



The Challenge of Technology-Driven Change within an Institutional Context

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Implementing and managing change in public organizations is particularly challenging due to a number of institutional factors including complex regulatory mechanisms, bureaucratic procedures, hierarchical structures and a strong path-dependency leading to inflexibility and inertia in organizational culture (Kelman, 2005). The management literature has recently been preoccupied by the practice and outcomes of approaching public management to the managerial frameworks used in private organizations. The need of adopting more flexible and strategy oriented approaches to public organizations has led scholars to extract management practices from the business literature and try to apply them to public organizations. The "New Public Management" (NPM) school of thought has broadly influenced public management reforms and introduced new managerial practices that put more emphasis on the market and on replacing the bureaucratic structures of public organizations with more flexible ones as found in the private sector (PUMA/HRM, 2001). In general, this movement could be seen as a transformation from public bureaucracy to a model of more flexible administration (Pollitt and Bouckaert, 2004).

In this environmental context, our research set out to address the challenge of change in public organizations through an exploration of the unfolding of a planned technology-driven change effort in the shape of the implementation of an "Integrated Information System" (I.I.S.) in the Hellenic Parliament. The implementation of the I.I.S. took place within the framework of a larger change program in the Greek public sector, inspired by New Public Management principles and which presented an immense challenge both at the institutional and political levels of the Greek public administration (Philippidou et al., 2004). The I.I.S. change effort provides a representative case for analyzing how and why change unfolds the way it does in a particular public institutional context, that of the Hellenic Parliament, throwing light on the link between change management and institutional change analyzing, in particular, the involvement and interaction of different key actors in the process.

Change Management and Technology-Driven Change

The dominating stance in change management practice and research is that of change driven by purposeful managerial acts in the shape of goal setting, implementation, outcome analysis and corrective action (Burke and Litwin, 1992). The management of technology-driven change represents a particular case, however. Changes associated with technology implementations constitute an *ongoing process*, rather than an event with an end point after which the organization can expect to return to a reasonably steady state (Orlikowski, 1996). During the unfolding of technological change, however, many unplanned and emerging events might intervene, adding complexity to the linear logic of traditional change management approaches (Orlikowski and Hofman, 1997; Orlikowski, 1992). The depth and complexity of interactions can be understood only as the changes are implemented (Orlikowski and Hofman, 1997). Building on Orlikowski and Hofman (1997), three main types of change that build on each other iteratively over time have been recognized in the change process school of thought:

- o Anticipated change that is monitored with respect to an implementation plan and schedule,
- o Emergent change that arises unexpectedly from local innovation and that is not originally planned or proposed, and
- o Opportunity-based change that is unplanned *ex ante* but are introduced intentionally during the unfolding of the process in response to some opportunity.

These types of change can explain why specific procedures are adopted by organizational actors in order to maximize the efficiency of a change implementation at different stages of its unfolding. Anticipated change corresponds to a situation where the change effort in question is decided formally, a plan for its implementation is developed, and identifiable and at least partially measurable goals are set at the planning stage. It is a common assumption that this type of change is the most appropriate stance in institutions where organizational routines, norms, logics, programs or codes regulate strongly the process of change (Edmondson, Bohrer, and Pfsano, 2001), leaving less room for experimentation needed in emergent or opportunity-based change (Orlikowski and Hofman, 1997).

Having positioned our research in relation to technology-driven change scholarship, we review the second central research stream of importance to our study, namely that of institutional change.

Institutional Change

Institutions are commonly defined as the administrative rules, routines or programs used to evaluate and to coordinate organizational actions and processes (Powell and DiMaggio, 1991). Traditionally, scholars have argued that institutional theory provides little guidance for explaining organizational change, but instead can give a justification of a stable state and inertia that characterizes organizations when confronted to, e.g., teleology-driven change initiatives (Greenwood and Hinings, 1996). Conversely, a new stream of research is emerging that argues that institutional theory represents one of the most important sociological perspectives within organizational change theory. Here the notion of change is integrated in the institutional theory, in particular through the concept of *institutional entrepreneurship*, which emphasizes the importance of transforming institutional contexts by introducing more entrepreneurial approaches (Maguire, 2004; DiMaggio, 1991; Beckert, 1999; Fligstein, 1997; Lawrence, 1999).

The foundation for the institutional change scholarship is the elaboration of the old vs. the new institutionalism (Powell and DiMaggio, 1991). The old institutionalism, on the one hand, integrates *incremental change* as one of the dynamics of organizations as a result of differences in terms of actors' values and interests in the operation, functioning and development of organizations (Greenwood & Hinings, 1996). On the other hand, neo-institutionalism integrates *radical change* and the analysis of the interaction between exogenous dynamics (market and institutional context) and internal dynamics (actor interests, values, power dependence and capacity of action) in organizational life (Powell et al., 1991). Because of the parallel play of these forces, the implementation of any change process within an institutional context encounters difficulties of interaction among the existing institutional arrangements and new structures and processes imposed or emerging from the environment (Dacin, Goodstein, and Scott, 2002).

Hence, relating to the characteristics of technology-driven change, institutional theory accounts both for anticipated change of a more incremental nature, and for emergent and opportunity-based changes driven by external factors in interaction with the institutional context. Although the concept of new institutionalism has been primarily considered as a cultural theory of organizations, scholars argue that this notion has a political core and consists of a political process that reflects the power and interests of organized actors. Hence, scholars argue that more emphasis should be given to how those actors that try to introduce new beliefs, norms, and values into existing institutional structures affect the unfolding of change (Scott, 2001). Research draws attention to the interplay between actors, actions and meanings in understanding the micro-politics of institutional change (Dacin et al., 2002).

Observations from the Field

The changing environmental context, driving the development of new managerial practices as a framework for rapidly modifying organizational policies, work procedures and hierarchical structures (Fertle, Ashburner, Fitzgerald, and Pettigrew, 1996) has strong impacts on the Greek institutional environment as well. Inspired by New Public Management principles (e.g., Pollitt and Bouckaert, 2004), including redesign of key procedures for serving the citizens, setting of quality standards for public services and efficiency improvements of HRM procedures, a number of initiatives and change programs have been implemented over the last years (Philippidou et al., 2004; Tsoukas & Papoulas, 2005).

Our study was conducted inside the [Hellenic Parliament](http://www.parliament.gr) (www.parliament.gr), which is an established political institution of dominant importance that forms the base of the Hellenic Democracy providing an excellent case study because of the significant changes that have been undergone. The unit of analysis selected for our study was a major change effort unfolding within the Parliament in the shape of the implementation of an Integrated Information System as a technology driven change.

A variety of actions were planned and executed leading to the emergence of conflicts in the interaction between purposeful action and institutional related rules, programs and logics. The technological change concept and new institutional logics -new public management principles- collided with the inflexible structures and processes leading to delays and adjustment in initial plans. The major reasons for these delays and conflicts were an underestimation of the need for a clear leadership, and that Parliament managers and staff were unprepared for dealing with clashes between institutional factors and environmental changes needed to embrace in order to implement the I.I.S. change effort.

Concerning the interplay between the three modes of change intervening in technology change efforts, the integration of opportunity-based change in the shape of giving leadership roles and implementation responsibilities to staff identified as particularly motivated and qualified, and then letting emergent changes occur and unfold as these actors evolved in their roles gave the institution the opportunity to absorb and respond more swiftly unexpected events than what otherwise would have been possible. Hence, we found evidence supporting that this change management model can foster repetitive experimentation and continuous learning also in an institutional context, and in fact plays a decisive role for overcoming conflict between institutional factors and requirements arriving from outside in the interaction and collaboration with the technology company.

Future research needs to dig deeper into the determinants of effective technology-driven change within public institutions. Such research will evolve in the rather unexplored interface between institutional and change management scholarship. In particular, leadership issues are not put forward, neither in technological change studies nor in the institutional change literature. In our study, we saw that leadership played a key role in the transition from initiation and initial diffusion to a full diffusion of the change effort. In relation to leadership, the managerial acts and initiatives that need to be deployed in order to activate emergent and opportunity-based change in institutions also merit further attention.

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