of many research contributions inspired by the rational approach. The social studies of ICT underscore how the results of computerization projects are anything but a given and that these are influenced also by soft factors of a social and behavioral nature. These distinguish the design stage of the information systems with the metaphor “cultivation” (De Marco and Sorrentino, 2007). While distinguishing the logic of the ‘system’ evaluation using formal methods as that centered on the “actor”. “Evaluation is a largely social activity” (Hirschheim and Smithson 1998, p. 393).

3.2 Policy Studies

In general terms, in the sphere of policy studies, the theories that address the evaluation of public policies can be placed in two macro-categories that reflect the classic models of the top-down and bottom-up implementation approach. The former view (which has dominated the first phase of implementation research) assumes implementation as an essentially top-down administrative and hierarchical follow-on process (Barrett, 2004). With increasing attention paid to policy effectiveness, the analysis focuses on the relationship between goals and results and on the congruency between the realization methods called for by the program and those concretely put in place: conformance ensures performance (Barrett and Fudge, 1981). The aim of the researcher is to identify variables affecting the implementation process (Mazmanian and Sabatier, 1981) or key factors deemed to contribute to what is perceived as

The most orthodox version of the rational evaluation of public policies has been made the obligatory firing target of a number of alternative approaches for many years. In essence, the authors who adhere to these approaches underscore the importance of contingency, of unforeseen effects and the indeterminacy of social relations, of the weight of the pressures and negotiations that accompany the production of every public policy – from initial formulation through to implementation and evaluation.

The critics point out that proposals which adopt rational assumptions all share the same flaws: technical unreliability, excessive consideration of the quantitative aspects combined with “easy” measurements and the undervaluation of the indirect costs. According to the most critical currents, the rational model makes the mistake of subordinating the methods with which the results are effectively reached. For example, Regonini (2001, p. 174) observes that Italian PA tend to systematically underestimate the ‘hidden’ indirect costs spread between all the users. These costs are the result of the “inconveniences” suffered by both companies and citizens to adapt to the new provisions, gathering information and physically going to the offices in question. Indeed, for years now, these inconveniences have enabled many service companies to flourish in Italy, delegated by citizens and businesses to interact with the PA, for example, in cases of fiscal procedures, motoring requirements, licenses and permits.

The bottom-up approach considers the so-called “implementation deficit” a physiological rather than a pathological aspect. Evaluating implementation, therefore, is no longer the measuring of compliance with the formal requirements. Instead, the interest shifts directly to the concrete results and only then traces the factors that connect each result. The pragmatic reconstruction of the policy lifecycle is done in reverse, a model that is known as backward mapping. The inductive nature of this approach offers major
advantages in terms of the significance of the results as it enables the true influence exercised by the various objective factors and the network of actors involved to be captured empirically. Thus, it is possible to evaluate performance also from the viewpoint of the peripheral implementers (known as the street-level bureaucrats), rather than confining its scope to solely to the policymakers’ viewpoint.

4. Commentary on the Most Common Assumptions

The preceding pages have revealed that e-government – borrowing the words of a famous article by Baskerville and Myers (2002) - is an applied field of study drawing upon other, more fundamental, reference disciplines. Why then do the evaluation solutions and systems developed to date fail to fully convince? Answering this question without referring to specific examples of techniques, tools or empirical cases is not easy. As we intend to propose a reflection of the general type, we must necessarily refer to the fundamental assumptions of the discourse, given that we are interested in highlighting which methods of reading and interpreting the organized reality underpin the diverse proposals indicated in the earlier section. In particular, we will focus on two crucial aspects of our discussion: the relationship between technology and organization and the concept of rationality.

However, we must warn readers that a short answer would mean a sharp radicalization of the positions. No evaluation theory or practice can be completely pigeon-holed into a concept (which latter must be considered an ideal type in the Weberian sense of the word). In addition, the concrete reality presents us with evaluation practices, models or theoretical frameworks that draw on these assumptions, often unknowingly or without
explicit reference. As a result, it is not always possible to trace a line of demarcation between one proposal and another.

Let’s start with the first question: the relationship between technology and organization. The fact that technology plays a significant role in the analysis of organizational change in the public sector has now gained broad consensus. Nevertheless, it is one thing to recognize this role, but quite another to consider technology an external constraint to the organization. The contributions that see the concept of organization as a predetermined social system of the subjects (objectivist approach) say that the technology has a change-generating “impact” on the organization. The separation of the two spheres leads the evolution of technology to be attributed with the capacity to solve problems (both organizational and others), which, on its own, is impossible. As underscored by Fletcher (2002): “The design and implementation of an electronic government has caught the attention of the public and policy makers in a manner that is sparking excitement and urgency to see it unfold”. Theoretical frameworks that propose an objectivist approach also include the widespread idea according to which technology is always and anyhow a tool of emancipation, participation, empowerment, democratization and so forth.

Also those theoretical proposals that perceive the organization as a social system made up starting with the interaction of the subjects (subjectivist approach) see the organization and the agent subjects as separate entities. In this case, technology is the materialization of the “social”, or a means capable of influencing the construction of meanings by people. The technological artifacts are put next to the culture, the opinions, and the personal interests of the diverse actors.

Moving on to the second question: the concept of rationality, also here we find two opposing conceptions.
The idea of *objective rationality* (present both in the mainstream version of the evaluation of IS and in the top-down approach of the evaluation of public policies) assumes the existence of a technical rationality that goes beyond any other interests of the parties and, therefore, the only legitimate approach. It is assumed that the evaluator is fully aware of all the alternatives. The conditions of perfect information enable both the maximization of the objectives and the use of the resources in the result obtained. This view sanctions the superiority of technical rationality over organizational rationality and individual rationalities, thus excluding from the discourse of organizational change (and its evaluation) the importance of the interests and objectives of the parties. It is no coincidence that in all those circumstances in which the management of change fails to achieve the desired results, responsibility is attributed to those forces that resist to change in the name of unjustifiable and irrational personal interests (Vann, 2004).

On the other hand, the idea of *rationality* that can be *inferred only retrospectively* characterizes the proposals inspired by the social studies of ICT and by the bottom-up evaluation approach of public policies. The evaluations carried out in line with a subjectivist view interpret “in a political key” what really happens in the concrete reality when faced with a new, complex and pervasive computerization project (Markus, 1983). Given that the only planning possible – if it still makes sense to use this term – is shaped as a concrete reality in an uncertain situation, the attention of the evaluators is mainly on analyzing the contribution given by the diverse social actors to the implementation of a program and the methods with which this is launched. The focus on what actually happens rather than on verifying the objectives or standards reached means that even the unexpected effects and possible failures can be considered successes.

It is not our brief to establish who is ‘right’ or who is ‘wrong’ in these opposing views. The question, if approached in these terms, would be a “mis-question”.
Nevertheless, we can say that the polarization of the assumptions around extreme positions, or that are anyway firmly anchored to “one-way” interpretations, has borne scarce fruit up to now, from both the theoretical and the practical perspective, so we must move on (Scholl, 2003). The concrete reality is always many branched and difficult to approach using dichotomist reading and interpretive keys (objectivist approach vs. subjectivist approach), given that neither one nor the other approach is capable of capturing the nuances, the intermediate conditions, the contradictions or the particular contextual factors inside or outside the public agencies.

Evaluating e-government requires the use of methods belonging to scientific research, by which we mean the need to draw on interconnected information in the sphere of ‘an adequate causal theory’ framework (Mazmanian and Sabatier, 1981), while the valuation is also steeped in the values, interests, and cultural traits of the social actors involved. On the subject of simplistic views, the words of Charles J. Fox (1987, p. 138) are surprisingly current: “We should continue to expect results from policy interventions. We should continue to be critical of agencies the bureaucratic processes of which prevent the job from getting done. But it should be expected that policy impacts are more like ripples caused by throwing a pebble in a pond than a cue impacting a billiard ball”.

5. Organizational Action and Implementation Evaluation

This section attempts to better clarify the role and importance of the contributions from organizational theory in evaluating e-government implementation. For this purpose we will use a perspective (Maggi, 1990, 2003) in which:

- the organization is meant as a process of actions and decisions;
- rational action is meant in an intentional and limited sense;
- the subjects are an integral part of the process (by which we mean that the process overrides any separation between individual and organization).

These principles are part of a conceptual framework known as Theory of Organizational Action (TOA). Starting with the contributions of some classic authors (Weber, 1922; Barnard, 1938; Simon, 1947; Thompson, 1967; Giddens, 1984), Maggi has identified a common thread on which he has built his proposal. Action is a term that in social studies indicates the connection of the behavior of a human agent to a subjective meaning. Therefore, a concept of organization in terms of actions and decisions is “mindful of the individuals and the relational structures that these produce and reproduce unceasingly” (italics in the original) Maggi and Albano, 1997, p. 220).

The originality of this theory can be seen from several viewpoints. However, space limitations mean that we will only cite the most useful to our reflection on e-government. We will start with some indications on the methods with which this theory addresses the relationship between technology and organization and the rationality concept. While on the one side there are perspectives that see the organization as a concrete reality, in which there are also intentional behaviors (or action), on the other, there is the perspective (on which the TOA is based) whereby the organization is action developing over time. Organizational action is a particular form of rational behavior, given that it is, by definition, an action that tends to fit the means to the ends. Technology should be understood both as the whole of the technical knowledge and as the artifact, or a component of the processes. This dual role makes technology important from the organizational standpoint: it might lead to constraints or opportunities of change in the action of the individual and collective actors. The idea of opportunity evokes a choice of alternatives in a scenario that is never completely closed nor defined beforehand. Technology is a key factor of organizational regulation processes.
The different options for evaluating organizational action derive from the meeting of two uncertain dimensions: the “expected results” and “the technical knowledge needed to achieve the objectives” (Maggi, 1990, p. 95). The efficiency evaluation (which we have seen take a preponderant weighting in both academic reflection and managerial practice) is only one of the possible pathways. It requires both certainty in the objectives and full knowledge of the cause/effect relationships. In the presence of uncertain cause/effect relations but defined objectives, the evaluation is exclusively of the achievement of the objectives, or, the evaluation of efficacy. In cases where the purposes of the organizational action are ambiguous, the correct evaluation reference is the social test (Thompson, 1967). For example, one can make comparisons with similar organizations or take into account the temporal performance of the phenomenon analyzed. The TOA enables the evaluator to place e-government among the choices of organizational action guided by bounded rationality. This reference to non-absolute rationality enables us to affirm that the road leading to implementation shifts on an ongoing basis, in line with new knowledge and new values. Therefore, whether the ICT solutions and artifacts are more or less adequate depends on the greater or lesser capacity to achieve the expected results.

This analysis framework excludes a priori the possibility of successfully maximizing the results (and thus evaluate them in terms of efficiency) because it would be equivalent to saying that the relationship between the means, by which we mean the technical knowledge, the software programs, the operating practices, and the ICT platforms developed and deployed, and the ends, or the problem that lies at the foot of the public service program, is excellent. However, it is always possible to direct the actions and the decisions of the public administrations on the theme of e-government toward the satisfactory results for the diverse subject groups, the needs and opinions of which – we reiterate – can diverge considerably and change in time. In other words, the evaluation
that is always possible is the organizational ‘fitness for the future’ (Thompson, 1967, p. 84).

When the evaluation of e-government, in turn meant as a process, is characterized by numerous objectives and just as numerous decision levels that can only be distinguished in analytical terms, it excludes that one sole “system” or reference model can be proposed for all the public administrations indiscriminately. The evaluation process and its results will depend on the decisional level taken into account and on the variability of the objectives and the technical knowledge that feature in the situation observed.

The TOA, contrary to what the mainstream literature - which assumes the absolute determination or, conversely, the total non-determination of the evaluation system - referred to in Section 3 maintains, “reveals the heuristic nature and at the same time the weakness and the strength of character of the organizational process” (Maggi, 1990, p. 96). The interpretive procedure and thus the evaluation are based on the adequate causality opposed by – on the one side – the absolute causality needed for the positivist view, and – on the other – the denial of any causal explanation by the subjectivist view. The evaluation cannot be extrapolated from its context because it is necessarily manifested inside an organizational process with its own specific features. The level of detail chosen for the analysis will vary in line with the needs of the evaluator, although the real situation will always be interpreted in its elements of action and decision. A description of the whole picture is always useful, whether we are examining and interpreting large-scale organizational situations (e.g., the effects of a program on the central agencies) or whether we need to focus on one phase of a broader process (e.g., the provision of an online service by a specific public agency). The analysis needs to be carried out with the aim of highlighting the expected results, the technical actions
implemented to achieve them, and the effects related to regulation, i.e. the organizational coordination and control processes.

5.1 An Exemplifying Case: Redesigning and De-Materializing Document Flows

The analysis framework described earlier was applied and presented in the form of an exploratory study (Sorrentino, 2007). The research centred on a problem well known to those involved in e-government (Hertzum, 1995): the dematerialization of paper-based document flows. An issue that takes on special relevance not only in Italy, due to its pervasiveness – no public administration, either central or local, is excluded – and economic importance. Estimates published (CNIPA, 2006) point to 160 million incoming and outgoing documents in solely the Italian central PA and indicate that if the PAs were to fully use electronic document management systems, it would cut postal franking costs alone by some $75 million. Nevertheless, despite the fact that the use of the so-called Computerized Correspondence Register (CCR, the system whereby each document is automatically filed and retrieved) has been compulsory since January 2004, the state of implementation in compliance with the requirement has been defined as “insufficient and inadequate”.

The Italian government has mandated the monitoring of the project to an Authority called the National Centre for the Computerization of the Public Administration (CNIPA). In 2002, CNIPA established a special Competence Centre to function as the reference point for the entire PA, but also gave it other functions of guiding and evaluating the implementation of the new correspondence register. At the time of carrying out our research, the Centre had conducted two fact-finding surveys, for which it prepared a questionnaire to gather information useful to assess the level to which the central PAs have achieved the objectives called for by the law.
Empirical data (CNIPA, 2006) reveal that less than half of Italy’s central PAs (out of a total of 61 agencies that employ around 650,000 people) have attained an adequate level of project advancement in terms of the CCR, despite the fact that the deadline for compliance was 1 January 2004. Reports made a distinction between the CCR and document management because the level of implementation and use of these two types of ICT solutions differs significantly. For instance, in terms of the CCR, 34 administrations had reached a good level of diffusion, with the system handling just short of half of the overall documentation volume managed; 17 administrations had just completed the technical project and had implemented solely a pilot office; a further 17 were still in the project development stage; and a good 14 had not yet gone operational. However, document management lags even further behind, seeing that 55 administrations had not yet planned any operational move, 27 had already come on stream, but of these 15 – excluding the six that have reached a level of document filing and management of around 80% and the other six that had reached between 20% and 80% - which account for 60% of total volumes managed, had reached a computerized filing level of less than 20%.

The documents registered electronically as at April 2005 accounted for about 40% of the total and the forecast for June 2006 was 60% of the total documents managed. The situation of the electronically filed documents is even poorer: 23% in April 2005, estimated to rise to 37% in 2006.

The research question we ask in our study is: what are the reasons for this problematic situation? According to the CNIPA questionnaires, the administrations’ more frequent criticism was the lack of financial resources to dedicate to the project, while other delicate aspects underscored in the responses included the technical difficulty of implementing systems with adequate levels of security and reliability. In addition, the PAs also cited problems related to the integration of document management (which is a
typically horizontal process, meaning that it crosses the entire organization) with the vertical legacy systems. The information gathered from the monitoring process also reveals difficulties such as defining the requirements of the new system, project duration (still an average of three years from definition of the specifications to effective implementation) and in organizational planning (staff training, infrastructures, implementation documentation, etc.). Other cases cite the further problem of harmonizing the new system with existing operating practices. In short, Italy’s central PA is still far from that widespread use called for by the law in force.

The monitoring group’s last report says that a specific law was enacted far in advance (starting 1998) to enable the agencies to respond within the deadlines established and to give the suppliers time to develop adequate technological solutions to meet the needs expressed by the law. Moreover, CNIPA made various kinds of operating tools available – including turnkey solutions like ASP (Application Service Provisioning) – to accelerate the implementation of the CCR, also by those agencies with fewer resources to invest. But all this has not been enough. The situation is even more surprising if we take into account that this concerns the implementation of ‘mandatory solutions due to legislation, where there is no option but to proceed’ (Jones and Irani, 2003).

Therefore, our study examines the evaluation model developed by CNIPA, to view the full picture drawn by its inspirational logic. In general terms, we can say that CNIPA has identified a number of measurable parameters it believes essential for the purpose of implementation, e.g.: the level of implementation of the electronic document management requirements, the effectiveness of the projects and/or services developed and the project risk levels. Each agency responding to the questionnaire was asked to grade its position for each indicator. This methodological approach facilitates the computation and comparison of the results in line with a number of criteria – by category and size of administration, by type of technical solution, by functionalities implemented,
etc. In addition, the model makes it possible to follow the temporal evolution of the projects as these proceed at the national level in terms of resources absorbed, processes launched, number of organizational units affected by the new systems, products supplied, number of staff assigned to the registration activities, results achieved and so forth. The differences encountered between one context and another are then traced to the diverse weighting represented by each parameter, in other words, to the failure to comply with the legislative provisions.

We sought to reinterpret the snapshot provided by the CNIPA report in terms of the theoretical comparison, using this latter to try and clarify why the evaluation model adopted as part of the project monitoring process is unsatisfactory, inasmuch that it does not help us to correctly interpret the highly mixed empirical evidence that characterizes Italy’s central PA. In other words, the model does not seem to be able to explain why - despite the high level of standardization of the technological solutions, the relative ease of their acquisition and their low cost - we can still observe, after more than three years since the CCR law was enacted, significant delays and differences in the use of the new digital systems, even between administrations with similar features.

In seeking to answer this puzzle, we drew on the contributions found in organizational literature. Our study enables us to observe that the focus of the Italian plan has been placed almost entirely on the planning process. It has also emerged that CNIPA has assumed that the adoption of the new practices by the PAs would happen “naturally”, that is, based on the regulatory requirements and the opportunities offered by the technological tools, their relative accessibility and ease of use. The misalignments and mixed empirical evidences that characterize the Italian scenario have been read not as a manifestation of discretionary margins that are anyway insuppressible in complex organizations, but as preconceived resistance and opposition to the technological change.
Adopting an alternative stance, the reasons for the lack of CCR diffusion can be traced to the decisional processes of planning, adoption and use of the technological artefacts. Viewing e-government as a process primarily means sustaining that its identity is revealed only when the statements of principle (e.g. in the form of regulatory norms and plans) translate into concrete actions and decisions. Depending on the decisional levels considered, the technological artifacts can be bearers of the opportunity for change, both negative and positive, which do not cancel each other out. This non-deterministic key enables us to interpret the choices that have led many Italian PAs to tackle the CCR project by circumscribing its extent, or by limiting themselves to implementing simply the document “marking” functions. In other words, the dialectic relation between formal and informal rules of regulation can lead to diverse courses of action: compliance with the norms or, vice versa, delays or conflicts. The whole of which fits into a framework of possibilities that are neither optimal nor predictable.

6. Conclusions

In this chapter, we maintain that the need to develop systems capable of explicating the results of e-government programs is more essential than ever before, especially in those contexts where “the evaluation practice centers prevalently on the analysis of public investments in the preliminary stage, having given up the investigation of the post-implementation effects on the concrete reality of things” (Marra, 2004). Nevertheless, to avoid over-simplification or the empty rhetoric found in many current discourses, we need to concentrate our efforts on constructing a shared, theoretically anchored, and solid reference framework. We have also underscored how the problems
inherent e-government evaluation are not only related to the complexity of the theme, but, above all, the consequence of the lack of an adequate conceptual blueprint. We have suggested the use of an interpretive key that intrinsically straddles more than one discipline, that draws on the studies of several classic authors of organization science, whose contributions to the field were conceived to apply broadly across all types of organizations. Therefore, in recognizing the validity of using that proposal, in the future, e-government evaluation must take into account not one, but a combination of possible methods and techniques that – while deriving from diverse disciplinary areas – share the approach outlined here, according to which the organization is addressed as a process of actions and decisions guided by intentional and bounded rationality. The theories based on a concept of technological change not separable from organizational change can help us understand the meaning of the e-government decisions and to explain their results in terms of ‘adequate causality’. This will open new interdisciplinary touch points where organizational evaluation can be combined with other types of evaluation. The concept of intentional and bounded rationality also comprises closely interwoven economic, sociological, and psychological elements. Therefore, it could be used as a starting point from which to develop a rich dialogue between the different study spheres (e.g., economics, management science, law, sociology etc.) interested in analyzing the implementation of e-government and its effects.

From the concrete viewpoint, the perspective described herein promotes an understanding of the practice of e-government evaluation. It can provide public managers with a useful conceptual toolkit. It can help, for example, to preventively incorporate the evaluation-related needs as early as the planning and design phase of the e-government project or program. It also suggests that because e-government requires the joint use of many lines of intervention and support actions, the typical
measuring of outputs or financial or management effects should necessarily be integrated with other types of indicators more oriented to the analysis of the social impact of the administrative actions and public policies.

One of the limitations of this contribution is that the preliminary discussion refers to only two of the research currents that have addressed the evaluation theme, that is ICT and Policy Studies. For reasons of space, we have not discussed another equally relevant perspective for the public sector, i.e., economic theory applied to program implementation. Future research must also investigate this aspect as a matter of course. It is also our intention to compare our assumptions with real-world experiences.

At this point, a question springs to mind: why has this kind of contribution only seen sporadic and relative use to date? We can advance two tentative answers. First, the organization approach is generally little used in public policy discourses, which means we must work hard at diffusing it among both the universities and the practitioners. Indeed, this contribution is a first attempt in that direction. Second, up to now, the different disciplines have offered separate and opposed interpretations of e-government. Significantly – and therefore worthy of recognition and encouragement – the academic world is starting to chart a course that links the knowledge generated by the different branches of learning. However, we point out that most of the cases in question see the efforts of the researchers focus more on the accumulation of different knowledge – that are and continue to be kept separate – rather than an effective meeting between the disciplines to build something new, something that goes beyond the “one-way” interpretations.

Should this perspective become widely adopted, however, we will have to take into account the need to interpret and evaluate the results of that choice.
References


